

THE RELATIONSHIPS AMONG CAREER MATURITY,
LOCUS OF CONTROL, SOCIOECONOMIC STATUS,
RACE, AND SEX OF A SAMPLE OF COLLEGE
FRESHMEN AT THREE UNIVERSITIES

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CHAPTER I

INTRODUCTION

Research in the area of career maturity is relatively new but of vital importance to career education. The career development of an individual is usually thought of as a development process much like personality development (Osipow, 1953). Several theorists have advocated a stage theory of career development. (Super's [1953] seems most appropriate for the present study.) Super has developed a theory which discusses five stages of career development. These are: (1) growth, (2) exploration, (3) establishment, (4) maintenance and (5) decline (Super, 1953). Counselors and career educators often need to assess where students are in terms of these normally occurring developmental stages and the particular developmental tasks of that stage in order to structure guidance experiences for their further development. Career maturity is a concept which permits the structuring of instruments to assess this development. The career maturity of an individual within a life stage is a relative determination made by comparing his/her vocational behavior and attitudes with that of other individuals who are dealing with the same developmental tasks (Crites, 1961). This results in both a degree and rate of vocational maturity telling one

what life stage an individual is in as well as the rate he/she is advancing within that stage.

Other theorists have defined career maturity as simply the stage which an individual has accomplished (Super, 1974). A discussion of how career maturity has been defined by various theorists will be discussed in more detail in Chapter II. Defining career maturity is only one of the theoretical concerns of researchers in this area (Super, 1974). Other research questions are: what constitutes career maturity; what are some related characteristics or factors of career maturity; and the more applied question of how career maturity can be changed. How to change career maturity has been the focus of many research efforts utilizing various structured career education experiences (Vriend, 1969; Schmeding and Jensen, 1968; Flake, 1975). Few clear cut answers exist at present. Basically career maturity is in the early stages of research, although the theory has been developing since the 1950's (Crites, 1960). It seems more pertinent at this stage of research concerning career maturity to focus on the more theoretical questions of what constitutes career maturity and what characteristics relate to career maturity.

The author became interested in the area of career development while doing career counseling with college students. Many of the career guidance techniques based on current career development theory seem not to be effective with many students. This was particularly true with students with lower socioeconomic backgrounds and with many minorities.

Many of these students seemed to have an orientation or belief about life which may be detrimental to their making meaningful career decisions and setting goals for themselves. This led to a review of personality characteristics which possibly could relate to career maturity and to career attitudes especially. An investigation of several characteristics which could relate significantly to career maturity is the purpose of the present study.

The Concept of Career Maturity

As discussed earlier, career development and career choice have emerged in the literature as a developmental process versus a point in time involving a single decision (Crites, 1965). Underlying much of current vocational development and career maturity theory are concepts drawn from more general theories of psychological and personality development (Osipow, 1973; Crites, 1965). Ginzberg, Ginsberg, Axelrod and Herma (1951) have stated that career maturity is related in some degree to overall general maturity of the individual. In addition, such personality components as needs, self-concepts, values and attitudes have been central to the construction of theories of career development and career maturity (Osipow, 1973). Super (Crites, 1965) describes five dimensions of vocational development of early adolescence. These are: (1) orientation to vocational choice, (2) information and planning, (3) consistency of vocational choice, (4) crystallization of traits and

(5) wisdom of vocational choice. Crites (1965) has postulated that "orientation to vocational choice," "information and planning," and certain aspects of "crystallization of traits" can be further broken down into two major areas: competencies and attitudes. Crites (Super, 1974) has developed an inventory to measure these two factors. This instrument is named the Career Maturity Inventory (CMI) (earlier named the Vocational Development Inventory).

Career choice competencies are concerned mainly with cognitive or mental functions. These involve such processes as assimilation of information, resolving conflicts between courses of action and goal-setting and planning. Career choice attitudes are less intellectual in nature and involve identifying feelings and attitudes about the world of work and choosing a career. There are five factors to the Attitude Scale of the Career Maturity Inventory (CMI-A). The first of these is "involvement in the choice process." Crites (1973) defines this as how actively involved an individual is in the process of making a choice. A second factor is "orientation toward work." This factor measures how task- or pleasure-oriented an individual's attitudes are. Independence in decision making is a third factor and measures to what extent an individual makes his/her own decisions and choice of an occupation. Preference for career choice is a fourth factor and measures whether an individual is basing his/her choice upon one particular factor. The last and fifth factor is "conceptions of the choice process." This

factor measures the accuracy of an individual's conception of how a career choice is made. The CMI-A will be discussed further in Chapter III.

Career Maturity and Locus of Control

As mentioned earlier, career maturity seems to be related to general maturity of an individual (Herma, 1951; Crites, 1971). A personality construct which has been observed to correlate with several factors related to general maturity and positive personality characteristics is locus of control (Joe, 1971; Weiss and Sherman, 1973; Davis and Phares, 1967; Gozali and Gozali, 1973; Hersch and Scheibe, 1967; Rotter, 1966). All of these researchers used Rotter's Internal versus External (I-E) Control Scale as a measure of locus of control and college students were included within their samples. Locus of control is an individual's perception of the source of reinforcement or success. An internal locus of control is the perception that an individual's own behavior effects and controls reinforcement. Generally, he/she perceives himself/herself as having a great deal of personal control which reflects the perception that reinforcement is not contingent upon one's own behavior but upon outside factors such as chance, fate or powerful others (Rotter, 1966).

Locus of control has been reported to relate to measures of social adjustment and competency. Persons who score lower (more internal) on measures of locus of control describe

themselves as assertive, powerful, independent and effective while those who score higher on the continuum (more external) do not see themselves in such a positive light (Hersch and Scheibe, 1967). Locus of control also has been related to self-esteem (Heaton et al., 1973), perseverance (Weiss and Sherman, 1973), achievement (Gozali and Gozali, 1973) and information seeking (Davis and Phares, 1967).

Joe (1971), in an extensive review of the research in this area, found that those scoring more external tend to be more anxious, have more neurotic symptoms, are more aggressive, more dogmatic, less trustful and lack self-confidence more than internals (or low scorers). Individuals with low socioeconomic backgrounds and minority backgrounds also tend to score higher (or in the external) direction more than middle class subjects. Scores in the middle ranges on measures of locus of control seem to be positively correlated with several aspects of a more effective mode of functioning (Joe, 1971).

Measures of the CMI-A have been positively correlated with several personality factors also, including achievement, perseverance and self-esteem. Bartlett (1968) reported positive relationships between the Attitude Scale's maturity score and the Adjective Checklist Scales Confidence, Achievement, Autonomy and Dominance. Looking at the factors which relate to both career maturity and locus of control, one may postulate that an individual with a more internal perception of control over his/her environment may be better adjusted

and therefore exhibit more vocationally mature behaviors and attitudes. The investigation of this relationship is the purpose of the present study.

There has been little research investigating the relationship between career maturity and locus of control. One recent study does support the idea that these two concepts are positively related. Locus of control was significantly correlated with greater career maturity in a study concerning college women in traditional and non-traditional majors (Gable et al., 1976). The researchers used the Attitude Scale of the CMI as a measure of career maturity and MacDonald and Tsing's Internal-External Control Scale as a measure of locus of control.

The relationship between career maturity and socioeconomic status and race and between locus of control and socioeconomic status and race will also be investigated in this study. Crites (1973c) reports no significant differences among socioeconomic groups on the CMI-A. LoCascia (Super, 1974) questions the representativeness of Crites' socioeconomic samples and the conclusions Crites draws concerning no significant differences among these groups. Other researchers (Super, 1974; Smith, 1975) have observed from their research that many individuals with low socioeconomic backgrounds and minority backgrounds are lacking in mature career competencies and attitudes. Research concerning differences among these groups (low socioeconomic status and minority) on measures of locus of control indicate that there is a tendency

for these groups to score in more of an external direction than middle socioeconomic and white groups (Joe, 1971; Rotter, 1966). Perhaps there is a relationship between locus of control and one's background and this is reflected in the maturity of career attitudes.

Another variable which could be of some importance here is sex of the individual. Rotter (1966) proposes that theoretically one would assume that there would be no significant difference between males and females in locus of control. Crites (1973) reports no significant differences between males and females on the CMI-A. Joe (1971) reports that sex is a variable which appears, in several studies to influence an individual's belief regarding locus of control and consequently their behavior.

There is some indication that locus of control is also a modifiable or changeable variable (Joe, 1971). The modifiable characteristic of locus of control could make it quite useful to educators concerned with facilitating the development of students. The changeability of locus of control is important to later research involving career maturity yet the present study does not attempt to investigate whether changes in locus of control produce changes in career maturity.

Purpose of the Study

The purpose of the present study is to investigate the relationships among career maturity (as measured by the Attitude Scale of the Career Maturity Inventory), locus of

control (as measured by Rotter's I-E Scale), socioeconomic status (measured by Hollingshead's Two Factor Index of Social Position), race, and sex (collected from a self-report Background Questionnaire) of college freshmen.

Need for the Study and Significance

As stated earlier, understanding career maturity is needed for the purpose of developing career guidance programs. Super (1974, p. 9) states that "Without a knowledge of career development and vocational maturity, there can be no such thing as genuine career education or career guidance." Knowing what a student believes about the world of work is needed to help correct misperceptions and/or teach appropriate attitudes and information about work and entering a career. There is a particular need for research involving career maturity among college students. Much of the research to present has involved secondary and elementary students (Permaul, 1973).

The lack of career competencies and attitudes among lower socioeconomic and minority individuals is apparent in the literature (Super, 1974; Smith, 1975). At present, research or theory does not give an adequate explanation for these developments. More information is needed in order to provide educational services for these students. Why do students with low socioeconomic backgrounds do so poorly on measures of career maturity? Why is the combination of low socioeconomic status and minority status so detrimental to

both mature career attitudes and an internal perception of control? Perhaps the two "attitudes" are related. The present study will not answer the question of whether changing one's locus of control will change one's career maturity. It will, however, clarify whether there is a significant relationship between the two concepts. Therefore the present investigation will primarily contribute to the theoretical understanding of career maturity which can be significant to the development of guidance approaches. The study has significance also for the understanding of career maturity among college students from a range of socioeconomic groups and racial backgrounds.

Research Hypotheses

The research hypotheses of the present study are of two types. Category I hypotheses are concerned with the simple correlation between the dependent variable (career maturity) and each of the independent variables. Included as an independent variable is the order of administration of the instruments. This variable is further defined in Chapter III, page 45, and was included in the study in an attempt to control the effects of taking one instrument on a student's responses on a following instrument. The second type of hypotheses, Category II, is concerned with the multiple relationships among the dependent variable (career maturity) and the independent variables, when the effect of the other independent variables on the variance of career maturity is

controlled (semi-partial correlations). The correlation between career maturity scores predicted from the regression equation and the actual career maturity scores (R^2) was also tested for significance.

The following research hypotheses will be tested in the present investigation in the null form.

Category I Research Hypotheses

Group One Hypotheses. There is no significant relationship between career maturity (CM) and each of the following variables:

H_{1a}. Locus of Control (IE)

H_{1b}. Socioeconomic status (SES)

H_{1c}. Race

H_{1d}. Sex

Group Two Hypotheses. There is no significant relationship between locus of control and each of the following variables:

H_{2a}. SES

H_{2b}. Race

H_{2c}. Sex

Group Three Hypotheses. There is no significant relationship between race and each of the following variables:

H₃_{a.} SES

H₃_{b.} Sex

Group Four Hypotheses. There is no significant relationship between order and the following variables:

H₄_{a.} IE

H₄_{b.} SES

H₄_{c.} Race

H₄_{d.} Sex

H₄_{e.} CM

Category II Research Hypotheses

H₅. $\beta_i = 0$ where β_i is the i^{th} unstandardized semi-partial regression coefficient in the equation $\underline{\text{CM}}' = a + \beta_1 X_1 + \dots + \beta_i X_n \dots$. In this equation $\underline{\text{CM}}'$ represents the predicted CM score and $X_1 \dots X^5$ represents the additive effects of the independent variables of IE, race, SES, sex and order while $X_6 \dots X_n$ represent selected non-additive effects (sex x race, SES x race, IE x race and IE x sex) of these independent variables.

These non-additive effects correspond to the interaction terms of an analysis of variance.

H₆. $R^2 > 0$ where R^2 is the multiple correlation coefficient between $\underline{\text{CM}}$ scores and a linear combination of predictor variables.

CHAPTER II

REVIEW OF LITERATURE

This chapter reviews research related to the present study. First a review of research related to the development of career maturity theory is presented. Following this are reviews in the areas of (1) the relationship between career maturity and locus of control, (2) the relationship between career maturity and socioeconomic status and race, (3) sex differences on measures of career maturity, and (4) changes in career maturity. The last part of the chapter involves a review of locus of control research in several specific areas related to the concept of career development.

Research Related to the Development of Career Maturity Theory

Until the 1950's career development theory drew much of its theoretical bases from occupational psychology. This was really the study of individual differences applied to vocational and career choice (Super, 1964). Career counseling based on these theories relied heavily on analysis of the individual's personality traits, attitudes, interests and abilities which were "matched" with the appropriate occupations. A developmental theory of career choice did not exist.

at that time. Ginzberg and authors (1951) is generally acknowledged as the initiators of a challenge to career counselors and theorists to expand vocational choice theory. Ginzberg also postulated a developmental theory at that time himself.

Super (1953) accepted this challenge as valid and formulated a developmental theory of vocational development. As mentioned earlier, in Chapter I, this theory was based on a life stage framework including the following stages:

(1) growth, (2) exploration, (3) establishment, (4) maintenance, and (5) decline. Super views career development as a continuous process with occupational choices based on a synthesis of a person's needs, resources and social demands. During this process an individual attempts to integrate his/her self-concept with their concept of available career options. Work satisfaction is therefore dependent upon the success of this integration process.

One of the earliest research projects investigating the developmental aspects of career theory was the Career Pattern Study (CPS) (Super et al., 1957). This was a longitudinal study of ninth grade boys in Middletown, New York. At this point in career development research Super (1955, p. 153) defined career maturity as "the degree of development, the place reached on the continuum of vocational development from exploration to decline." The CPS research was designed to investigate further the definition, assessment and development of career maturity. The CPS was based on several

assumptions about career development. These were (Super, 1974):

1. Development proceeds from random, undifferentiated activity to goal directed, specific activity.
2. Development is in the direction of increasing awareness and orientation to reality.
3. Development is from dependence to increasing independence.
4. The mature individual selects a goal.
5. The mature individual's behavior is goal directed (p. 12).

The Career Pattern Study developed a model of career maturity consisting of six dimensions with a total of twenty subscales or indices (see Figure 1). Several of the indices of the model were judged to have no significant relationship to career maturity. Those dimensions which seemed to reflect mature vocational behavior for the ninth-grade level were: "Orientation to Vocational Choice Tasks," and "the Use of Resources." The concept of career maturity indicated by this research seemed to be defined as a "readiness" to make appropriate vocational decisions. This could be thought of as a general "planning orientation" toward life and career choice. Although the CPS contributed greatly to the understanding of career maturity, one major criticism of the research is that it included only male students.

Soon after the CPS research began Gribbons and Lohnes (1958) initiated a longitudinal study of factors related to career maturity. The results of this research supported a "planfulness orientation" as a major factor in career maturity. Many of these results substantiated the results of the

- Dimension I. Orientation to Vocational Choice
 - IA. Concern with choice
 - IB. Use of Resources
- Dimension II. Information and Planning
 - IIA. Specificity of Information
 - IIB. Specificity of Planning
 - IIC. Extent of Planning Activity
- Dimension III. Consistency of Vocational Preference
 - IIIA. Consistency within Fields
 - IIIB. Consistency within Levels
 - IIIC. Consistency within Families
- Dimension IV. Crystallization of Traits
 - IVA. Patterning of Interests
 - IVB. Interest Maturity
 - IVC. Liking for Work
 - IVD. Patterning of Work Values
 - IVE. Discussion of Rewards of Work
 - IVF. Acceptance of Responsibility
- Dimension V. Vocational Independence
 - VA. Independence of Work Experience
- Dimension VI. Wisdom of Vocational Preferences
 - VIA. Agreement: Ability and Preference
 - VIB. Agreement: Interest and Preference
 - VIC. Agreement: Interests and Fantasy Preferences
 - VID. Agreement: Level of Interests and Preferences
 - VIE. Socioeconomic Accessibility

Figure 1. Super and Overstreet's Career Pattern Study
Model of Career Maturity in Ninth-Grade
Boys

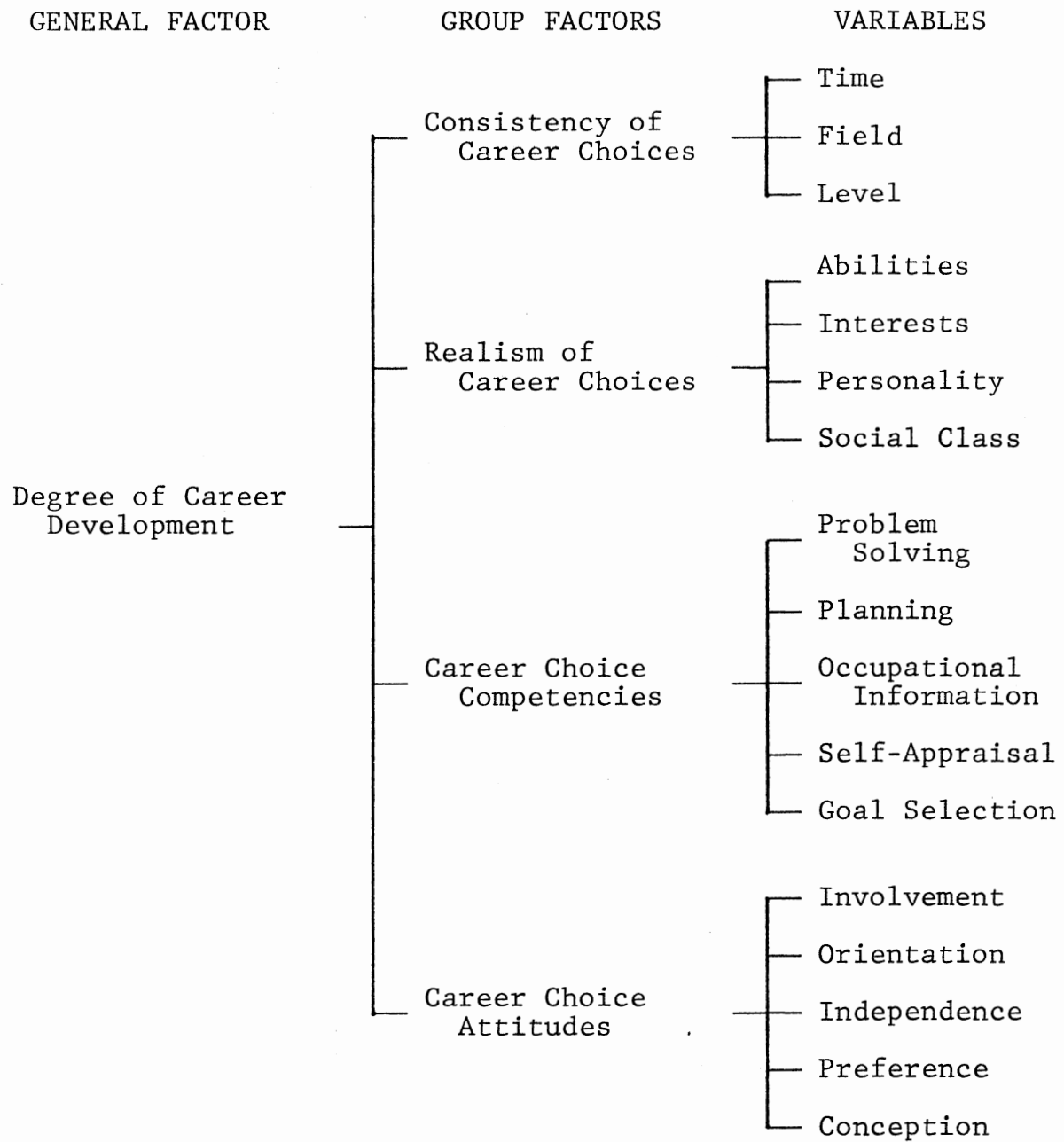
CPS. This study also attempted to develop a measure of Readiness for Vocational Planning (RVP). The RVP has more recently developed some adequate predictive validity (Gribbons & Lohnes, 1968). An important improvement of the Gribbons and Lohnes study over the CPS was the inclusion of females in the data analysis.

Two broad views or definitions of career maturity seem to have emerged. One definition being the absolute or relative approach, which consist of either the life stage reached by an individual or the developmental tasks mastered within a life stage. A second approach to defining career maturity could be called the degree and rate approach (Crites, 1961). The degree of career maturity refers to looking at an individual's vocational behavior in comparison with the oldest person in that individual's life stage. For example a ninth grader would be compared to 12th graders not to other ninth graders. In terms of measuring the degree of career maturity, operationally this can be achieved in several ways. Crites (1961) describes these as:

(1) an individual responds to an inventory of vocational behaviors which differentiate older from younger age groups within a life stage; (2) the number of behaviors endorsed in the same way as the older group constitutes the individual's raw score; and (3) the higher this raw score, the greater is his degree of vocational development (p. 259).

The rate of career maturity refers to a comparison of the individual's vocational behavior to his/her peers (his/her own age group norms).

Crites began with a degree and rate approach in defining career maturity, because he felt it lent itself more readily to the development of instrumentation for assessing career maturity. He built on the work of the Career Pattern Study and other research (Crites, 1965) to design a developmental model of career maturity. This three level model consisting of a general factor, group factors and specific variables is presented in Figure 2. The degree of career maturity or the individual's general overall progression toward greater maturity is postulated as being moderately related to each of the dimensions or group factors. These group factors are (1) Consistency of Vocational Choice (2) Wisdom of Vocational Choice, (3) Vocational Choice Competencies and (4) Vocational Choice Attitudes. Each of these group factors is expected to correlate moderately with each other. For example, it seems reasonable that mature career choice attitudes would help an individual make consistent and wise career choices as well as facilitate the acquiring of mature vocational choice competencies. The third level of this model consists of the specific variables making up each dimension for that life stage. An assessment of the maturity of these variables for an individual during a certain life stage is considered the assessment of rate of career maturity. The specific variables or factors relating to career choice attitudes and competencies have been discussed in Chapter I as parts of the Career Maturity Inventory.



Source: Crites (1971)

Figure 2. Crites Model of Career Maturity In Adolescence

Westbrook (1976) found correlations between the group factors slightly higher than Crites predicted. Crites (1965) postulated correlations should be in the .30's to .40's. Westbrook found correlations between a measure of Career Choice Attitudes with measures of the five Career Choice Competencies as being from .43 to .52. Crites (1971) reported results of the Vocational Development Project and the related validity research which involved the development of the Vocational Development Inventory (now the CMI). One aspect of this research which is pertinent to the present discussion is that VDI scores were found to relate to changes in grade level more than to chronological age, thus giving some validity to the developmental nature of the instrument. The validity and reliability of the present form of the VDI (the CMI) is discussed further in Chapter III.

Career Maturity and Locus of Control

There has been very little research investigating the relationship between career maturity and locus of control. Gable and Thompson (1976) in a study with college females observed that career maturity was greater among more internally controlled women subjects (significant at the $p < .01$ level) than among more external women students. The authors found no difference in career maturity between those women making typical versus atypical vocational choices which was another aspect of the study. The measure of career maturity used was Crites Attitude Scale and the measure of locus of

control used was the MacDonal and Tsing Internal-External Scale.

Turner and McCaffrey (1974) studied career orientation among freshmen black and white college women. The researchers categorized antecedents of career expectations as internal, external or nerual according to Rotter's Social Learning Theory. As hypothesized, variables predicted high career expectation among whites. Regardless of level of career preference, blacks in this sample were unlikely to expect to attain the level of career involvement they most valued. Career expectation among black women was related to external forces such as the wishes and expectations of significant others rather than internal motivation indicative of personal fulfillment. The authors viewed Social Learning Theory as valuable in differentiating differences between blacks and whites in career orientation.

Socioeconomic Status, Race and Career Maturity

Many studies concerning career maturity have included background variables such as socioeconomic status and race in their research or have selected samples characteristic of certain socioeconomic groups. In this review socioeconomic status (SES) and race will be discussed together because they usually appear together in the literature. The Career Pattern Study (Super, 1957; Super and Overstreet, 1960), discussed earlier, included as part of the investigation the

relationship between career maturity and socioeconomic status. One of the variables found to relate to career maturity, "Orientation to Choice Tasks," related indirectly to background factors. These background factors involved intellectual and cultural stimulation, aspiration to higher socioeconomic status and ability to achieve reasonably well in a variety of activities. Super stated that the more favorable the socioeconomic status, the greater the career maturity of the individual is likely to be (Super & Overstreet, 1960, p. 79).

Crites (1971; 1973a) reported that there are no significant differences among socioeconomic groups on performance on the CMI-A. He cited three studies to support this conclusion, two of which did not find a correlation and one which did. One study had a sample of 306 male college students and the other non-significant study involved a sample of 162 male high school students. The one study showing a correlation between career maturity and socioeconomic status involved American Indian students attending non-integrated schools. LoCascio (Super, 1974) questions the representativeness of the socioeconomic samples used in these three studies and feels that these studies do not provide enough evidence for Crites to state that career maturity is not related to socioeconomic status.

Smith (1975) in a review of the literature of the black individual in vocational literature cites several studies reporting low career maturity scores among blacks and lower

socioeconomic groups. Smith questioned whether low career maturity is either a racial or a socioeconomic factor. He suggested that comparative studies with lower and middle socioeconomic status blacks be conducted in regard to this variable. Smith stated that most theories of vocational development are based on white, middle class males and have limited generalizations for minorities and low socioeconomic groups. He suggested using reference group perspectives or reference group theory with vocational development theory in research concerning black individuals' vocational development. In relation to the present study, perhaps one aspect of this reference group perspective is locus of control.

Hansen and Ansell (1973) in a study comparing the Vocational Development Inventory and the Readiness for Career Planning Scale, observed that both instruments showed overall progression in vocational maturity at different grade levels and differences between socioeconomic groups. The population for the study was lower and middle socioeconomic adolescent boys, grade 8-12. Middle class whites had the highest career maturity at each level, followed by lower class whites and lower class blacks, except at grade twelve. At twelfth grade, blacks scored higher than lower socioeconomic whites on career maturity.

Asbury (1968) in a study involving rural eighth grade boys in Appalachia, Kentucky, observed that the mean scores on the Vocational Development Inventory for this sample were significantly lower than that of the norm group in Cedar Rapids,

Iowa. Although career maturity scores were lower, scores on an Occupational Aspiration Scale were comparable to the mean of junior high boys in a middle socioeconomic area. Studies with high school boys, according to Asbury, had lower aspiration than the eighth graders. Asbury suggested that perhaps eighth graders are still in the fantasy stage and that their aspirations will drop later in high school. The study also reported an incongruence between level of educational aspiration and the level of occupational aspiration. Asbury concluded that this research supports LoCascio's (1967) theory that vocational development for disadvantaged youth may be discontinuous. Racial groups were not identified.

LoCascio (1967) states that much of the original theory development and research concerning vocational development was based on a limited population (white, male, Anglo-Saxon, adolescents with IQ's of 120 and above, from relatively high socioeconomic backgrounds). Individuals from lower socioeconomic groups may develop in a discontinuous versus continuous pattern. He proposes three developmental units of continuous, delayed and impaired. As support for these units he analyzed data that was originally collected as a part of the Career Pattern Study. He found a positive relationship between stability of vocational field preferences and continuity of vocational development.

Maynard and Hansen (1970) studied the efficiency of the Vocational Development Inventory in measuring the vocational maturity of 180 blacks and 180 whites from the inner city and

90 whites from suburban schools. Career maturity scores indicated large differences among the samples with blacks lowest, inner city whites next and white suburban boys scoring the highest. Some of these differences were erased when intelligence was controlled for each group. The authors concluded that black and lower socioeconomic youth seem unaware of the factors designating the importance for vocational planning at the eighth grade level.

Sex Differences on Measures of Career Maturity

As stated earlier Crites (1973) reports no significant differences between males and females on the CMI-A. Other researchers report conflicting evidence. On the Career Development Inventory (Super, 1974) significant sex differences were found on two of the three scales, with girls scoring superior to males (Davis, Hogan and Strauff, 1962; Myers et al., 1972). Gibbons and Lohnes (1968) included males and females in their research and found no significant differences on the Readiness for Vocational Planning Scales for 8th and 10th grades. Two years after high school these similarities between males and females began to break down. The researchers developed a set of criterion variables in order to test the predictive validity of the RVP scales. These included such variables as educational goals, occupational goals and a measure of successful versus unsuccessful vocational adjustment. It became difficult to fit female subjects into their model of vocational maturity because they

had no appropriate category for "housewife" and no theory which helped them to analyze a female's vocational adjustment if she was a "housewife."

Mary Richardson (Super, 1974) discusses the concept of vocational maturity among women and girls and implications for counseling. She feels that differences between males and females on measures of career maturity are probably relatively unimportant. The importance is in what these differences mean. Most of the original research concerning career maturity (the Career Pattern Study, for example) was conceptualized and researched with only male subjects. Only recently has the possibility of a different career development model for women become a focus of research. As seen from the difficulties of the RVP study discussed above (Gribbon and Lohnes, 1968) a different model of career development among females seems appropriate. This model should incorporate role development concerning marriage and the family as well as occupational role development. A discussion concerning female career development models is not appropriate to the present study. Important to the present study is the fact that research concerning sex differences on measures of career maturity is not abundant and those that have been conducted present conflicting results. Because of the need for more research in this area and because there exists some evidence that women do mature differently than men in terms of career development sex has been included in the present study as a possible predictor of career maturity.

Changes in Career Maturity

Research concerning changes in career maturity after counseling or other interventions is not consistent. There is some indication that career development of lower socio-economic students can be enhanced by career education programs. Vriend (1969) reports the results of a two year program of structured career-related activities using inner city high school students. Using the Vocational Maturity Rating Scale (VMR) developed for the study, the experimental groups during the senior year in high school obtained higher career maturity scores in all vocational component areas than the control group. The schools were selected for the study by low rankings on a social characteristics scale. The study indicates that career programs with the inner-city student help to enhance career development.

Flake and authors (1975) conducted a study involving 10th graders in which total score on the CMI-A scale plus the Self-Appraisal Subscale of the competency test was below the mean when compared to their classmates. The experimental treatment was special career counseling over a six week period. This involved three sessions with a 45-60 minute individual counseling session discussing the students immature responses on the CMI pre-test. The experimental group means increased significantly on the CMI-A plus the Self-Appraisal Subscale but not on the Self-Appraisal alone. Hamdani (1977) obtained similar results among tenth graders in an inner-city school. The treatment intervention was a daily class period

designed to increase self and occupational knowledge, develop positive work attitudes, increase decision-making skills and develop job seeking skills. The results indicated that after this class scores on the CMI-A were significantly higher than pre-test scores. These higher scores were maintained in a follow-up study four months later. This study did not have a control group so ordinary maturation effects cannot be measured which greatly weakens the design of the study. Other career education programs have also been reported to increase scores on measures of career maturity.

Omung, Tullock and Thomas (1975) reported the results of a career education program implemented in the classroom after a workshop attended by sixth and eighth-grade teachers. All the CMI scales were used as a measure of career maturity. The study reported significant increases for experimental sixth graders over controls on the Occupational Information and Planning scales. For eighth graders the experimental subjects scored significantly higher on the Planning and Attitude scales.

Schmieding and Jensen (1968) conducted a study involving 11th and 12th graders who were primarily American Indians with lower socioeconomic backgrounds. The experimental group experienced the effects of an occupations class lasting 22 sessions of 50 minutes each, over an eight week period. The dependent variables were career development as measured by the Vocational Development Inventory (VDI) and vocational tenacity as measured by a modified version of the Vocational

Tenacity Test (VTT). They found no significant differences on these two measures between the experimental and control groups. The authors feel that the results suggest that short treatment may have little effect on career development.

In summarizing this section it seems that the research concerning the effects of counseling and career education programs on measures of career maturity are not consistent. In relation to the present study also there has been little research concerning changing or facilitating career maturity among college students.

Locus of Control Research

This section of the review of literature will discuss research related to the concept of locus of control. The amount of research produced related to this concept has been enormous, as reflected in two recent reviews of the research (Phares, 1976; Lefcourt, 1976). To facilitate the review and to sort out what aspects of this research are relevant to the present study the research has been divided into several categories. Those areas which seem to have the most significance to the present study were selected, either because they discuss variables included in the study (i.e., race) or because the variables which relate to locus of control also relate to career maturity (i.e., adjustment). Five categories were chosen. These are: (1) Locus of Control and Individual Differences (including race, SES, and sex), (2) Mastery over the Environment, (3) Locus of Control in

the Social Context, (4) Anxiety, Adjustment and Psychopathology and (5) Changes in Locus of Control. A summary of locus of control research in general will be provided at the end of this section.

Individual Differences

Socioeconomic Status and Race

Lefcourt (1969) stated that racial and social class membership which limits a person's access to valued societal goals should theoretically produce an external control orientation. Research which he reviews supports this assumption. Members of minority groups such as Negroes and American Indians score higher (in an external direction) on Rotter's IE Scale than whites. Lower socioeconomic individuals score higher than middle socioeconomic individuals.

Rotter (1966) reports mixed findings concerning the relationship between locus of control and SES. No significant social class differences were found in a college student population. However the student population was highly homogeneous. Studies with younger or non-college age samples show differentiation. Franklin (1963) as reported by Rotter, recorded a significant positive relationship between higher socioeconomic status and internality based on a national stratified sample of 1,000 cases.

Joe (1971) in a more recent review of the literature, reports consistency of recent studies with earlier investigations. Almost all these studies indicate that Negroes and

lower class individuals have higher external scores than white and middle class individuals. This indicates that social class tends to interact with race to produce tendencies among lower socioeconomic groups to have high expectancies of external control.

Sex Differences

Research in the area of sex differences on measures of locus of control is difficult to summarize. Many studies and reviews of research do not even report sex differences (Lefcourt, 1976). Phares (1976) reports that a wide majority of studies do not find significant differences on the IE Scale between males and females. Sex often has been found to mediate behavior in the relationship between locus of control and other behaviors. For example, internality is often found to relate to a variety of achievement variables among males but not among females. An example of this research is Brown and Strickland's Study (1972) as reported by Phares (1976). They examined grade point average (GPA) of college seniors and found significant correlations (.47) between GPA and internality among males. The correlation for Females was not significant (.16).

Davis (1970) (as reported by Phares, 1976) has postulated that there may be two types of externals. One type she labels as "defensive externals" because they tend to verbalize external expectancies but otherwise (behaviorally) behave much like internals. The external verbalizations are

made, she feels, in certain performance situations as a means of defending themselves against expected failure or negative reinforcement. "Congruent externals" are those individuals which verbalize external expectancies and behave congruently to this. Research tends to support this division of externals yet the concept seems to hold up more consistently for males than for females (Phares, 1976). Perhaps males in our society experience greater threat of failure due to high achievement expectations. In summary, research investigating sex differences on measures of locus of control are limited and often conflicting. Although the results are often confusing many studies tend to indicate that sex can be a mediating variable. Because of the seemingly unclear conclusions concerning sex differences and locus of control the author felt it important to include sex as a variable in the present study.

Mastery Over the Environment

Theoretically if an individual perceives that he/she has control over his/her environment, a higher level of coping and activity would be anticipated from that individual (interval in terms of locus of control). This assumption is supported by research. Seeman and Evans (1962) (from Phares, 1976) in one of the earliest studies of this nature, investigated the relationship between the amount of knowledge and information seeking behavior of patients in a tuberculosis hospital and locus of control. They used an early version of

the IE Scale as a measure of locus of control. From scores on this instrument they identified 43 internal-external pairs of white male patients. A series of questions were asked each subject concerning his illness, etc. Seeman and Evans reported that internals knew more about their condition, asked doctors and nurses more questions about their disease, and were less satisfied by the information they received. Seeman and Evans interpreted these data to mean that internals attempted to gain a greater degree of control over their life situation than did externals.

Phares (1976) concluded from a review of research in this area that not only do internals seek information more than externals but that they also utilize this information to a greater degree. This cognitive processing of information among internals includes internals devising rules to process information and developing greater sensitivity and alertness to environmental cues. These results are consistent through studies of tubercular patients, reformatory inmates, Swedish students and American and Canadian college students. The majority of these studies used Rotter's IE Scale.

In terms of the present study this aspect of internals could have significance to the development of mature career behaviors. This is especially true since the "Use of Resources" and "Information" are factors which have been found to relate to career maturity (Super, 1957). The research which supports a positive relationship between locus of control and mastery over the environment provides

additional rationale for the inclusion of locus of control as a dependent variable in the present study.

Locus of Control in
the Social Context

From the preceding discussion internals seem to be more active than externals in attempting to control their environment. One may further hypothesize from this conclusion that internals should be expected to be more resistant to influence or manipulation from others. To accept persuasion or other forms of influence without analyzing the content or nature of this influence would appear to give up a great deal of control. Social Learning theory hypothesizes that internals will be more resistant to social influence (Phares, 1976). Research tends to support this hypothesis.

Tolor (1971) found that when an experimental situation was set up which seemed to suggest that stationary light was moving, externals tended to see the light as moving whereas internals saw it as stationary. These results suggest that internals are more resistant to external influence. Strickland (1970) as reported by Lefcourt (1976) found that internals were more likely than externals to deny having been influenced during a verbal conditioning experiment. When internals recognized that the experimenter was doing something deliberate to manipulate them (selective verbal reinforcement) they were less conditionable. The most responsive "conditioners" were the externals who when they became aware

of the experimenter's manipulation seemed to associate externality with acceptance of the experimenter's influence. This research leads directly into a discussion of how individuals who differ in terms of locus of control attribute responsibility to others. Phares and Wilson (Phares, 1976) examined ratings of the degree of responsibility that should be attributed to individuals involved in auto accidents that varied in terms of severity of outcome and the ambiguity inherent in the accident descriptions. College students were used as subjects and were identified as either externals or internals based on IE Scale scores. Internals attributed more responsibility to the drivers than did externals. Phares (1976) in summarizing research in this area states that internals appear more resistant to subtle social influence when it has merit than when it does not. In relation to the present study, at least one of the factors discussed under the area of social influence, "independence of judgement," relates also to the maturity of career attitudes (Crites, 1971).

Anxiety, Adjustment and Psychopathology

Most research reviewed by Joe (1971) indicates a linear versus curvilinear relationship between internal-external control and social and psychological adjustment, although there is some evidence to believe that individuals at the extreme ends of the continuum might be more maladjusted than

those in the middle range. Phares (1976) reports modest but significant correlations between anxiety and externality which seems to indicate greater chronic distress, discomfort or maladjustment on the part of externals. Lefcourt (1976) reviews several studies which indicate that an external locus of control is associated with mood changes or depressive kinds of disorders. Since locus of control seems to be positively related to a mastery over the environment and may increase coping behaviors, it may lead to better general adjustment research. In general, internals report less anxiety and describe themselves with more positive adjectives (Joe, 1971). All of these researchers used Rotter's IE Scale and college students were included in their samples.

Changes in Locus of Control

Changes in locus of control have been observed in a number of studies. Different reasons are given to explain the changes in locus of control and a variety of methods have produced changes. Changes toward more internality (as measured by Rotter's IE Scale) have been reported for college students after a marathon group experience (Founds et al., 1974) and encounter group experiences (Diamond and Shapiro, 1973; Parks et al., 1975). Additional support for the changeability of locus of control can be seen in a study involving inner city teenagers. These teenagers perceived themselves as having more personal control over their environment after a structured camp experience (Nowicki and

Barnes, 1973). The instrument used to measure locus of control was the Nowicki-Strickland Scale. This scale was designed for use with children and is comparable to Rotter's IE Scale for adults. The authors attributed this change to making clearer to the individual the connection between his behavior and reinforcement. Experience in situations which one believes reflects his own control over reinforcements may increase the likelihood of his believing that he has control over reinforcements (Elisenman, 1972). This was demonstrated through an experiment in which subjects (college students) either controlled experimental outcomes or they did not. The subjects who had control over the outcomes increased their control scores as measured by Rotter's IE Scale toward an internal orientation while those who did not have control over outcomes changed their control scores more in an external direction.

Lefcourt (1966) reviews several studies which attempted to alter expectancies by linking success at new goals with old successes. For example, in a study reported by Lefcourt, Negroes who had previously been identified as having an external orientation were induced to persist in a competitive task with white subjects only when they believed that the skills required in that task were related to some previous success in achievement area. Generalized expectancy of external control was not directly altered but subjects did perform more adequately on tasks which they ordinarily did not or would not have performed well. In another study

Lefcourt reports increased performance at tasks when subjects were given directions which increasingly clarified the reinforcements available in the task. The present study is not concerned with changing students' locus of control but this characteristic of locus of control could have significance for future research.

Summary of Locus of Control Research

In summarizing the research concerning locus of control it seems that individuals who have encountered real or perceived barriers to achieving societal goals and rewards tend to be more external (lower SES groups; minorities). Reported sex differences on measures of locus of control are conflicting but tend to indicate that males and females with similar scores on measures of locus of control may behave differently in some situations. Overall, internality is associated with greater information seeking and utilization of information indicating perhaps a greater mastery over the environment and greater attempts at controlling their environment. Internality is associated with greater achievement need and success both academically and in the working world (Phares, 1976). Internals appear to be less anxious than externals; describe themselves with more positive personality terms; appear better adjusted and resist influence to a greater extent than externals. Research involving sex differences is limited as is research measuring locus of control in clinical settings. Research concerning changes in locus of

control indicates that significant changes do occur but no specific techniques or methods which facilitate change have been identified. Rotter (1966) sums up much of the research in this manner:

the individual who has strong belief that he can control his own destiny is likely to: (a) be more alert to those aspects of the environment which provides useful information for his future, (b) take steps to improve his environmental conditions, (c) place greater value on skill or achievement reinforcement and generally be more concerned with his ability, particularly his failures, and (d) be resistive to subtle attempts to influence him (p. 25).

Chapter Summary

This chapter has reviewed research in four basic areas: (1) career maturity theory, (2) selected variables related to career maturity, (3) the relationship between career maturity and locus of control, and (4) research related to concept of locus of control. A great deal of research concerning locus of control has been produced. Research concerning career maturity is still incomplete. There is a need for research investigating sex differences in career maturity; the nature of career maturity among lower SES and minority individuals, how changes are produced in career maturity and other variables which relate to career maturity. There has been little research investigating the relationship between career maturity and locus of control. The present study is meant as one of the first attempts at investigating this relationship.

CHAPTER III

METHODOLOGY OF THE STUDY

This chapter contains a description of the sample for the study, the procedures of data collection, a description of the instruments used, and a description of the procedures used for analyzing the data. A summary of the descriptions will be presented at the end of the chapter.

Population and Sample

The population of students chosen for the present study was students enrolled in freshman classes at Oklahoma State University, Stillwater, Oklahoma; Central State University, Edmond, Oklahoma; and Langston University, Langston, Oklahoma. A sample including all three of these universities was selected in an attempt to include a wide range of socioeconomic and racial backgrounds among the students. A non-random sample from these schools was selected which involved students from American Government, Introduction to Psychology, and Freshman Composition classes. Of the original 400 students who participated in the study, 249 were chosen for data analysis. The remaining 143 subjects were not included because of one or several of the following reasons: (1) Students were not American citizens ($n = 34$); (2) Students were

more than 20 years old (n = 12); (3) Students were not classified in school as freshmen (n = 41); (4) Completion of the instruments was inadequate (n = 56); (5) Obtained a classification of other than "white" or "black" on the race identification item (n = 8). Pertaining to (5) above, these subjects were omitted from the study because there was a total number in this category of only eight.

There were 115 subjects from Oklahoma State University (OSU), 73 from Central State University (CU), and 61 from Langston University (LU). The ages of the subjects ranged from 17 to 20, with 196 in the 18-year-old category. Table I represents this age distribution by schools.

TABLE I
A DEMOGRAPHIC DESCRIPTION OF THE AGE
DISTRIBUTION OF S_s BY SCHOOL

Age	S c h o o l			Total Per Age Group
	OSU	CS	LU	
17	6	4	3	13
18	100	51	39	190
19	9	11	13	33
20	4	3	6	13
Total per School	115	73	61	249

The sample included three socioeconomic groups: high, middle, and low. The sample was categorized into these groups by using Hollingshead's Two Factor Index of Social Position (1957) (described later in this chapter on pp. 45 - 48. Table II represents the distribution of the sample among these three groups.

TABLE II
DISTRIBUTION OF SAMPLE BY SOCIOECONOMIC
(SES) GROUPS

SES Group	Number of Subjects	Per Cent of Sample
High	47	19%
Middle	121	48%
Low	81	33%

There were two racial groups represented in the sample. These were 174 Caucasians or white subjects and 75 blacks. Table III represents both the distribution of racial and socioeconomic groups per school. As shown by the table, the majority of whites were from Oklahoma State University, and the majority of blacks were from Langston University. Of the total sample of 249, 93 were males and 156 were females.

TABLE III
 A DEMOGRAPHIC DESCRIPTION OF SOCIOECONOMIC
 GROUPS BY RACE AND SCHOOL

Race	S C H O O L												Grand Totals
	OSU N = 115				CSU N = 73				LU N = 61				
	Socioeconomic Status				Socioeconomic Status				Socioeconomic Status				
	High	Middle	Low	Total	High	Middle	Low	Total	High	Middle	Low	Total	
White	31	62	17	110	8	35	19	62	1	1	0	2	174
Black	3	1	1	5	0	2	9	11	4	20	35	59	75
Grand Totals	34	63	18	115	8	37	28	73	5	21	35	61	249

Procedures and Methods of Data Collection

A short Background Questionnaire, devised by the author, was used to collect demographic data (see Appendix A) in the study. Race, sex, age, classification in school and nationality were collected from this self-report form. Information concerning parent's education and occupation (needed to compute socioeconomic status scores) also was collected using the Background Questionnaire. In addition to the Background questionnaire, the Attitude Scale of the Career Maturity Inventory (CMI-A) (Crites, 1973), and the Internal-External Control Scale (I-E Scale) (Rotter, 1966) (see Appendix B) were administered to the sample described above during the fall semester, 1977. The instruments were administered during a regular classroom period. Total test administration time ranged from 15 to 45 minutes. The class was read the following statement concerning the study:

I am a doctoral student at Oklahoma State University. I have some new ideas about career counseling and am conducting research on characteristics of college students in an effort to validate these ideas. I would like for you to participate in this research by filling out a five page questionnaire. You will be part of a sample of students taken from Oklahoma State University, Langston University, and Central State University. Your participation would be greatly appreciated

Directions for filling out the questionnaire are at the top of each section. You should have three separate sections. Read the directions for each of these carefully since each of them is a little different. On all five pages your response is to be placed in the blank to the right of each item (here). On the right side of each page there is a line drawn down the page with numbers to the right of it (here). Ignore these numbers, they are for

research purposes only. Do not write your name on the questionnaire. Are there any questions?

The three instruments were administered to the students in three different orders. This procedure was followed in order to control for the effects of responding to one instrument affecting the students' responses on the following instruments. Three orders were selected. These are presented below:

Order One : Background Questionnaire

CMI-A

IE Scale

Order Two : CMI-A

IE Scale

Background Questionnaire

Order Three: IE Scale

Background Questionnaire

CMI-A

Instrumentation

Two Factor Index of

Social Position

Hollingshead's Scale (Hollingshead, 1957) was used to determine the socioeconomic group of each student from the data collected from the Background Questionnaire.

Hollingshead's Scale consists of two factors which he feels are essential to the determination of an individual's social position. The first factor is the head of household's exact

occupational role and the second is head of household's amount of formal education.

The occupational scale consists of seven categories. This scale is based on the assumption that different occupations in our society have different values (Hollingshead, 1957). The hierarchy of occupational categories is:

(1) higher executives, proprietors of large concerns, and major professionals; (2) business managers, proprietors of medium-sized businesses, and lesser professionals; (3) administrative personnel, small independent businesses, and minor professionals; (4) clerical and sale workers, technicians, and owners of little businesses; (5) skilled manual employees; (6) machine operators and semi-skilled employees; and (7) unskilled employees or unemployed persons. Hollingshead provides a detailed description of what is to be included under each category, giving numerous examples of occupations.

The educational scale consists of seven categories also. It is based upon the assumption that individuals with similar educational backgrounds will manifest similar interests, attitudes and "tastes" (Hollingshead, 1957). The seven categories of this scale are (1) graduate or professional training; (2) standard college or university graduates; (3) partial college training; (4) high school graduates; (5) partial high school; (6) junior high school; and (7) less than seven years of school.

The occupational and educational factors are combined by weighting the scores on each. The weight attached to each is:

<u>Factor</u>	<u>Factor Weight</u>
Occupation	7
Education	4

An individual's Index of Social Position Score is computed from the scale value for occupation which is multiplied by the factor weight for occupation and the factor value for education multiplied by the factor weight for education. These two scores are then added together. For example, JoAnn Doe is a private secretary for an attorney and has completed high school with two years of college. Her Index of Social Position is computed as follows:

	<u>Factor Weight</u>	<u>Social Scale</u>	<u>Weight X Scaled Score</u>
Occupation	7	3	21
Education	4	3	<u>12</u>
Index of Social Position			33

Scores on the Index of Social Position range from a low of 11 to a high of 77. This range is thought of as a continuum. Hollingshead feels that subgroups of scores can be categorized and that social groups in society fall within natural breaks along this continuum. He recommends that researchers make arbitrary breaks between social groups according to the distribution of the particular sample with which they are working. For the purpose of the present investigation the occupational and educational background of both parents was used to compute the Index of Social Position. This was selected in an attempt to get a more accurate categorization of social groups among varying socioeconomic

and racial backgrounds. Because information concerning both parents was used, the scale was doubled and the computation of scores involved simply adding the scores for each parent together. The range of scores therefore was changed from 11-77 to 24-154. For individuals from one-parent families the score for that parent was doubled in order to fit proportionately into the two-parent scale. Since Hollingshead allows for no category in his occupational scale for "housewife," when this term was reported, a scaled score of "7" was given as an occupational score.

The distribution of Social Position scores for the present sample ranged from 22-139. Socioeconomic groups were categorized as follows in Table IV:

TABLE IV
SCORE RANGE OF SOCIOECONOMIC GROUPS
AND NUMBER PER GROUP

Socioeconomic Group	Score Range	Number of Ss	% of Sample
High	22- 57	47	19
Middle	58- 89	121	48
Low	90-140	81	33

The Attitude Scale of the
Career Maturity Inventory

The Attitude Scale of the Career Maturity Inventory (CMI-A) (Crites, 1973) was used in the present investigation as a measure of career maturity. The CMI-A is a 50-item instrument to be marked in a true-false manner. The administration time is approximately 20 minutes. The reading level is between the fifth and sixth grade.

History and Construction of the Scale. The CMI-A was developed out of a need for a different assessment of vocational behavior. Traditional approaches used the "trait-factor" method of matching a person's aptitude, interests and personality traits with specific job characteristics. As vocational theory began to be more developmental in nature, these measures of vocational behavior were not as useful in career counseling to counselors and educators (Crites, 1968). Career counseling has become more than "matching" persons with jobs. There are appropriate attitudes and tasks to be achieved within each developmental stage. Knowing what a person feels about the world of work (an assessment of that person's career maturity concerning attitudes) is helpful in teaching or guiding a student to learn more appropriate attitudes and information.

The Career Maturity Inventory combines an age-related scale with a point-related scale. Therefore, one receives a measure of both the degree of vocational maturity of an

individual (a comparison of where the person is as to life stage) and the rate of vocational maturity (a comparison of the individual with same-aged peers) (Crites, 1961). The Career Maturity Inventory consists of two parts. The first part is a Competence Test measuring five areas of intellectual skills needed for career choice. Since this part of the instrument was not used in this investigation, no further discussion of it will be made. The second part of the instrument is the Attitude Scale, which will be utilized in the present investigation, and is an attempt to measure non-intellective factors which influence career choice (such as feelings, attitudes and values). Items were written to represent dispositional response tendencies toward making a career choice and entering the world of work in five areas of vocational choice. These five areas are: involvement in the choice process, orientation toward work, independence in decision-making, preference for choice factors and conception of the choice process (Crites, 1973).

The content of the Attitude Scale was drawn from verbalizations made by clients in career counseling, as well as from career autobiographies and case summaries. Approximately 1,000 items were collected. These items were then administered to large groups of students to determine their age and grade relatedness. The assumption was made that if the attitude was developmental, it would mature or change with age and grade level. From this data, 15 to 25 items were selected to measure each of the five dimensions (Super, 1974;

Crites, 1973). The criterion group used for the selection of the items was twelfth graders at Cedar Rapids, Iowa, during the 1961-62 academic year.

The instrument produces one score, the magnitude of which reflects maturity of vocational attitudes (Crites, 1965). Norms were collected for grades 6-13. These are not meant to be totally representative of a national norm. Crites strongly encourages collecting local norms in order to compare an individual with his/her peers, since this is the major purpose of the instrument. Norms for diverse groups were also collected, such as disadvantaged youth and minorities (American Indians, Mexican American students in the Southwest and Blacks) (Super, 1974). Crites (1973) reports no significant differences between males and females on the CMI-A.

Validity. The content validity of the CMI-A has been established by deriving item statements from real life statements of clients and attitudes from contemporary theories of career development. Criterion-related validity is shown by reporting significant correlations with such variables as vocational aspiration, consistency and realism in career choice. The CMI-A in general is considered to be construct valid for a wide variety of variables (both intellectual and non-intellectual). These variables include number of siblings, previous work experience, intelligence, special aptitudes, discrimination ability, interest profile stability, personality traits, general adjustment status, academic

adjustment, persistence in college, ratings in vocational training, job success, and composites of variables derived from factorial and multiple regression analysis (Super, 1974). From these data, the author concluded that the scale had adequate construct validity for the purpose of this study.

Reliability. Because the CMI-A is a non-intellective measure and because it assesses related but differential clusters of career attitudes, the internal consistency would be expected to be moderate. The internal consistency coefficients in the form of the Kuder-Richardson Formula 20 Values averaged .74 (.65 - .84). These are comparable to other measures of non-intellective variables (Crites, 1971). Test-retest reliability estimates over one year were .71 based upon 1648 students in the standardization sample (Crites, 1971).

The Internal Versus External Control Scale

The Internal versus External Control Scale (I-E) (see Appendix B), developed by Rotter and others (1966) was used as a measure of locus of control in the present investigation.

The I-E Scale is a 29-item, forced-choice test including six filler items intended to disguise the purpose of the test. The score is the total number of items selected in the external direction. Locus of Control is considered by Rotter to be measured on a continuum. The items deal with the individuals' belief about the nature of the world. This

test is believed by Rotter to therefore measure a generalized expectancy of how reinforcement is controlled.

These items were chosen by Rotter and Crowne from an earlier 60-item scale developed by James and Phares (Rotter, 1966). Items were eliminated from the scale if any of the following happened: if any of the items were highly correlated with the Marlowe-Crowne Social Desirability Scale (that is if one of the two alternatives was endorsed more than 85% of the time); had non-significant relationship with the other items; had a correlation approaching zero with both validation criteria. The two criterion behaviors were expectancy statements in a laboratory task and the behavior of tubercular patients in actively trying to improve their condition (Rotter, Liverant, and Crowne, 1961; Seeman and Evens, 1962). Moderate but consistent biserial item correlations with total scale with that item removed are reported for 200 males and 200 females (Rotter, 1966).

Internal consistency reports are relatively stable (moderately high). Split-half Spearman-Brown correlations are .73. Kuder-Richardson reliabilities range from .69 - .73. Test-retest correlation coefficients for a one-month period are quite consistent (.55 - .83) for two different samples. The samples for the test-retest correlation coefficients were elementary psychology students at Ohio State University (n = 60) and prisoners in a Colorado Reformatory (n = 28 (Rotter, 1966). Rotter (1975) considered these coefficients adequate.

Much of the validity of this instrument is reflected in the construction of the scale. Correlations with Marlowe-Crowne Social Desirability Scale are low (-.16 to -.41) and negligible correlations with intelligence are reported. Rotter reports moderate to high correlation for the I-E Scale and other interview type measurement of locus of control and a story completion test of locus of control.

Analysis of Data

A multiple regression equation was used to analyze the relationships between career maturity, locus of control, socioeconomic status, race, sex and order (of administration of the instruments). All of the data, except computation of the Index of Social Position scores (which were computed by hand) were analyzed by use of Statistical Package for the Social Science (SPSS) computer program. First, all of the independent variables were entered into a regression equation with CM as the dependent variable. From an analysis of the semi-partial correlations significant and non-significant variables were identified. If the variable accounted for a significant proportion of the variance of CM then it was selected to be included in the next regression equation. If a variable was found not to be significant it was deleted from the next equation. If an interaction variable was found to be significant and the single variables making up the interaction were not found to be significant that single variable was included in the next equation. This step was

included to accommodate the possibility that the nonsignificant variables or the significant interaction variables might gain in their contribution to the total variance of CM after several of the non-significant variables were dropped from the equation. This procedure of analyzing the variance of CM accounted for by the independent variables was continued until only variables which were significant at the .05 level of confidence remained in the equation. An analysis of covariance was completed in order to identify the significant differences between the socioeconomic subgroups and the racial subgroups in terms of career maturity. The final regression equation's R^2 was tested for significance at the .05 level of confidence.

Summary

This investigation examined first, the relationship between career maturity and locus of control. Secondly, it investigated the relationships among career maturity, locus of control, socioeconomic status, race and sex. These relationships were examined from a sample of 249 male and female freshman students from three socioeconomic groups and two major racial groups (blacks and whites). The sample was taken from three universities in the state of Oklahoma. The two major instruments used were the Attitude Scale of the Career Maturity Inventory developed by John Crites (1973), and the Internal versus External Control Scale developed by Rotter (1966). A Background Questionnaire was used to gather

demographic data. Hollingshead's Two Factor Index of Social Position was used to categorize the sample into three socioeconomic groups (high, middle, and low). A multiple regression equation was used to analyze the relationships among the variables, the important interactions among the variables, and to therefore identify those variables which contributed the most to the variance of career maturity scores. A statistical analysis of the findings of this study are presented in Chapter IV.

CHAPTER IV

RESULTS

Introduction

This chapter presents the results of the analysis of data for each hypothesis presented in Chapter I. This chapter will present the results of simple correlations between variables (Category I Research Hypotheses); multiple correlations among variables (Category II Research Hypotheses); and an analysis of covariance of selected variables with career maturity scores. A summary of results will be presented at the end of the chapter.

Category I Research Hypotheses

These hypotheses involved the analysis of the simple correlations between career maturity (CM) and the variables of locus of control (IE), socioeconomic status (SES), race, sex and order (of administration of the instruments). The definitions and measurement of these variables were discussed in Chapter I, page 8.

Group One Hypotheses

There is no significant relationship between career maturity (CM) and each of the following variables: (H_{1a})IE;

(H_{1b})SES; (H_{1c})Race; and (H_{1d})Sex. The results of the simple correlation between CM and these variables are presented in Table V below.

TABLE V
SIMPLE CORRELATIONS OF SELECTED VARIABLES
WITH CAREER MATURITY

	IE	SES	RACE	SEX
CM	.18**	-.23*	-.26*	.11***

* Significant at the .001 level
 ** Significant at the .002 level
 *** Significant at the .04 level

Significant positive relationships were found between career maturity and locus of control and between career maturity and sex. Positive correlation coefficients for these variables were: .18 for IE (significant at the .001 level of confidence) and .11 for Sex (significant at the .04 level of confidence). Significant negative relationships were found between career maturity and SES and race. Correlation coefficients for these variables were: -.23 for SES (significant at the .001 level of confidence) and -.26 for race (significant at the .001 level of confidence). In summary, significant correlations were found between all of the

variables in H_1 and career maturity. These data seemed to indicate that locus of control, SES, sex and race are important factors in determining the maturity of an individual's career attitudes. The data suggested that the more internal one's locus of control and the higher one's social status in society the more likely one will develop positive or mature ideas and attitudes about work, and entering a career. An individual's sex and race also seem to be factors in determining career attitudes. More specific conclusions and discussion concerning the relationship between these variables and career maturity will be presented in Chapter V. That discussion will draw upon the results of both Category I and II Research Hypotheses.

The null form of H_1 was rejected for H_{1a} , H_{1b} , H_{1c} , H_{1d} , at the confidence levels stated above.

Group Two Hypotheses

There is no significant relationship between locus of control and each of the following variables: (H_{2a})SES; (H_{2b})Race; and (H_{2c})Sex. The results of these correlations are presented in Table VI.

Locus of control was not found to significantly relate to SES, race or sex. These results indicate that in this sample SES, race and sex were not important variables in relation to an individual's locus of control. In other words, there were no significant relationships between an individual's sex, race or membership in a social class and

TABLE VI
SIMPLE CORRELATIONS BETWEEN LOCUS OF
CONTROL AND SELECTED VARIABLES

	SES	RACE	SEX
IE	.01	-.03	-.03

that individual's perception of the locus of reinforcement or of control. Therefore, H_{2a} , H_{2b} , and H_{2c} were not rejected at the .05 level of confidence.

Group Three Hypotheses

There is no significant relationship between race and each of the following variables: (H_{3a})SES and (H_{3b})Sex. These correlations are presented in Table VII.

TABLE VII
SIMPLE CORRELATIONS BETWEEN RACE AND
SOCIOECONOMIC STATUS AND BETWEEN
RACE AND SEX

	SES	SEX
Race	.35*	.02
*Significant at the .001 level of confidence		

The significant positive relationship between race and SES may indicate a subdivision of the sample by race into particular SES groups. The majority of the sample was whites and of these the majority was in the middle SES group. Whereas for blacks, the greatest number of these subjects were classified in the low SES group. These divisions of

the sample can be identified from Table III in Chapter III, page 43. From these results, the null form of H_{3a} was rejected. The null form of H_{3b} was not rejected at the .05 level of confidence.

Group Four Hypotheses

There is no significant relationship between Order and the following variables: (H_{4a})IE; (H_{4b})SES; (H_{4c})Race; (H_{4d})Sex; and (H_{4e})CM. These correlations are presented in Table VIII.

TABLE VIII
SIMPLE CORRELATIONS BETWEEN ORDER
AND SELECTED VARIABLES

	IE	SES	RACE	SEX	CM
Order	.02	.01	-.10	-.06	.10

No significant correlations were found between order and any of the other variables. These data indicate that the order of the administration of the instruments had no significant relationship with the responses of the subjects on these instruments. Therefore, the null of H_{4a} , H_{4b} , H_{4c} , H_{4d} , and H_{4e} was not rejected at the .05 level of confidence.

In summary, significant relationships were found between career maturity and locus of control, SES, race and sex. A significant positive relationship was found also between race and SES. No significant relationships were found between IE and SES, race and sex. No significant correlations between order and the other variables were observed.

Category II Research Hypotheses

These hypotheses involve the analysis of multiple relationships with career maturity. The method selected to complete this analysis was a multiple regression analysis. The procedure involved in this analysis was discussed in Chapter III.

Group Five Hypotheses

$\beta_i = 0$ where β_i is the i th unstandardized semi-partial regression coefficient in the equation $\underline{CM}' = a + \beta_1 X_1 + \dots + X_n \dots$. In this equation \underline{CM}' represents the predicted CM score and $X_1 \dots X^5$ represents the additive effects of the independent variables of IE, race, SES, sex and order while $X_6 \dots N_n$ represent selected non-additive effects (sex x race, SES x race, IE x race and IE x sex) of these independent variables. These non-additive effects correspond to the interaction terms of an analysis of variance.

The main independent variables included in the initial regression equation (with career maturity as the dependent variable) were: IE, SES, race, sex and order. In addition,

several (non-additive) interaction variables were included in the analysis. (These were: SES and race, sex and race, sex and SES, IE and SES, and IE and race. Of the main independent variables, IE, SES and race were found to be significant predictors of CM (at the .05 level of confidence). Of the interaction variables only one variable was found to be significant. This was the interaction between race and SES. Therefore only four variables seemed to be important enough to include in a final regression equation. These were IE, race, SES and the interaction of race and SES. Table IX presents the sums of squares, mean squares and significance levels of each of these variables. Table X presents the multiple correlation coefficients (R), the R^2 and the change in R^2 associated with each variable in the final regression equation. As can be seen from these tables, locus of control, SES and race were found to be significant variables in this equation. Significance levels for these variables were .003 for locus of control, .01 for race and .04 for SES. The interaction variable of race and SES was not significant. Table XI presents means and standard deviations for CM scores for SES and racial groups.

Of the total 13.3% of the variance of CM accounted for by the independent variables, locus of control contributed 3.3%, race contributed 3.5% and SES 5.6%. Socioeconomic status therefore seemed to be the greatest contributor to the variance of career maturity explained by these variables. These results indicate that an individual's locus of control,

TABLE IX
 ANALYSIS OF COVARIANCE OF CAREER MATURITY
 SCORES WITH LOCUS OF CONTROL SCORES,
 RACE AND SOCIOECONOMIC STATUS

Source of Variation	Sum of Squares	df	Mean Square	F	Signifi- cance of F
Covariates	218.45	1	218.43	8.90	.003
IE	218.43	1	218.43	8.90	.003
Main Effects	619.24	3	206.41	8.41	.001
Race	146.81	1	146.81	5.98	.015
SES	155.99	2	77.99	3.18	.043
Two-Way Interactions	39.64	2	19.82	.81	.447
Race X SES	39.64	2	19.82	.81	.447
Explained	898.88	6	148.31	6.04	.000
Residual	4937.96	242	24.54		
Total	6827.83	248			

TABLE X
 SUMMARY TABLE FOR THE REGRESSION OF CAREER
 MATURITY SCORES ON LOCUS OF CONTROL
 SCORES, SOCIOECONOMIC STATUS AND
 RACE AND THE INTERACTION OF
 RACE AND SOCIOECONOMIC
 STATUS

Variable	Multiple R	R ²	R ² Change
IE Scores	.18267	.03337	.03337
SES	.24835	.108907	.05510
Race	.35288	.12452	.03545
Interaction of Race and SES	.36101	.13033	.00581

TABLE XI
 MEANS AND STANDARD DEVIATIONS OF CAREER
 MATURITY SCORES FOR SOCIOECONOMIC
 STATUS AND RACIAL GROUPS

Subgroup	Mean	Standard Deviation	n
Whites	36.37	4.99	174
High	37.50	4.73	40
Middle	36.47	4.60	98
Low	34.86	5.98	36
Blacks	33.37	5.25	75
High	36.28	4.49	7
Middle	33.00	5.12	23
Low	33.11	5.39	45

SES and Race are important factors in the maturity of that individual's career attitudes.

The null form of H_5 was rejected for the following variables: IE, SES, and Race. The null form of H_5 was not rejected for the remainder of the variables.

From the regression analysis SES and race were found to be significant variables in predicting career maturity. This indicates that an individual's socioeconomic status and race are important factors in the career maturity of that individual. Additional analysis of these two variables were needed in order to identify in what manner SES and Race contributed to the variance of CM. The results of this analysis are presented in this chapter under the section entitled "Subgroup Differences." These data do not relate directly to any of the proposed hypotheses but are necessary to the understanding of the results of the data analysis associated with H_5 .

Hypothesis Six

$R^2 > 0$ where R^2 is the multiple correlation coefficient between CM scores and a linear combination of predictor variables. This hypothesis can be stated in the following question: is the combination of the independent variables in the regression equation better indicators of the variance of CM than could be predicted or obtained from observing the mean of the CM scores.

An F test of significance was used to analyze the significance of R^2 . The F ratio for the total equation was 15.03 which was significant at the .01 level of confidence. Therefore the independent variables can be concluded to be better than chance predictors. The null form of H_6 was rejected at the .05 level of confidence.

In summary, IE, SES and race were found to have the greatest relationships with CM after the effects of the other variables on the variance of CM were removed from the equation (semipartial correlations). None of the other main independent variables or any of the interaction variables were found to be significant predictors of CM.

Subgroup Differences

In order to understand the importance of SES and race as independent variables accounting for significant proportions of the variance of CM, this section reports additional analysis of data. The regression analysis (presented in Table X) indicated that there was a significant relationship between race, SES and CM. In order to further understand these results, the regression analysis was followed up as if it had been an analysis of covariance. It was felt that these results would be easier to understand if means were presented rather than the complete regression equation. (Of course, the regression equation can be calculated from the summary table and means table.)

The analysis of SES and race differences was achieved by computing the differences between the obtained CM scores and the predicted CM scores (CM - CM'). The following equation was used:

$$\text{Diff} = \text{CM} - (.254\text{IE} + 32.3)$$

where 2.54 equals the unstandardized semipartial regression coefficient for the independent variable IE and 32.3 represents the constant value.

These values were taken from the final regression equation used to predict CM from IE. A one-way ANOVA was conducted on these differences (CM - CM') to analyze differences between SES groups. The results of this one-way ANOVA are presented in Table XII.

TABLE XII
ANALYSIS OF VARIANCE OF RESIDUALS (CM - CM')
BY SOCIOECONOMIC GROUPS

Source	df	Sum of Squares	Mean Squares	F Ratio	F Probability
Between Groups	2	380.2869	190.1434	7.520	.0007
Within Groups	246	6219.9624	25.2844		

These results indicate that there were significant differences between SES groups on the differences (CM - CM').

Using the Scheffé procedure as a post hoc test, it was found that the low SES group scored significantly lower than the middle or high SES groups. There were no significant differences between the high SES group and the middle SES group. The low SES group scored the lowest on the residuals with a residual mean of -1.58 as compared to a mean of .357 and 1.86 for the middle and high SES groups. These results are presented in Table XIII below.

TABLE XIII
RESIDUAL MEANS (CM - CM') FOR
SOCIOECONOMIC GROUPS

SES	Mean	Standard Deviation	n
High	1.86	4.50	47
Middle	.36	4.79	121
Low	-1.58	5.62	81

Means and standard deviations for blacks and whites for means of differences are presented in Table XIV. The mean for whites was .90 as compared to -2.04 for blacks. A t-test was used to compare these means for blacks and whites. These results indicated that whites scored significantly

($p < .05$) higher than blacks in terms of career maturity. Table XI (reported earlier) presented the means and standard deviations of obtained CM scores for SES and racial groups. The mean for the total sample was 35.47. The mean for males was 34.73 and the mean for females was 35.91. The mean for whites was greater than the mean for blacks (36.37 and 33.37, respectively).

TABLE XIV
RESIDUAL MEANS (CM - CM') FOR RACES

Race	Mean	Standard Deviation	n
White	.900	4.928	174
Black	-2.049	5.124	75

The results of this analysis of race and SES in relation to CM indicates that membership in a low SES group and being black tends to influence in a negative manner ones attitude toward career decisions and entering the world of work.

Table XV presents the means and standard deviations for IE scores. The sample mean for locus of control was 12.43. The mean for males was 12.57 and 12.35 for females. Whites scored only slightly higher than blacks with means of 12.49

and 12.29, respectively. There was a slight increase in IE scores (more internal) from Low SES to High SES for blacks but not for whites. These slight differences for IE scores between blacks and whites and among SES groups were not significant. These results indicate that with this sample sex, race and socioeconomic status were not important factors in determining an individual's locus of control. These data were not consistent with the results suggested from a review of the literature.

TABLE XV
MEANS AND STANDARD DEVIATIONS OF LOCUS OF
CONTROL SCORES FOR SOCIOECONOMIC
AND RACIAL GROUPS

Group	Mean	Standard Deviation	n
Whites	12.59	3.94	174
High	12.40	4.23	40
Middle	12.44	3.96	98
Low	12.75	3.66	36
Blacks	12.29	3.08	75
High	12.57	3.46	7
Middle	12.30	3.14	23
Low	12.24	3.06	45

Summary

Locus of control, race and SES were found to be significant variables in the analysis of the career maturity of black and white freshmen college students. Locus of control, SES and race were found to contribute significantly to the variance of CM scores when used as independent variables in a multiple regression equation to predict CM. Simple correlation coefficients between CM and IE, race, SES and sex were found to be significant. A significant correlation between race and SES was observed. Differences among subgroups were found. Blacks scored significantly lower than whites on the CMI-A. Low SES groups scored significantly lower than middle and high SES groups on the CMI-A. No significant differences between blacks and whites or SES groups were found for locus of control scores. Sex differences for CM and IE scores were not found to be important.

CHAPTER V

DISCUSSION OF THE RESULTS, CONCLUSIONS AND RECOMMENDATIONS

Overview of the Study

An analysis of the relationships among career maturity and locus of control, socioeconomic status, race and sex was completed with a sample of 249 college freshmen of two major racial groups and three socioeconomic groups. Crites' CMI-A scale (Crites, 1973b) was used as a measure of career maturity and Rotter's IE scale (Rotter, 1966) was used as a measure of locus of control. Subjects were selected from three universities in the state of Oklahoma. The data was collected by asking intact classes of students to complete the instruments. Using Pearson correlation coefficients, a multiple regression analysis and an analysis of covariance, important relationships and variables were identified.

Overview of Results

The results of this study were presented in detail in Chapter IV. Basically these results can be condensed into three major findings: (1) Locus of control was found to be significantly related to career maturity in a positive manner; (2) Career maturity was significantly related to the

socioeconomic status and race of the subjects; (3) Locus of control and socioeconomic status, race, and sex were not found to be significantly related.

Limitations of the Study

Before further discussion of the results of this study is presented several limitations of the study need to be pointed out. One limitation of these results is that the simple correlation coefficients and multiple correlation coefficients between and among variables were relatively small in magnitude although high significance levels were obtained for many of these correlations. Secondly, the results of this investigation should be limited to freshmen college students between the ages of 17 and 20 in primarily state-supported universities. These results cannot be generalized to all college students other than freshmen classification or to freshmen over 20 years old. This is particularly important since career development and career maturity changes significantly as age and experience increase. A third limitation of this study is that there was a large proportion of females in the sample (156 to 93 males). This could indicate a selective bias in terms of the kind of students in the classes that participated in the study. The majority of these female subjects was from Introductory Psychology classes at Oklahoma State University. Lastly, these results are limited by the particular limitations of the instruments involved in this study. With these

limitations, the following is a discussion of the results of the study and subsequent conclusions and recommendations for further research.

Discussion of Results and Conclusions

The simple correlation coefficient between CM and locus of control was found to be significant. Locus of control was also found to be an important variable in the regression analysis predicting CM. It seems valid to conclude that there is a positive relation between internality and career maturity. These results are what might be expected theoretically from an analysis of the factors which are related to both career maturity and locus of control. Mature career attitudes and a greater internal locus of control (a belief that ones abilities and efforts control reinforcement) both seem to be one aspect of a more general overall maturity. Since career maturity was found to relate to IE in this study, it would be interesting to see how locus of control relates to each of the factors of the CMI-A. The five factors which Crites (1971) defines as components of career maturity (discussed in Chapter I) are involvement, orientation, independence, preference and conception. Internals and externals probably differ in terms of these five factors. Phares' (1976) review of the locus of control literature seems to indicate that there are large differences between internals and externals on such factors as conformity, seeking and processing information, and adjustment. (See Chapter

II.) Internals seem to be less susceptible to manipulative influences and therefore are probably more independent in terms of decision-making. These individuals (internals) probably have a more planful orientation to life and consequently to career development and choosing a career. They are probably more actively involved in seeking out information from others and have a more realistic conception of the world of work. Consequently their preferences for career choices are probably based on more information, than those more external individuals. In contrast external individuals may perceive work and establishing a career as dependent primarily on one or two factors such as chance or only ones ability, or only ones interest, etc. Externals may be less independent and less actively involved in information seeking, which would probably affect the maturity of their career attitudes in a negative way. One explanation therefore, of the positive relationship between internality and career maturity is the positive personality characteristics (such as independence) which are associated with both internals and mature career attitudes. Research looking at the relationship between each of the factors of career maturity and locus of control needs to be investigated.

The lack of important sex differences for career maturity in this study was consistent with the data reported by Crites (1973a). Females did score slightly higher than males. The simple correlation (.11) between career maturity and sex was significant, yet sex as an independent variable

in the regression analysis was not found to be significant. It seems valid to conclude from these data that although there is a positive relationship between career maturity and sex it appears that this relationship is not strong enough to be an important factor in the maturity of career attitudes when the factors of race, locus of control and SES are also considered. These data confirm the need for more research concerning differences in the career development of men and women and the meanings of these differences. Sex also did not seem to be an important factor in the locus of control of the individuals in this study. These data are consistent with Phares' (1976) reports of research in this area and suggest that there is no strong relationship between locus of control and sex of the subject.

In this study, locus of control was not found to be significantly related to socioeconomic status, race or sex. These results are in conflict with reports of other research in this area by Lefcourt (1969), Rotter (1966) and Joe (1971), whose research indicates that low SES and minority membership is related to an external locus of control. Finding no significant sex differences for locus of control is consistent with some earlier studies (Phares, 1976) although not all (see Chapter II, page 31). The seemingly lack of importance of race and SES in this study in relation to locus of control is difficult to explain. Rotter (1966) reports one study of college students in which no social class differences in terms of locus of control were found. He explained this in

terms of the group being too homogenous in terms of background. Perhaps the sample in the present study was too similar across backgrounds for differences in locus of control to be observed (forty-eight percent were categorized on the middle SES group and more than half were females).

Differences between blacks and whites and among SES groups were observed for career maturity. Blacks scored significantly lower than whites and the low SES groups scored significantly lower than either the middle or high SES group. These results are very interesting since Crites (1973a) reports no significant differences on the CMI-A for racial and SES groups. These results do confirm many of the other studies in this area (Smith, 1975; Hansen and Ansell, 1973; and Maynard and Hansen, 1970) which indicated that many blacks and low SES individuals are lacking in mature career attitudes. There seems to be a number of background factors and influences among low SES families and some black families which seem to hinder an individual's career development. Since locus of control has been associated with socioeconomic status and racial factors in other studies, differences in locus of control among individuals could be associated with these differences in career maturity. This cannot be stated for the present study, since no significant differences among these groups were found for locus of control scores.

In summary, locus of control seems to be positively related to career maturity. Locus of control does not seem to be significantly related to race, SES or sex for this

study. In practical terms this probably means that locus of control is an important variable in determining an individual's career maturity but the relationship between locus of control and one's background or race is not strong enough to explain the lack of career maturity among low SES and black individuals. There are probably other important factors which tie into the low socioeconomic and minority background milieu which contribute to the low career maturity scores of these groups. These results also indicate that locus of control may not be as influenced by background characteristics for this college sample as other studies seem to suggest, or perhaps the sample may be too similar for any affect to manifest itself. Also there may be other more important factors which influence one's perception of reinforcement, which are not tied directly to any race or SES group. In conclusion, locus of control was indicated in this study to be an important factor in the maturity of career attitudes. Additional research is needed to clarify the degree of importance of the relationship between locus of control and career maturity.

Overview of Conclusions

1. Locus of control is an important factor in the maturity of career attitudes.
2. Although locus of control is an important factor in relation to one's career maturity, the relationship between locus of control and such background factors as socioeconomic status and race seems not to be strong enough to explain the

low career maturity among some low socioeconomic and black groups.

3. It seems valid to conclude that other factors (other than locus of control) which relate significantly to low socioeconomic and minority backgrounds may be influencing the career development and maturity of individuals in those groups.

4. It seems valid to conclude that locus of control may not be as influenced by background characteristics such as race and SES for college freshmen as other studies might suggest.

Recommendations

The following are recommendations concerning further research and some practical application suggestions in terms of utilizing the results of this study in career counseling.

1. This study needs to be replicated in order to establish more clearly the relationship between career maturity and locus of control and the career maturity of different racial and socioeconomic groups. This research is particularly important considering the lack of research in this area.

2. The author feels that the results of this study justify, theoretically, research involving the effects of changing an individual's locus of control on that person's career maturity. It is recommended that this research be conducted with college students lacking in mature career

attitudes and not be directed at any particular SES or racial group.

3. It is recommended that research be conducted identifying the relationship between each factor of CM and locus of control in order to establish whether locus of control affects certain aspects of an individual's career development to a greater extent than other aspects. In order for this research to be completed more specific measures of career maturity need to be developed.

4. It is recommended that an analysis of sex differences on measures of career maturity and locus of control be included in further research since no clear and definite conclusions in this area have been established.

5. It is suggested that in research involving the relationship between locus of control and career maturity that other measures of career maturity be utilized. More "behavioral" measures which indicate how a person might act upon how they feel about and perceive the world of work would seem appropriate.

6. Additional research identifying factors related to low SES and minority backgrounds which contribute to the low career maturity of these groups would be helpful in understanding the career development of these groups.

7. Methods of working with students who lack the appropriate attitudes and competencies to make good career decisions and choices can no longer be ignored. The low scores for the low socioeconomic group and for many blacks in this

study confirm what other researchers have been reporting. Many career education and career counseling programs have been developed in an attempt to meet this need. It is suggested that educators and counselors incorporate into their career education approaches the concept of locus of control. This could be simply a theoretical understanding by the educator of the concept and the research which has been conducted concerning the relationship of locus of control to career development.

Concluding Comment

It is hoped that the results of this study will facilitate the understanding of the career maturity of college students. Perhaps it will be a stimulus to researchers and educators to examine further the career development of individuals from limiting backgrounds. Theoretically it is hoped that this study has laid the groundwork for more research involving the relationship between career maturity and an individual's perception of the locus of reinforcement.

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APPENDIX A

BACKGROUND QUESTIONNAIRE

BACKGROUND INFORMATION QUESTIONNAIRE

Please answer the following questions concerning background information by selecting the correct number of each item and writing it in the blank to the right of each item. For items numbered "7" - "9" answer the questions by writing in the spaces following the items.

1. Sex (3)
 1. Male
 2. Female

2. Race (4)
 1. Caucasian
 2. Afro-American
 3. American Indian
 4. Spanish American
 5. All Others; Please Specify _____

3. Classification in School
 1. Freshman
 2. Sophomore
 3. Junior
 4. Senior
 5. Special

4. Are you an American citizen?
 1. Yes
 2. No

5. How much education did your mother complete in school? (5)
 1. Elementary school (grades 1-6)
 2. Junior high school (grades 7-9)
 3. Some high school (grades 10 or 11)
 4. Completed high school (grades 10-12)
 5. Business school, vocational school or technical school
 6. Some college (1-3 years)
 7. Completed college (4 years)
 8. Graduate school or post-graduate school (Master's degree; doctorate degree; medical degree, etc.)

6. How much education did your father complete in school? (6)
 1. Elementary school (grades 1-6)
 2. Junior high school (grades 7-9)
 3. Some high school (grades 10 or 11)
 4. Completed high school (grades 10-12)
 5. Business school, vocational school, or technical school
 6. Some college (1-3 years)
 7. Completed college (4 years)
 8. Graduate school or post-graduate school (Master's degree; doctorate degree; medical degree, etc.)

7. What is the name of the most recent job your mother has had? _____

8. What is the name of the most recent job your father has had? _____

9. What is your age? _____

Do Not Write
 In This Space (7)

_____ (8)

APPENDIX B

INTERNAL-EXTERNAL CONTROL SCALE

ENVIRONMENTAL PREFERENCE SCALE

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered A or B. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; therefore there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. Be sure to find an answer to every choice. Place an A or B which you choose as the statement more true in the blank to the right of each item. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. A. Children get into trouble because their parents punish them too much. _____
B. The trouble with most children nowadays is that their parents are too easy with them. _____
2. A. Many of the unhappy things in people's lives are partly due to bad luck. _____ (59)
B. People's misfortunes result from the mistakes they make.
3. A. One of the major reasons why we have wars is because people don't take enough interest in politics. _____ (60)
B. There will always be wars, no matter how hard people try to prevent them.
4. A. In the long run people get the respect they deserve in this world. _____ (61)
B. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. A. The idea that teachers are unfair to students is nonsense. _____ (62)
B. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. A. Without the right breaks one cannot be an effective leader. _____ (63)
B. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. A. No matter how hard you try, some people just don't like you. _____ (64)
B. People who can't get others to like them don't understand how to get along with others.
8. A. Heredity plays the major role in determining one's personality. _____
B. It is one's experiences in life which determine what they're like.
9. A. I have often found that what is going to happen will happen. _____ (65)
B. Trusting to fate has never turned out as well for me as making a decision.
10. A. In the case of the well prepared student there is rarely if ever such a thing as an unfair test. _____ (66)
B. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. A. Becoming a success is a matter of hard work, luck has little or nothing to do with it. _____ (67)
B. Getting a good job depends mainly on being in the right place at the time.
12. A. The average citizen can have an influence in government decisions. _____ (68)
B. The world is run by a few people in power, and there is not much the little guy can do about it.
13. A. When I make plans, I am almost certain that I can make them work. _____ (69)
B. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. A. There are certain people who are just no good. _____
 B. There is some good in everybody. _____
15. A. In my case, getting what I want has little or nothing to do with luck. _____ (70)
 B. Many times we might just as well decide what to do by flipping a coin. _____
16. A. Who gets to be boss often depends on who was lucky enough to be in the right place first. _____ (71)
 B. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it. _____
17. A. As far as world affairs are concerned, most of us are the victims of forces we can neither understand or control. _____ (72)
 B. By taking an active part in political and social affairs the people can control world events. _____
18. A. Most people don't realize the extent to which their lives are controlled by accidental happenings. _____ (73)
 B. There really is no such thing as "luck". _____
19. A. One should always be willing to admit mistakes. _____
 B. It is usually best to cover up one's mistakes. _____
20. A. It is hard to know whether or not a person really likes you. _____ (74)
 B. How many friends you have depends upon how nice a person you are. _____
21. A. In the long run the bad things that happen to us are balanced by the good ones. _____ (75)
 B. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three. _____
22. A. With enough effort we can wipe out political corruption. _____ (76)
 B. It is difficult for people to have much control over the things politicians do in office. _____
23. A. Sometimes I can't understand how teachers arrive at the grades they give. _____ (5)
 B. There is a direct connection between how hard I study and the grades I get. _____
24. A. A good leader expects people to decide for themselves what they should do. _____
 B. A good leader makes it clear to everybody what their jobs are. _____
25. A. Many times I feel that I have little influence over the things that happen to me. _____ (6)
 B. It is impossible for me to believe that chance or luck plays an important role in my life. _____
26. A. People are lonely because they don't try to be friendly. _____ (7)
 B. There's not much use in trying too hard to please people, if they like you, they like you. _____
27. A. There is too much emphasis on athletics in high school. _____
 B. Team sports are an excellent way to build character. _____
28. A. What happens to me is my own doing. _____ (8)
 B. Sometimes I feel that I don't have enough control over the direction my life is taking. _____
29. A. Most of the time I can't understand why politicians behave the way they do. _____ (9)
 B. In the long run the people are responsible for bad government on a national as well as on a local level. _____

VITA ²

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Thesis: THE RELATIONSHIPS AMONG CAREER MATURITY, LOCUS OF CONTROL, SOCIOECONOMIC STATUS, RACE, AND SEX OF A SAMPLE OF COLLEGE FRESHMEN AT THREE UNIVERSITIES

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