

THE CAREER DECISION SCALE AS A MEASURE OF CHRONIC INDECISION

by

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TABLE OF CONTENTS

ABSTRACT	ii
LIST OF TABLES	viii
CHAPTER	
I. LITERATURE AND STATEMENT OF THE PROBLEM	1
Introduction	1
Differences Between Decided and Undecided Individuals	4
Heterogeneity of the Undecided Population	9
Development of Scales	10
Indecision vs. Undecidedness (Theory)	12
Research on Indecisiveness	22
The Career Decision Scale	25
The Eysenck Personality Inventory	35
The Sixteen Personality Factor Questionnaire	44
Rationale for the Current Study	46
Hypotheses	46
Hypothesis 1	47
Hypothesis 2	47
Hypothesis 3	48
II. METHODS	49
Subjects	49
Design and Procedure	49
III. RESULTS	51
Test Hypothesis 1	51
Test Hypothesis 2	56
Test Hypothesis 3	59

Indecision Scale Scores and the Sixteen Personality Factor Questionnaire	62
IV. DISCUSSION AND CONCLUSIONS	67
Integration of 16PF Data	71
Gender Differences	75
Summary and Conclusions	77
Implications for Future Research	79
REFERENCES	82
APPENDIXES	
A. SUMMARY TABLES FOR ANOVAS	89
B. CONSENT FORM	93
C. EXPERIMENT F SUMMARY	95
D. CAREER DECISION SCALE	98
E. EYSENCK PERSONALITY INVENTORY	103

ABSTRACT

Researchers have postulated that vocationally undecided students compose a heterogeneous population, with subgroups requiring interventions specifically tailored to their needs. One such subgroup which has been identified has been labeled "chronically undecided" or "indecisive." The indecisive subgroup has been characterized as being unable or unwilling to make decisions, having high levels of ambivalence, resentment, anxiety, and frustration, and as lacking a clear sense of identity. Indecisive individuals are said to be dependent, have low self-esteem, and tend to blame others for current dissatisfactions. They have an external locus of control and have learned to react to situations in a helpless manner. Several authors have argued for the development of a comprehensive diagnostic system for the presenting problem of career undecidedness, and for the development of measurement devices for research concerning the diagnostic indicators of career indecisiveness.

There is evidence that the Career Decision Scale (CDS) may have potential for the identification of chronically indecisive students, and three criteria for the use of the CDS have been presented in the literature.

Specifically, Factor 1 scores, Indecision Scale scores, and percentiles on both Indecision and Certainty Scales have been suggested as indicators of either chronic indecision or a "high likelihood of need for intervention." The purpose of this study was to provide evidence of the concurrent validity of each of these indicators.

The CDS, Eysenck Personality Inventory (EPI), and the Sixteen Personality Factor Questionnaire (16PF) were administered to 206 college students. Analyses of Variance revealed that the Indecision Scale of the CDS was the measure most strongly related to neuroticism as measured by the EPI. Students scoring highest on the Indecision Scale of the CDS also scored highest on the Neuroticism Scale of the EPI, but the effect attained statistical significance only for females. Exploratory analyses of 16PF scales indicated that differences in Neuroticism Scale scores between indecision groups were primarily due to anxiety rather than to the traits described as "indecisiveness." Conclusions and directions for future research are presented.

LIST OF TABLES

1.	Dimensions Differentiating Career Indecision	14
2.	Interpretive Hypotheses for Certainty and Indecision Scores	28
3.	CDS Items Loading on Factor 1	30
4.	Correlations of the EPI Neuroticism Scale With Scales of the California Psychological Inventory	39
5.	Overall Means and Standard Deviations	52
6.	Means and Standard Deviations by Gender	53
7.	Comparison of Indecision Scale to Neuroticism Scale	55
8.	Comparison of Indecision Scale to Neuroticism Scale (Males Only)	55
9.	Comparison of Indecision Scale to Neuroticism Scale (Females Only)	57
10.	Comparison of Factor 1 Scale to Neuroticism Scale	58
11.	Comparison of Factor 1 Scale to Neuroticism Scale (Males)	60
12.	Comparison of Factor 1 Scale to Neuroticism Scale (Females)	60
13.	Neuroticism Scale Scores for Osipow Criteria Groups	61
14.	Overall Comparison of Indecision Scale to 16PF Scale	63
15.	Comparison of Indecision Scale to 16PF Scales (Males Only)	64

16.	Comparison of Indecision Scale to 16PF Scales (Females Only)	65
17.	Proportion of Variance Accounted for by Indecision Scale Scores (R^2)	70
18.	Analysis of Variance of Neuroticism Scale Differences Between Indecision Groups	90
19.	Analysis of Variance of Factor 1 Differences Between Indecision Groups	91
20.	Analysis of Variance of Neuroticism Scale Differences Between Osipow Criteria Groups	92

CHAPTER I

LITERATURE AND STATEMENT OF THE PROBLEM

Introduction

As college students progress from their freshman to senior years, the pressure to select an appropriate career becomes more pronounced, and, for many students, frustration mounts. Berger (1967) examined the societal pressures exerted upon the undecided student and their deleterious consequences. The author described student reports that an undeclared major is "responsible for much anxiety, low motivation in college work, poor grades, and--not just occasionally--for their leaving college until they know what they want to accomplish there" (p. 888). Certainly much of the student's identity and, to a certain extent, social status is wrapped up in the answer to that ubiquitous question, "What's your major?"

Numerous studies confirm that a large number of students enter college undecided about college major and choice of career. Gordon (1981) reported on studies estimating the number of uncommitted students at 22 percent to 50 percent, but such figures are deceptively low when one adds to this figure students who initially consider themselves decided but who later change their

educational/vocational plans. Gelso and Sims (1968) reported that 21 percent of the students in their sample changed majors between the time they completed their college applications and the time they actually enrolled. Foote (1980) discovered that only 8 percent of a sample of freshman Arts and Sciences students persisted in school for two years with their originally declared major field of study. Lunneborg (1975) discovered that 24 percent of upperclassmen in her study remained undecided. Bonar and Mahler (1976) reported a consensus among student services professionals that the percentage of undecided students is rising due to less favorable economic conditions and a societal questioning of the necessity for a formal college education. The large number of students who are unsure or only tentatively certain of vocational aspirations is compounded by the finding of Hecklinger (1972) that, at the end of their junior year, undecided students reported less satisfaction with the college environment. The author suggested that societal and institutional pressures may be a contributing factor toward negative perceptions of the institution. Furthermore, one study reported that undecided students drop out of college at a rate 2-1/2 times that of students who enter committed to a major field of study (Elton & Rose, 1970). Berger (1967) presented one possible factor contributing to this alarming dropout rate:

Another unhappy effect of the pressure stems from a sort of corollary of the assumption underlying it. If a student doesn't know as a freshman or shortly thereafter what he wants to do vocationally, the thinking goes, then he should not be in college. How many times have I heard students say that they have no idea of a major, no vocational goals, so they plan to leave college and go into the military service or get a job. (p. 889)

Hundreds of students appear at college counseling centers across the country each day seeking help with their career planning efforts. Such students are most often given an array of self-help materials, interest and personality inventories, and individual counseling in an effort to determine which careers may be most appropriate and satisfying for the student. There are several developmental theories of career decision upon which the counselor can base his/her intervention and provide appropriate career guidance (Osipow, 1983). In spite of these theorizing efforts, Harman (1973) reported that, in a sample of students seeking career counseling, almost 50 percent failed to declare a college major after counseling efforts. No one theory is of central concern to the present investigation: The differences between decided and undecided individuals and, more specifically, differences within the population of undecided students are of primary concern. The literature pertaining to vocationally decided and undecided individuals provides an empirical base for theoretical speculation and hypothesis testing.

Differences Between Decided and Undecided Individuals

Throughout the 1960's and 70's, the vocationally undecided were most often viewed as a homogeneous group, and each group member was given career counseling based upon the counselor's theoretical orientation. Research was aimed at the discovery of variables which differentiated decided from undecided students, and at the development of instruments which would help counselors, academic administrators, and others to guide the undecided students into programs designed to help them. Thus, the literature pertaining to the differences between decided and undecided students overlaps the literature pertaining to specific assessment instruments.

Several authors have examined the role of identity issues in career indecision, following Erickson's (1956) description of identity formation as an integration of previous identifications and role experiences. Super (1957) suggested that people strive to implement their identity by choosing a career which permits maximum expression of self-concept. As the student matures, identity becomes more stable and appropriate career choice can be made. Galinsky and Fast (1966) described vocational choice as a focus of the identity search and stated that "problems in making an identity are frequently seen as difficulties in choosing a vocation" (p. 89).

Holland, Gottfredson, and Nafziger (1975) proposed that vocational choice depends on an accurate perception of self and occupations, and the ability to make appropriate decisions based on such knowledge. The authors conceived of identity as "a clear knowledge of one's competencies, preferred activities, interests, and vocational goals" (p. 413) and developed a 15-item identity measure. Low Identity Scale scores indicate "a shifting self-picture and an inability to assess oneself accurately or to relate personal characteristics to occupational possibilities" (Holland & Holland, 1977, p. 405). Holland and Holland (1977) found that undecided students achieved significantly lower scores on the scale and concluded that they lacked a clear sense of vocational identity. In a study of graduate students, Hartman and Fuqua (1982) confirmed the value of the Identity Scale as a predictor of career indecision. Certainly a great deal of students' confusion regarding choice of a career is related to lack of knowledge gained by educational/vocational and general life experiences.

Rose and Elton (1971) presented evidence that undecided students who drop out of college before graduation are experiencing a more acute form of Ericksonian identity confusion than students who persist to graduation. Using scores on the Omnibus Personality Inventory, the authors suggested that students who leave college have a need for

withdrawal from aesthetic experiences and their potential softening effects upon stereotyped notions of masculinity. "Leavers" were described as lacking in impulse control, being preoccupied with self, and experiencing social alienation. The authors postulated a withdrawal from competitiveness contributed to declining grades and subsequent departure from college.

Several authors have confirmed the relationship of career indecision to an external locus of control. Cellini (1978) reported that externals scored significantly higher on a measure of indecision than did students with an internal locus of control. Kazin (1977) found that externals scored significantly higher on Factor 1 of the Career Decision Scale (Osipow, Carney, Winer, Yanico, & Koschier, 1976). According to the authors, Factor 1 indicates lack of structure and confidence regarding vocational decision making. Taylor (1982) similarly found that undecided college students are more external in their locus of control.

While the correlation of external locus of control and career indecision is apparent, the causes of this correlation are less so. It is possible that externals view their lives as determined by chance and see no reason to actively participate in their future by making decisions. It is also possible that another personality

characteristic could exert influence on both career indecision and locus of control.

Support has been reported for Zytowski's (1965) suggestion that some students may be motivated to avoid making career decisions. With reference to learning and motivation theory, Zytowski stated that the goal object of career attainment could acquire negative associations which might produce avoidance behavior in certain individuals. Saltoun (1980) presented evidence that students with high levels of fear of failure devalued career planning tasks and were less vocationally mature than were students with low fear of failure scores. The author reported moderate correlations between fear of failure and avoidance of information-gathering and planning activities.

Vocationally undecided college students may also be more fearful of success than are students who have made career commitments. Taylor (1982) used a scale measuring students' opinions concerning the costs and benefits of success and attitudes toward success when compared to other alternatives. Individuals who had not decided on a career scored significantly higher on the fear of success measure than did students in the decided group. The measure was a significant predictor of vocational indecision for females.

Taylor and Betz (1983) developed a measure of students' self-efficacy expectations for behaviors performed in the process of career decision-making. The authors sampled behaviors relevant to self-appraisal, gathering information, goal selection, planning for the future, and problem solving. Results of this study indicated that individuals' confidence in their ability to successfully complete the tasks was significantly related to career decision status.

Anxiety has long been referenced as a significant correlate of career indecision. Kimes and Troth (1974) found that students who had a career in mind but were not moving toward a decision and those who were completely undecided about a career scored significantly higher on a measure of trait anxiety than did students who were definitely decided about a career. Students who were completely undecided about a career reported the highest levels of trait anxiety. Other authors have confirmed the correlation of anxiety and career undecidedness (Hawkins, Bradley & White, 1977; Mendonca & Siess, 1976; Jones, 1986), though the precise nature of this relationship remains open to speculation.

No statistically significant correlations have been found between career indecision and SAT scores (Rogers (cited in Osipow, 1987)), occupational interest differentiation scores (Cellini, 1978), and achievement types

(Osipow, 1980). Similarly, Baird (1969) found no significant differences on a variety of measures between freshmen students who had decided upon a major and those who had not. Data regarding the correlation of age and gender with career indecision is inconsistent.

Most of the research concerning correlates of the undecided student, however, has produced data which are conflicting, contradictory, and, at best, "a confusing picture" (Harman, 1973, p. 170). Holland and Holland (1977) commented on the vast array of methods and variables used to examine career decideness, summarizing the research as "characterized by conflicting findings, negative findings, or negligible findings" (p. 404). The authors concluded that decided and undecided students are much more alike than different on the variety of measures taken. Gordon (1981) listed 30 variables studied with little success by researchers in their quest for differences between those students who have decided upon a career and those who have not.

Heterogeneity of the Undecided Population

The primary conclusion of Gordon (1981), based upon a literature review of career decision-making correlates, was that "multiple causes of indecision do exist" (p. 433). Other researchers have also postulated that undecided students compose a heterogeneous population with

subgroups requiring interventions specifically tailored to their needs (Osipow, Carney, & Barak, 1976; Holland & Holland, 1977; Jones & Chenery, 1980). The speculation by Jones and Chenery that "persons are undecided for different reasons, and their reasons suggest different causal patterns and treatments" (p. 470) was further supported by Barak and Friedkes. In a study of counseling interventions, Barak and Friedkes (1981) found that subgroups of career undecided students gained differentially in decidedness from career counseling interventions. Clients who lacked structure in their decision-making process benefited most from career counseling, while those who perceived an external barrier or experienced a personal conflict gained the least. The authors concluded that different contents of counseling sessions might be appropriate for the various subgroups of career undecided students. This conclusion supports the research practice noted in an earlier section of investigating both intergroup and intragroup differences in career decision status through the development of scales.

Development of Scales

Several scales have been developed in efforts to identify the subgroups that compose students who have failed to decide on an appropriate career. Jones and Chenery (1980) developed the Vocational Decision Scale (VDS) to assess three dimensions of their model of

vocational decision status of decidedness, comfort with level of decidedness, and reasons for being undecided. Factor analysis revealed three factors in the measure of reasons for being undecided which the authors labeled self-uncertainty, choice/work salience, and transitional self. The self-uncertainty factor contained items describing "indecisiveness, lack of self-confidence regarding decision-making ability and occupational potential, and lack of clarity regarding oneself (i.e., interests, skills, and abilities). The source of indecision is perceived as coming from within oneself" (p. 472). Factor 2 indicated a lack of motivation to relate interests or abilities to an occupation, and Factor 3 contained items indicating a lack of information or a conflict with significant others concerning the career decision.

Osipow, Carney, Winer, Yanico, and Koschier (1976) developed the Career Decision Scale "designed to measure and identify antecedents of educational-vocational indecision" (p. 233). A factor analysis by Osipow, Carney, and Barak (1976) indicated four factors which were identified as need for structure, perceived external barriers, positive choice conflict, and personal conflict. A more complete description of the CDS and research concerning its factor structure is presented in a later section of this paper.

Holland and Holland (1977), in a study of characteristics attributed to students who are decided or undecided, found that student explanations of indecisiveness form an internally consistent scale. The authors used the number of reasons for undecidedness endorsed by the student as a measure of indecision. The study provides more evidence that degrees of undecidedness exist, and provides some information concerning multiple causes for such undecidedness. The authors concluded that multiple subtypes exist and suggested that students who fail to benefit from career counseling may be indecisive rather than simply undecided.

Indecision vs. Undecidedness (Theory)

It has long been recognized, however, that a particular group of students usually fails to benefit from traditional career counseling efforts. Fuqua and Hartman (1983) stated that most students receive from career counseling centers the standard traditional career services of interest testing and occupational resource material. "Although this approach to the problem may work quite well for many students, clinical experience in several different settings convinced us that for some students indecision is a more complex phenomenon than the traditional model suggests." The authors distinguished these "chronically indecisive" students from the developmentally undecided and from those individuals experiencing

an acute situational reaction. The distinction is based upon the four dimensions listed in Table 1 (Fuqua & Hartman, 1983, p. 28). The authors recommended that efforts be directed toward the early identification of chronically indecisive students and that intervention be made as quickly as possible. They argue for the development of a comprehensive diagnostic system for the presenting problem of career undecidedness and the development of measurement devices for research concerning the diagnostic indicators of career indecisiveness.

Goodstein (1965) postulated the role of anxiety in both career indecision and indecisiveness. The author stated that career indecision results from insufficient opportunity to acquire information and adaptive responses. This deficit results in a lack of vocational choice and the resultant anxiety due to social pressures to choose a career. In contrast to the anxiety resulting from career indecision, anxiety is viewed as an antecedent of career indecisiveness. The indecisive individual has had sufficient opportunity to acquire information and adaptive responses, but anxiety prevents him/her from acquiring or utilizing such information. Additionally, this individual also experiences anxiety originating from social pressures to choose a career.

Other authors have also recognized that career issues are sometimes unresolved due to personality issues or

TABLE 1

Dimensions Differentiating Career Indecision

Dimensions	Developmental	Acute/Situational	Chronic
Primary Symptoms	Career Immaturity	Identifiable environmental stressors	Psychological/Behavioral dysfunction
Barriers To Resolution	Lack of information about self and career alternatives	Ineffective situational reaction	Highly variable: anxiety, self-perception, external locus of control
Treatment Approach	Educational, interest exploration, explore career alternatives, decision-making approach	Supportive problem solving counseling relationship	Longer-term personal/emotional counseling
Desired Outcomes	Application of an effective decision-making approach	Adequate response to the environment	Personality restructuring or change

Source: Fuqua and Hartman, 1983, p. 28.

indecisiveness. Dysinger (1950) reported that indecision is of two general types, the first being a more developmental/information-gathering form and the second type representing the avoidance of the pain of decision. Dysinger stated that fear of failure or being frightened by the finality of a specific plan contribute heavily to the latter avoidance. Holland and Holland (1977) reported that some kinds of indecision may be the outcome of an indecisive disposition. The authors present evidence that as many as 25 percent of undecided students may be characterized as moderately to severely immature, incompetent, anxious, and alienated.

Galinsky and Fast (1966) described in Ericksonian terms the overriding neurotic conflicts or severe character distortions that are sometimes evidenced in career indecisiveness:

The task of making a decision is a complicated one because the individual often has some awareness of his internal confusion, but strives mightily to avoid having to come to terms with his uncertainties, ambivalence and incompatible desires. The lure of externalization is great; how easy it is to give in to the temptation to believe that the problem lies not inside but outside himself. The idea of "finding a goal" becomes prominent. The goal is seen as something that exists "out there" and must somehow be found, clutched to his bosom and made his own. Having a goal comes to be the magic cure-all that will remove anxiety, enable him to concentrate on work, and even make all sexual concerns disappear. (p. 90)

Salomone (1982) provided an in-depth distinction between undecided and indecisive persons. The author

stated that being undecided is "a normal, common occurrence for automobile purchasers, teenagers considering a party invitation list, and college youth pondering educational majors. Most often, a person is undecided because not enough information has been gathered to allow for a sound and confident decision" (p. 496). Indecisive individuals, in contrast, fail to make important decisions "not because they lack sufficient information but because they have personal qualities that will not allow them to reach a decisional state of mind and take a course of action" (p. 497). The author describes two such clients and makes preliminary observations concerning their commonalities (Salomone, 1982, p. 498):

1. Cannot or will not make a decision, even after a long step-by-step, decision-making series of interviews;
2. Much repetition of the problem (almost wallowing in it) and many digressions to tangential issues;
3. High levels of ambivalence, resentment and frustration concerning their personal-vocational situation;
4. Wants someone with a different perspective to provide answers--but will demean or ignore such answers;
5. Is very dependent on another person (parent or parent-type) for a clear sense of identity. Apparently, does not have a clear sense of separate identity;
6. Is very dependent emotionally and financially and probably wants to remain dependent but sees the future reality of independent existence and is frightened by it;

7. Is very manipulative; has a tendency to whine. Is immature on so many dimensions;
8. Motivation to change patterns of behavior is not very strong;
9. Not much self-confidence or self-esteem;
10. Tends to have an external locus of control--life controls this person;
11. Tendency to blame others for current dissatisfactory situation; and
12. Has probably learned to be helpless and received much nurturance because of helplessness-type behaviors.

Salomone concluded that such persons are struggling with "the psychological benefits of dependency versus the possibility that independence (frightening as it is) may be better" (p. 499). The author explained that career counselors who work with college youth "may have a tendency to equate being vocationally undecided (a natural state of adolescents; Erickson, 1963) with being vocationally indecisive (a disposition characterized by identity confusion and, usually, anxiety; Galinsky & Fast, 1966)" (p. 496).

Salomone (1982) pointed out the dilemma faced by counselors dealing with undecided/indecisive individuals. The author stated that the concerned observer is "caught between (a) a reasonable optimism that young people develop vocationally and psychologically at different rates, and (b) a similar reasonable perspective that some persons have an 'indecisive disposition'" (p. 496). The

author solved this dilemma by reserving the diagnostic category of "indecisive" for those individuals who have reached the age of 25 years and have yet to make a firm career decision. The author retained the undecided label for high school and college youth who have not solidified their career intentions.

Grites (1981) advocated for undecided students to "become aware of the positive nature of their status" (p. 43). The author stated that undecided students have academic ability, emotional maturity, and social sophistication equal to that of decided students, and hinted that the lower academic success of these students is the result of undue pressure and stigma attached to their career status. He suggested that they forego the quest for a college major and substitute a general education in communications, analytical applications, and other functional skills with diverse applications. Grites viewed being undecided as "the healthiest approach with which to enter the complex environment of the college campus" (p. 45).

While there are no doubt certain advantages to entering college without a firm commitment to a major, the positive aspects of such status largely disappear if a student graduates, still without a firm commitment to a major. Most colleges, in fact, require a student to declare a primary field of study before the end of the

sophomore year. In a reply to Grites, Hartman and Fuqua (1983) cited the anxiety, identity confusion, and external locus of control associated with undecided status, and urged that counselors be cautioned "not to routinely accept or encourage a student's tentativeness" (p. 340). Hartman and Fuqua advocated for the development of a "practical way to distinguish students who are exploring alternatives from those students who may be chronically undecided due to a more serious psychological dysfunction of which indecision is merely symptomatic" (p. 340).

Tyler (1969) noted the futility of providing occupational information or planning interviews when indecision is due to indecisiveness growing out of personal problems. Tyler stated that the delay in recognizing indecisiveness may be harmful to the student by postponing the day when the individual must face his/her real problems.

The solution proposed by Salomone amounts more to postponing the diagnostic dilemma rather than solving it. If, in fact, some individuals have difficulty with career decisions because they have an indecisive disposition, the early identification and treatment of such individuals could prevent many years of impeded career development. What is needed is a diagnostic tool for the early identification of indecisive individuals.

Numerous authors have pondered the probable personality characteristics of the indecisive individual. Such

individuals are most often described as filled with identity confusion, personal conflict, and chronic anxiety, and as being incapable of benefiting from brief, traditional vocational counseling. Galinsky and Fast (1966) described some common characteristics of identity problems which may manifest themselves in the form of vocational indecision. The authors stated that distortions in character development are often brought to the fore by the necessity of making a commitment to a particular career. The degree of character distortion present in an individual was said to have significance in determining the efficacy of short-term career counseling.

Crites (1969) reported on Goodstein's (1965) hypothesis that anxiety prevents the indecisive individual from acquiring or utilizing information necessary to the decision-making process. According to Crites, such individuals are unlikely to benefit from information experiences such as those presented in traditional career counseling sessions. The author utilized the resultant lack of change following counseling interventions as the operational definition of indecisiveness.

In an effort to incorporate the concepts of delayed and impaired vocational development into Super's (1957) research framework, LoCascio (1964) described how an individual responds to a particular vocational developmental task in terms of a "unit." A continuous

developmental unit occurs when a person is faced with a vocational development task, and learning occurs as a result of that individual's efforts at coping with the task. In contrast to the above, an "impaired vocational development unit" occurs when:

1. The individual is faced with a vocational developmental task.
 - 1a. He does not bring to bear upon that task sufficient vocationally relevant behavior from his repertoire of behavior.
 - 1aa. Little vocationally relevant learning occurs as a result of his vocational experiences and his repertoire of vocational behavior remains relatively unmodified. (p. 887)

LoCascio stated that impaired vocational development most likely occurs in an individual due to a lack of awareness of the task at hand, or an unwillingness or inability to cope with such a task.

From the conceptualizations of the above authors, career indecision and chronic indecisiveness can be viewed as behaviors. In the former case, the student has not attained information about self and world of work sufficient to arrive at an appropriate career decision (behavior). Given such information, the undecided student will make appropriate career choices and actively pursue the vocational goal. The student with an indecisive disposition, however, will avoid obtaining sufficient information to arrive at an appropriate goal, or, given adequate information, will either have difficulty making a

vocational decision or will avoid making such a decision altogether. Such an individual will exhibit the behavior of chronic indecision.

With the exception of identity issues, anxiety, and an external locus of control, research attempts have failed to differentiate characteristics of students who are actively pursuing a career from those of students who remain vocationally undecided. This lack of differentiation has impeded efforts to develop more effective career counseling interventions.

A probable explanation for the lack of consistent findings lies in the heterogeneity of undecided individuals. Several authors have called for the development of assessment devices and interventions tailored to the needs of specific subgroups of undecided students. One such subgroup, labeled "indecisive," is of primary interest to the present investigation.

Research on Indecisiveness

While the characterization of the indecisive individual reported by Salomone may be excessively severe, there is a small body of research which identifies some of the personality correlates of indecisive individuals and which suggests the validity of the characterizations. As noted, a significant proportion of this research occurs in conjunction with the investigation of particular scales. Several researchers have confirmed that an external locus

of control is associated with career indecision. Cellini (1978) reported that "externally oriented individuals scored significantly higher than internally oriented individuals on the need for structure factor of the Career Decision Scale" (i.e., Factor 1). Taylor (1979) reported that vocational indecision is positively correlated with fear of success and an external locus of control. Hartman, Fuqua, and Blum (1985) provided evidence that identity confusion, an externalized locus of control, and trait anxiety may have diagnostic significance for the identification of career indecisive students. In a path-analytic model of career indecision, the authors related high scores on the CDS to each of the diagnostic variables.

The relationship of trait indecisiveness to vocational uncertainty was studied by Cooper, Fuqua, and Hartman (1984). The authors devised an eight-item Trait Indecisiveness Scale (TIS) from the characterization of the indecisive individual by Salomone (1982). The scale includes items concerning difficulty making decisions, dependency, helplessness, and low self-esteem. Cooper et al. found the TIS to be related to uncertainty of career choice as measured by one dichotomous yes/no question ($\chi^2 = 5.02, p < .03$). Five interpersonal characteristics as measured by the Interpersonal Checklist were also found to be significantly related to indecisiveness as measured

by the TIS ($p < .01$); these characteristics were submissiveness, lack of dominance, self-criticism, passivity, and cooperativeness. No psychometric data concerning the reliability or validity of the TIS were reported by the authors.

Hartman, Fuqua, and Jenkins (1986) categorized career decision status based upon total CDS Indecision Scale scores. Students scoring below -1 S.D. on the scale were labeled as decided, those scoring between -1 S.D. and +1 S.D. were classified as developmentally undecided, and a third group scoring about +1 S.D. was referred to as chronically undecided. The authors compared the three groups on test-retest reliability of single items at a six-week interval. Variance was found to be largest for chronically undecided students, followed by developmentally undecided and decided students. Using this information, the authors concluded that "as career indecision becomes more severe, the instability of the construct increases" (p. 147). It is possible, however, that test-retest reliabilities using subject pool populations are suspect due to the low motivation for accuracy exhibited by many students. Students receiving extra credit for participation may not be as careful when completing the forms as would be those students who are actively seeking the results of the questionnaire. Additionally, the method of classification used by the authors may be

fallacious. There is little evidence that high total scores on the CDS Indecision Scale are related to chronic indecision as opposed to extreme undecidedness. It is quite possible that developmentally undecided students could vary in the degree of developmental undecidedness and that some such individuals attain augmented scores on this scale yet remain classifiable as developmentally rather than chronically undecided. Thirdly, if in fact the classification was correct and students took sufficient care when completing the instruments, one could expect the chronically undecided students' scores on individual items to be unreliable: these are the individuals who cannot make up their minds. The total score, not reported by the authors, however, should remain relatively consistent at retest. The Hartman, Fuqua, and Blum (1985) and Hartman, Fuqua, and Jenkins (1986) investigations are part of a growing body of research which applies the CDS to problems of career decision. The CDS is reviewed in depth for its contribution to the current investigation.

The Career Decision Scale

The Career Decision Scale (CDS) was "derived from the rationale that a finite number of relatively discrete problems prevent people from reaching closure for educational and vocational decisions . . . The scale provides an estimate of career indecision and its antecedents"

(Osipow, 1987, p. 4). The scale consists of eighteen items which the respondent marks on a four-point Likert scale ranging from "exactly like me" to "not at all like me." The first two items of the CDS comprise the Certainty Scale followed by the 16 items of the Indecision Scale. A final additional item is an open-ended question permitting the respondent to make individualized statements concerning the status of his/her career decision.

Test-retest reliabilities for two samples of college students at two-week intervals were reported by Osipow, Carney, and Barak (1976) as Pearson correlations of .90 and .82. Construct validity of the measure is evidenced by the method used to generate test questions. Items were selected based upon career counselors' experience with vocationally undecided clients. Other evidence of validity is reported by (1) group comparisons and correlations with instruments measuring the construct of undecidedness (Osipow & Schweikert, 1981; Slaney, 1980); (2) studies documenting changes in the measure following career counseling interventions (Osipow, Carney, & Barak, 1976; Taylor (cited in Osipow, 1987); Barak & Friedkes, 1981); (3) relationship with personality variables of interest (Taylor, 1979); and (4) relationship with demographic variables (Neice & Bradley, 1979; Osipow, Carney, & Barak, 1976). For example, Limburg (1980) successfully used the CDS to differentiate decided from undecided college

students. Limburg also reported that students seeking career planning assistance attained higher scores on the CDS than students not requesting such assistance. Numerous studies demonstrating a decrease in CDS Indecision scores following career counseling interventions are reported in the manual (Osipow, 1987). Rogers (1980) found that the CDS was not highly correlated with Scholastic Aptitude Test scores but was significantly related to scores on the Holland and Holland (1977) scale mentioned earlier in this paper.

Normative data for the CDS are provided from samples of college students, high school students, adults in continuing education classes, and women returning to college. Scores on the CDS are reported in terms of Certainty Score, Uncertainty Score, and percentiles for each. Osipow (1987, p. 6) presents the interpretive hypotheses for the CDS (see Table 2).

In a review of the CDS, Harmon (1985) described the CDS as "extremely well developed and researched" and suggested its potential for "assessing groups when career interventions are being contemplated." Holland and Holland (1977) suggested the use of the CDS in identifying indecisive students with special needs.

Factor Structure of the CDS. Osipow, Carney, and Barak (1976, p. 239) described four factors evidenced by factor analysis which account for over 81 percent of the

TABLE 2

Interpretive Hypotheses for Certainty
and Indecision Scores

Certainty	Indecision		
	High > 84th percentile	Middle 16-84th percentile	Low < 16th percentile
High > 84th percentile	Possible invalid test data	Further need for assessment	Little felt need for intervention
Middle 16-84th percentile	Further need for assessment	Further need for assessment	Further need for assessment
Low < 16th percentile	High likelihood of need for intervention	Further need for assessment	Possible invalid test data

Source: Osipow, 1987, p. 6.

total variance. Factor 1 consisted of "elements involving lack of structure and confidence with respect to dealing with vocational decision making. It indicated the possibility of choice anxiety leading to avoidance of decision making." Factor 2 concerned "the possibility of an external barrier to a preferred choice." The third factor suggested difficulty selecting from several possibly attractive career opportunities, and a fourth factor indicated personal conflict of some type surrounding the career decision.

The overall factor structure of the CDS has not been completely replicated, but Factor 1 (which is of primary interest to the present investigation) has been approximated with reasonable consistency in several replications. The CDS items composing Factor 1 found in the relevant investigations are presented in Table 3. Rogers and Westbrook (1983) failed to replicate Factor 1 in a study of 175 male college students, though the authors did report a factor which they interpreted as indicating "a perceived lack of information on the part of the student who is making a vocational decision" (p. 27). Additionally, Hartman and Fuqua (1982) found only two factors when the CDS was administered to 164 graduate students in education.

A close inspection of Table 3 reveals that seven items have been consistently replicated as components of

TABLE 3
CDS Items Loading on Factor 1

Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
		3		
	4			
5	5	5	5	5
7	7	7	7	7
8	8	8	8	8
9		9	9	
10	10	10	10	10
11	11	11	11	11
13	13	13	13	13
14	14	14	14	14
	15			
17	17	17	17	17

Sample 1 (Osipow, Carney & Barak, 1976): Male and female undergraduate students ($n = 837$)

Sample 2 (Hartman & Hartman, 1982): Male and female high school seniors ($n = 206$)

Sample 3 (Hartman, Fuqua, & Hartman, 1983c): Male and female high school seniors ($n = 137$)

Sample 4 (Slaney, Palko-Nonemaker, & Alexander, 1981): Male and female undergraduates ($n = 857$)

Sample 5 (Kazin (cited in Osipow, 1987)): Male and female undergraduates ($n = 341$)

Factor 1 (Items 5, 7, 8, 10, 11, 13, 14, 17), and that one item (9) has been replicated by the Osipow et al. and by two other investigations. An inspection of the content of these items reveals that what Osipow (1987) labeled a "lack of structure and confidence with respect to dealing with vocational decision making" may in fact be composed of items reflecting both developmental and chronic indecision. Item 7, for example, can be analyzed thusly:

Until now, I haven't given much thought to choosing a career (avoidance = indecisiveness). I feel lost when I think about it because I haven't had many experiences in making decisions on my own (indecisiveness) and I don't have enough information to make a career decision right now (developmental indecision).

All items contained in Factor 1 of the CDS can be similarly analyzed for components reflecting some combination of developmental and/or chronic indecision.

By definition, developmentally undecided students would not have the information about self and the world of work necessary to make an appropriate career decision. It seems reasonable that such individuals should attain moderately high scores on Factor 1 of the CDS. In addition to the lack of information concerns of the developmentally undecided students, chronically undecided individuals might endorse both the lack of information component of Factor 1 and the avoidance of making decisions component. It seems reasonable to predict that these students should score even higher on Factor 1.

Research Using the CDS. There is significant evidence that the Career Decision Scale (CDS) may be an effective tool in identifying chronically indecisive students. In a longitudinal study of individuals who completed an adapted version of the CDS during their senior year of high school, researchers surveyed students about career decisions in each of four years following graduation (Hartman & Hartman, 1982; Hartman, Fuqua & Hartman, 1983a; Hartman, Fuqua, & Hartman, 1983b; Hartman, Fuqua, Blum, & Hartman, 1985). An alpha factoring with varimax rotation of the 16 indecision items of the CDS produced three factors which the authors interpreted as (1) lack of structure and confidence on approaching the task of career decision making, (2) lack of knowledge of abilities, and (3) presence of an external barrier blocking a preferred choice. A discriminant analysis using all three functions correctly categorized 80.67 percent of the students who were either consistently decided or consistently undecided on a career at the one year follow-up. After two years, only Factors 1 and 2 were necessary to correctly classify 85 percent of the students in these two diagnostic categories.

The three-year follow-up produced even clearer separation between the two groups. Only Factor 1 was necessary to correctly classify 89.55 percent of those students who remained consistently decided upon career

goal and those who consistently had not decided. Based on these data, the authors recommended that students scoring above 20 on the items of Factor 1 obtained from their program of research be encouraged to seek counseling.

Following the fourth year survey, the authors included data from all students in the study and revised their criteria for group membership. "Those students who reported no change in each of the four yearly follow-ups were labeled decided. Those who changed one or two times were labeled developmentally undecided, while those who changed three or more times were labeled chronically undecided" (p. 204). The resultant discriminant function using the the three-factor scores indicated that "the undecided students, whether developmentally or chronically undecided, primarily have higher Factor 1 scores than decided students." In separating the developmentally undecided students from the chronically undecided students, the authors found that developmentally undecided students primarily have high Factor 3 scores followed by Factor 2 scores. Factor 1 "did not relate to the differences between developmentally undecided and chronically undecided students."

The accuracy of the classification system used by Hartman et al., however, is somewhat suspect. The ages of 18 to 22 years are a time of career exploration and trial-and-error for many students. It is the outcome of these

efforts rather than the number of trials that determines the success or failure of an individual to decide on an appropriate career. It is possible, even probable, that many of the students in this study who changed career decisions three or more times between the ages 18 and 22 years successfully arrived at a career decision. Such students would be misclassified as chronically undecided according to the criteria used in this study, and this misclassification would blur the differential characteristics between the chronically and developmentally undecided groups. The number of students classified in the chronically undecided group lends support to this speculation. Fully 45 of the 204 subjects (22%) were labeled as chronically undecided by the authors. It is doubtful whether the chronic group comprises such a large proportion of the population. Osipow (1987) estimated that fewer than 16 percent of career undecided students have a "high likelihood of need for intervention" (p. 6). Holland and Holland (1977) suggested that approximately 25 percent of undecided students "have moderate to severe cases of immaturity, incompetency, anxiety, and alienation" (p. 412). Accepting the higher estimate of students who are undecided reported by Gordon (1981) as 50 percent, the Holland and Holland figure places the rate of indecisiveness among college students at 12.5 percent.

Research presented above suggests that the Career Decision Scale, and, in particular, Factor 1 of the CDS, may have diagnostic significance for the identification of chronically undecided students. These chronically undecided students exhibit personality characteristics suggestive of an indecisive and possibly neurotic disposition which precludes them from seeking and utilizing career planning information. The evidence linking particular CDS scores to an indecisive/neurotic disposition is, however, equivocal. Additional information is needed to substantiate the potential use of the CDS for early identification of indecisive students. In the present investigation, the attempt to validate the CDS for such a task depends upon the valid measurement of a more pervasive personality dimension. The personality dimension of interest is neuroticism, as measured by the Eysenck Personality Inventory.

The Eysenck Personality Inventory

The Eysenck Personality Inventory (EPI) is a 57-item true-false questionnaire measuring the two dimensions of personality which the author labeled extraversion and neuroticism. A nine-item lie scale is included in the measure to detect persons who respond to the items with an overly positive response set. The EPI is a further development of the Maudsley Personality Inventory and correlates highly with the former.

High E scores on the EPI are indicative of extraversion. Eysenck and Eysenck (1968) stated that high scoring individuals "tend to be outgoing, impulsive, and uninhibited, having many social contacts and frequently taking part in group activities" (p. 6). In contrast, the introvert is "a quiet, retiring sort of person, introspective, fond of books rather than people; he is reserved and distant except to intimate friends. He tends to plan ahead, 'looks before he leaps,' and distrusts the impulse of moment."

Eysenck and Eysenck (1968) defined neuroticism as follows:

High N scores are indicative of emotional liability and overreactivity. High scoring individuals tend to be emotionally overresponsive and to have difficulties returning to a normal state after emotional experiences. Such individuals frequently complain of vague somatic upsets of a minor kind, such as headaches, digestive troubles, insomnia, backaches, etc., and also report many worries, anxieties, and other disagreeable emotional feelings. Such individuals are predisposed to develop neurotic disorders under stress, but such predispositions should not be confused with actual neurotic breakdown; a person may have big scores on N while yet functioning adequately in work, sex, family, and society spheres. (p. 6)

The author stated that "better adjustment appears to be associated with low neuroticism scores and with middle to above average extraversion scores." Tellegen (1978) described the items comprising the N scale as indicating "general emotional overresponsiveness or overactivity, which, however, predisposes a person to have the

particular unpleasant experiences described in the items" (p. 802).

Two parallel forms of the EPI are provided, making the instrument particularly suitable for situations in which pre and post measures are desired. Percentile norms for Forms A and B of the EPI are provided in the manual as obtained from a sample of 1,003 undergraduate students at various colleges and universities in the United States. Means and standard deviations are also provided for various other groups. The college norms, however, were most likely obtained during the late 1950's or early 1960's and may not accurately describe the present college population. Additionally, the author reports a trend for both E and N scores to decline with age. According to the manual, sex differences are highly variable from sample to sample and, when they occur, women tend to attain higher scores on both E and N. The author stated that such differences are seldom greater than one third of a standard deviation.

Form A test-retest reliabilities for E and N scales are reported in the manual ranging for .82 to .97 at approximately nine-month to one year intervals.

Extensive evidence of EPI validity is provided in the manual and by the over 700 citations listed in Buros Eighth Mental Measurements Yearbook. Eysenck and Eysenck (1968) reported that the EPI is "highly related to

Multiple Affect Adjective Checklist trait measures of affect but is not related to specific states of affect" (p. 17). Highly positive correlations are reported between the Extraversion scale of the EPI and California Psychological Inventory scales of Social Presence, Self-Acceptance, Sociability, and Dominance. High negative correlations are reported between Neuroticism scores on the EPI and CPI scales of Well Being, Tolerance, and Intellectual Efficiency. Correlations of the EPI with the MMPI provide further evidence for concurrent validity.

The nine-item Lie Scale of the EPI is the least researched, and the author has stated that no absolute guidance can be given for its use. Eysenck and Eysenck suggested that there is "considerable evidence" that a Lie score above four or five should be taken as evidence of an invalid profile. Correlations of the EPI Neuroticism Scale with scales of the California Psychological Inventory as reported in the EPI manual are presented in Table 4 (Eysenck & Eysenck, 1968, p. 19).

Several research studies using the EPI which appear to have relevance to career decision making have been reported. Organ (1975) reported that ambiguity led to greater reported emotional stress only for high-neuroticism individuals. The author administered highly structured or ambiguous examinations to graduate business

TABLE 4

Correlations of the EPI Neuroticism
Scale With Scales of the California
Psychological Inventory

Scale	Correlation
Dominance	-47*
Capacity for Status	-48*
Sociability	-46*
Social Presence	-46*
Self-acceptance	-33*
Sense of Well-being	-67*
Responsibility	-18
Socialization	-23
Self-control	-52*
Tolerance	-64*
Good Impression	-60*
Communality	-04
Achievement via conformance	-48*
Achievement via independence	-33*
Intellectual Efficiency	-62*
Psychological-mindedness	-43*
Flexibility	-01
Femininity	32*

* Significant beyond the .01 confidence level.
Source: Eysenck and Eysenck, 1968, p. 19.

students under conditions of high pressure (50% of grade) and low pressure (25% of grade). Students scoring in the upper 1/3 of the class on the EPI Neuroticism scales reported greater stress under conditions of unstructured examinations than did other students. Higher Neuroticism students also reported lower self-evaluations across all conditions.

Organ's (1975) study may have important implications for indecisiveness. Despite the efforts of career counselors, few tasks are less structured than that of selecting a vocation. The individual must weigh a wide variety of ambiguous and sometimes contradictory information concerning abilities, interests, personal values, and job information. The task progresses from one of low pressure to high pressure with advancing age and impending college graduation. High levels of ambivalence, resentment, and frustration reported by Salomone (1982) as characteristics of the indecisive individual might be indicative of an individual under stress. The lower self-evaluations reported by students attaining higher neuroticism scores are consistent with Salomone's (1982) description of an indecisive individual possessing low self-confidence or self-esteem.

Morelli, Andrews, and Morelli (1982) investigated the relationship of EPI scores to Ellis' (1962) contention

that irrational cognitions accompany emotional disturbances. The authors reported that college women who rated themselves higher in total problems on the Co-ed Problem Rating List (CPRL) also scored higher on the EPI's Neuroticism Scale. While "all subjects became more irrational as problem relevance increased, neurotic subjects tended to be more irrational than stables" (p. 60). While all subjects reported increasing anxiety as problems became more relevant, stable subjects reported consistently less anxiety than neurotics. The problem of selecting an appropriate career becomes more pronounced as the student progresses through his/her college years. This study provides tangential evidence that, as career decisions become more salient, students may experience greater anxiety, with neurotic students being the most anxious and the most irrational. Anxiousness and irrationality are two personality traits which characterize the indecisive student.

Farley and Mealiea (1972) presented evidence that N scores contribute significantly to self-reported fears and marginally to reports of extreme fears. The authors examined the correlation of EPI scores with those obtained from a modified version of the fear survey schedule employed by Wolpe (1969). Salomone (1982) described the indecisive individual as being frightened by the future reality of independent existence.

Pearson and Sheffield (1974) used the Purpose-in-Life Test (PIL) to detect the presence of an existential vacuum. The test was designed to measure "existential frustration" which Crumbaugh and Maholick (1964) stated is "created by a vacuum of perceived meaning in personal existence, and manifested by the symptom of boredom." The authors found that "patients with a higher purpose in life are less neurotic and more sociable" (p. 562) as measured by the EPI.

The Personal Orientation Inventory (Shostrom, 1966) was designed as a measure of self-actualization. Doyle (1976) found small but significant negative correlations between the EPI Neuroticism Scale and 11 of the 12 scales of the POI. Some support has been attained for the relationship of neurosis as measured by the EPI to avoidance of existential confrontation (Thauberger & Sydiaha-Symor, 1977; Thauberger & Cleland, 1979). Ruznisky (cited in Thauberger, Ruznisky, & Cleland, 1981) reported a modest correlation between Neuroticism scores and Experience of Rejection of Self, By Others, and Of Others on the Experience of Rejection Scale.

Bagley and Evan-Wong (1975) found the two factors of the EPI to correspond to two factors of the Coopersmith Self-Esteem Inventory. The EPI Neuroticism scale corresponded to items of the Coopersmith inventory measuring self-disparagement, unhappiness at home, and general

unhappiness. A significant positive correlation has also been reported between scores on the Neuroticism scale and an external locus of control (Feather, 1967; Organ, 1976). Mays (1973) developed a scale to measure the construct of "passivity" and found the scale to be positively correlated with Neuroticism as measured by the EPI.

The EPI has been related to a cluster of physiological symptoms in a study of normal, healthy individuals (Weinman, Levin, & Mathew, 1982). Subjects were excluded from participation if they were treated for or reported any physical or emotional illness during the previous year. Weinman et al. reported that, "When the Neuroticism score of the Eysenck inventory was used as the dependent variable in the multiple regression equation, agitation, difficulty falling asleep, excessive appetite, and impaired concentration accounted for 45% of the explained variance" (p. 502). This study provides evidence for the value of the EPI with populations identified as "normal" and provides some support for the use of the Neuroticism scale in differentiating between groups of typical college students to be used in the current study.

The research presented suggests that the Neuroticism scale of the EPI is related to a variety of negative psychological states, including emotional liability and overreactivity; decrements in tolerance, well being, and intellectual efficiency; decreased ability to handle

ambiguous situations without stress; lower self-evaluations; greater irrationality and anxiety with problems having personal relevance; existential frustration and avoidance of existential confrontation; passivity; an external locus of control; lower self-actualization; and experience of rejection. These characteristics approximate those of the "indecisive individual" described by Salomone (1982) and others.

Since the relationship between career indecision and neuroticism, if found, would likely involve relationships with other personality variables as well, exploration of these potential relationships was of interest to the present investigation. These potential relationships were explored through the use of the Sixteen Personality Factor Questionnaire.

The Sixteen Personality Factor Questionnaire

The Sixteen Personality Factor Questionnaire, Form A (16PF) (Cattell & Eber, 1962) is a 187-item instrument designed to measure 16 "functionally independent" dimensions of personality (Cattell, 1972, p. 5). The dimensions were derived from over 25 years of factor analytic studies in a search for "uniquely definable, functionally unitary, and psychologically significant source traits" (Cattell, 1972, p. 13). Scores for each of the scales are reported in stens ($\underline{M} = 5.5$, $\underline{SD} = 2$) based upon normative

data provided for (1) high school students, (2) university and college undergraduate students, and (3) for the general adult population.

Each 16PF scale is composed of from 10 to 13 items. Three response options are provided for each test item, with a middle or "uncertain" answer permitting the individual to respond when either of the other options are not descriptive. The 16 factors measured by the 16PF include (A) reserved vs. outgoing, (B) less intelligent vs. more intelligent, (C) affected by feelings vs. emotionally stable, (E) humble vs. assertive, (F) sober vs. happy-go-lucky, (G) expedient vs. conscientious, (H) shy vs. venturesome, (I) tough-minded vs. tender-minded, (L) trusting vs. suspicious, (M) practical vs. imaginative, (N) forthright vs. astute, (O) self-assured vs. apprehensive, (Q1) conservative vs. experimenting, (Q2) group-dependent vs. self-sufficient, (Q3) undisciplined self-conflict vs. controlled, and (Q4) relaxed vs. tense.

Form A test-retest reliabilities for short (less than seven days) interval for each of the scales range from .58 to .92. Longer retest intervals (approximately six weeks) yielded individual scale reliability coefficients of .36 to .85. Evidence of 16PF validity is reported in many of the over 400 studies cited in the manual and by a continually growing body of psychological research dealing with various criterion groups.

Rationale for the Current Study

Research with the CDS suggests that the instrument has potential use in career counseling situations as a screening device for students who are chronically indecisive rather than developmentally undecided. The indecisive individual is likely to require more extensive psychological intervention than is normally provided under the realm of traditional career counseling. The early identification of such individuals, followed by appropriate counseling interventions, could alleviate years of impeded career development that are associated with chronic indecision.

Indecisive individuals possess personality characteristics which appear to correlate with those measured by Neuroticism Scale of the EPI. If it can be demonstrated that persons meeting criteria for "Indecisive" on the CDS also possess the personality characteristics of Neuroticism as measured by the EPI, the use of the CDS as a screening device for chronic indecisiveness will be supported.

Hypotheses

Three hypotheses are posed in the form of predictions for the interpretation of the CDS relative to chronic indecision.

Hypothesis 1

If the Indecision Scale scores on the CDS are related to chronic indecision as proposed by Hartman, Fuqua, and Jenkins (1986), students with low and moderate Indecision Scale scores (decided and developmentally undecided students, respectively) should obtain similar scores on an objective measure of neurotic personality characteristics. Therefore, it is predicted that students exhibiting high scores on the Indecision Scale (upper 16%) will obtain significantly higher scores than other groups on the objective measure of neurotic personality characteristics.

Hypothesis 2

If Factor 1 of the CDS is useful in the identification of chronically indecisive students, as suggested by Hartman, Fuqua, and Hartman (1983b), students with low and moderate Factor 1 scores (decided and developmentally undecided students, respectively) should obtain similar scores on an objective measure of neurotic personality characteristics. Therefore, it is predicted that students exhibiting high scores on Factor 1 (upper 16%) will obtain significantly higher scores on the objective measure of neurotic personality characteristics.

Hypothesis 3

Using the Osipow (1987) criteria for interpretation of the CDS presented in Table 2, students obtaining CDS

scores indicative of a "High likelihood of need for intervention" will obtain significantly higher scores on a measure of neurotic personality characteristics than will students in the "Middle 16-84th percentile" classified as having a "Further need for assessment" and students meeting the Osipow criteria for "Little felt need for intervention." There will be no significant difference in scores on the objective measure of neurotic personality characteristics between the latter two groups.

CHAPTER II

METHODS

Subjects

Approximately 200 subjects were recruited from the Texas Tech University Psychology Department introductory psychology classes. Students have the option of obtaining extra credit in an undergraduate psychology course by participating in research. The number of subjects was chosen to ensure inclusion of sufficient numbers of chronically indecisive students based upon estimates discussed earlier in this paper (12.5-22%). In order to minimize differences due to educational and life experiences, all subjects were either freshmen and sophomores, 18-20 years old.

Design and Procedure

All students were instructed to complete a demographic information sheet, the Career Decision Scale, and the Sixteen Personality Factor Questionnaire during group test sessions. Students were assured that their responses would be kept confidential and were told that only group data would be included in any presentation of the results of this study. Identities of the students were recorded only on the demographic sheet, with social security

numbers being used for identification of questionnaires. Students who had not completed the Eysenck Personality Inventory during a previous class exercise were also given the EPI at this time. At the conclusion of testing, students were given a brochure explaining career counseling and other services offered by the Texas Tech University Counseling Center. A summary of the purpose and design of the experiment was made available to participants after all data had been gathered. Each instrument was hand-scored by two different research assistants to ensure accuracy of reported scores.

CHAPTER III

RESULTS

There were 206 students who participated in this study. Data from 11 participants met either the Osipow or Eysenck criteria for possibly invalid test data and were not included in the final analysis. Of the remaining 195 students, 103 were females and 92 were males. All students were 18 to 20 years old and were freshmen ($n = 144$) or sophomores ($n = 51$). The mean age of the sample was 18.8 ($SD = 0.77$). Testing was conducted during the early spring semester of 1987. Included in the sample were 172 Caucasians, 10 Hispanics, 7 Blacks, 4 Asians, and 2 American Indians. The mean number of college credit hours completed by students was 21.6. Overall means and standard deviations for each of the variables are presented in Tables 5 and 6.

Test Hypothesis 1

The mean score for all students on the Indecision Scale of the CDS was 30.2 ($SD = 9.6$). Students were divided into four groups based upon scores obtained on the Indecision Scale of the CDS. Students scoring greater than one SD above the mean were included in the Very High Indecision group ($n = 41$) and students scoring between the

TABLE 5
Overall Means and Standard Deviations

	<u>N</u>	<u>M</u>	<u>SD</u>
Age	195	18.76	0.73
GPA	180	2.61	0.75
Credits	194	21.59	15.71
Certainty	195	5.56	1.76
Indecision	195	30.22	9.57
Factor 1	195	16.29	6.18
Extraversion	195	14.41	3.70
Neuroticism	195	12.16	4.48
Lie	195	2.06	1.37
A	195	5.79	2.04
B	195	5.09	1.85
C	195	4.87	1.89
E	195	6.19	1.80
F	195	6.52	2.16
G	195	5.74	1.77
H	195	6.01	1.99
I	195	5.34	1.89
L	195	6.52	1.81
M	195	4.06	1.84
N	195	6.02	2.05
O	195	6.16	2.01
Q1	195	5.64	1.88
Q2	195	5.47	1.67
Q3	195	5.85	1.94
Q4	195	6.51	2.16

TABLE 6
Means and Standard Deviations by Gender

	<u>N</u>	Males <u>M</u>	<u>SD</u>	<u>N</u>	Females <u>M</u>	<u>SD</u>
Age	(92)	18.82	0.77	(103)	18.71	0.69
GPA	(86)	2.62	0.78	(94)	2.59	0.72
Credits	(91)	22.52	16.42	(103)	20.77	15.08
Certainty	(92)	5.32	1.72	(103)	5.78	1.79
Indecision	(92)	31.36	9.52	(103)	29.20	9.55
Factor 1	(92)	17.11	6.36	(103)	15.56	5.95
Extraversion	(92)	14.23	3.63	(103)	14.57	3.78
Neuroticism	(92)	11.65	4.44	(103)	12.61	4.49
Lie	(92)	2.02	1.48	(103)	2.09	1.26
A	(92)	5.42	1.96	(103)	6.13	2.06
B	(92)	5.36	1.98	(103)	4.85	1.70
C	(92)	5.21	1.88	(103)	4.57	1.86
E	(92)	6.28	1.87	(103)	6.12	1.73
F	(92)	6.51	1.98	(103)	6.53	2.33
G	(92)	5.65	1.78	(103)	5.83	1.77
H	(92)	5.95	1.90	(103)	6.07	2.07
I	(92)	5.20	1.92	(103)	5.48	1.87
L	(92)	6.34	1.76	(103)	6.69	1.86
M	(92)	4.50	1.74	(103)	3.67	1.84
N	(92)	5.83	2.09	(103)	6.19	2.01
O	(92)	5.77	2.00	(103)	6.50	1.96
Q1	(92)	5.51	1.98	(103)	5.75	1.79
Q2	(92)	5.42	1.77	(103)	5.51	1.59
Q3	(92)	5.60	1.96	(103)	6.07	1.90
Q4	(92)	6.38	2.26	(103)	6.63	2.07

mean and the SD above the mean were labeled as exhibiting High Indecision (n = 49). Students scoring within one SD below the mean were labeled as the Low Indecision group (n = 68) and students scoring greater than one SD below the mean were included in the Very Low Indecision group (n = 37). An ANOVA to test for differences between groups on the Neuroticism Scale of the EPI was significant (F = 3.61, p = .01). (Summary tables for ANOVAs performed to test each of the hypotheses are presented in the Appendix.) Results of a Duncan's Multiple Range Test are presented in Table 7 (means with the same letters are not significantly different).

Hypothesis 1 predicted that, if Indecision Scale scores on the CDS are related to chronic indecision, students in the Very High Indecision group should obtain significantly higher scores on an objective measure of neurotic personality characteristics. The information presented in Table 7 partially supports this hypothesis.

Separate gender analyses to examine the relationship of the Indecision and Neuroticism scales were subsequently performed using group cutoffs separately calculated for each gender. The relationship between the Indecision groups and Neuroticism Scale scores was not significant for males (F = 1.38, p = .25). Mean scores for male subjects in each of the four groups are presented in Table 8.

TABLE 7
 Comparison of Indecision Scale
 to Neuroticism Scale

	<u>N</u>	<u>M</u>	<u>SD</u>	
Very High Indecision	41	13.78	3.78	A
High Indecision	49	12.59	4.34	A B
Low Indecision	68	11.63	4.91	B
Very Low Indecision	37	10.76	4.04	B

TABLE 8
 Comparison of Indecision Scale to
 Neuroticism Scale (Males Only)

	<u>N</u>	<u>M</u>	<u>SD</u>
Very High Indecision	18	12.61	3.55
High Indecision	26	12.04	4.18
Low Indecision	29	11.86	5.27
Very Low Indecision	19	9.90	3.96

The effect of Indecision Scale on neuroticism was significant for females ($F = 3.29, p = .02$), indicating a strong relationship between these two scales. Results of a Duncan's Multiple Range Test are presented in Table 9.

Data obtained from the entire sample provided partial support for Hypothesis 1. Data obtained from female students provide strong support for Hypothesis 1. The graph which appears as Figure 1 presents Neuroticism Scale data for both male and female indecision groups.

Test of Hypothesis 2

Hypothesis 2 concerned the relationship of Factor 1 scores on the CDS to the Neuroticism Scale of the EPI. The mean score for all students on Factor 1 of the CDS was 16.29 ($SD = 6.18$). Students were again divided into four groups based upon scores obtained on Factor 1 of the CDS. An ANOVA to test whether Factor 1 scores are related to the EPI Neuroticism Scale scores was significant ($F = 2.66, p = .05$). Results of the Duncan's Multiple Range Test are presented in Table 10.

The information presented in Table 10 partially supports the relationship between Factor 1 scores and neuroticism predicted by Hypothesis 2. Separate analyses of the Factor 1 and Neuroticism Scales were again performed for each gender, using the appropriate cutoff points for that gender. The relationship between Factor 1 and Neuroticism Scale scores was not significant for males

TABLE 9

Comparison of Indecision Scale to
Neuroticism Scale (Females Only)

	<u>N</u>	<u>M</u>	<u>SD</u>	
Very High Indecision	21	15.05	3.79	A
High Indecision	24	12.92	3.96	A B
Low Indecision	40	11.68	4.61	B
Very Low Indecision	18	11.44	4.82	B

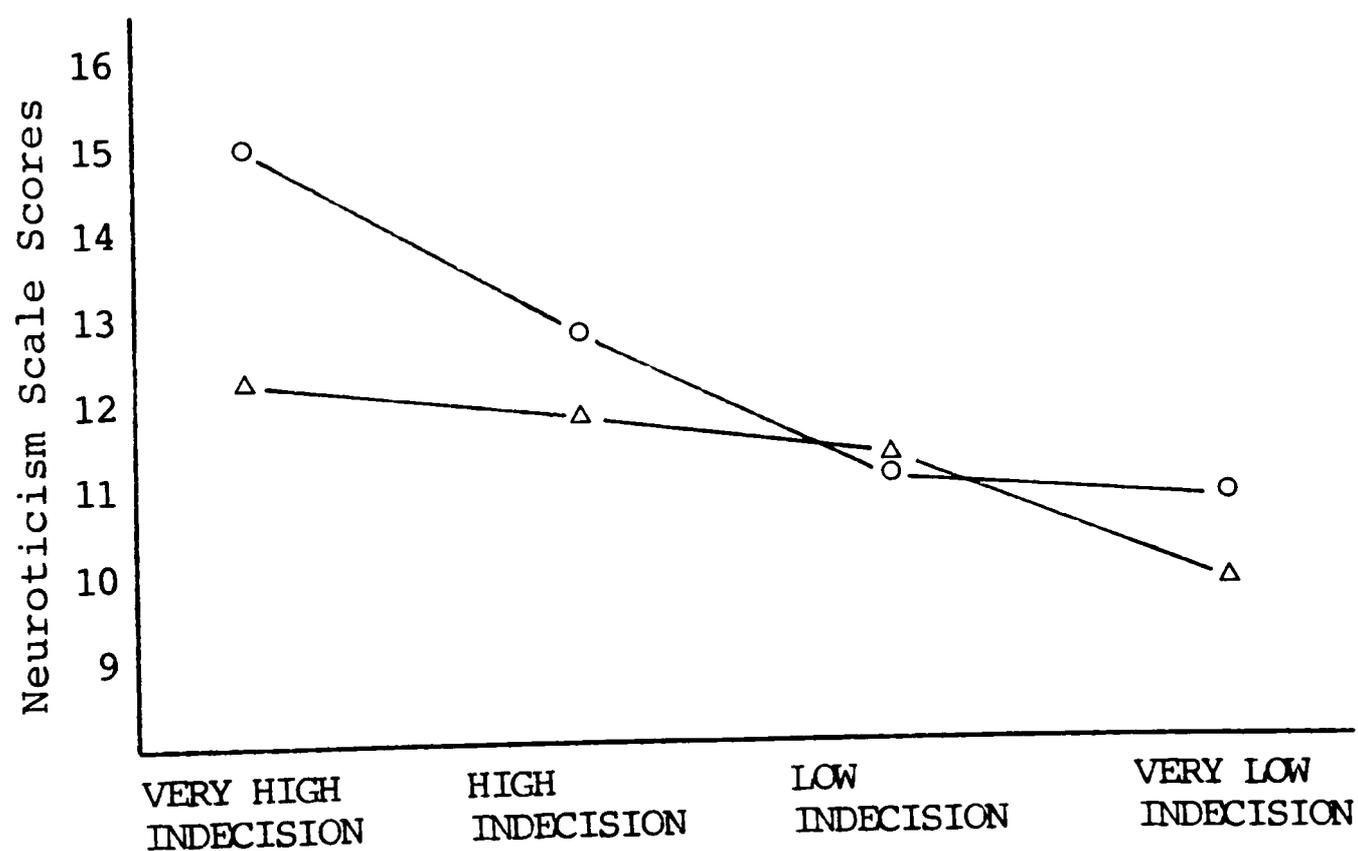


Figure 1: Relationship between Indecision Scale and Neuroticism Scale.

TABLE 10
Comparison of Factor 1 Scale
to Neuroticism Scale

	<u>N</u>	<u>M</u>	<u>SD</u>	
Very High Factor 1	40	13.65	3.75	A
High Factor 1	41	12.66	3.96	A B
Low Factor 1	73	11.52	4.92	B
Very Low Factor 1	41	11.34	4.52	B

(\underline{F} = 0.87, \underline{p} = .46). Mean scores for male students in each of the four Factor 1 groups are presented in Table 11.

Neuroticism Scale differences between Factor 1 groups were significant for females (\underline{F} = 3.68, \underline{p} = .01), again indicating a strong relationship between Factor 1 and the Neuroticism Scale scores for females. Results of a Duncan's Multiple Range Test are presented in Table 12.

Data obtained from the sample as a whole provide partial support for Hypothesis 2. Data obtained from female students provide strong support for Hypothesis 2.

Test of Hypothesis 3

Percentile rankings for each student on the Certainty and Indecision Scales were calculated using separate norms for males and females provided in the CDS manual. An ANOVA was performed on data from students meeting the Osipow criteria for membership in groups with (a) little felt need for intervention, (b) further need for assessment (Middle 16-84th percentile), and (c) high likelihood of need for intervention. Result of the ANOVA were not significant (\underline{F} = 1.47, \underline{p} = .23).

Mean and standard deviations for each of the three groups are presented in Table 13. The smaller sample size used in this analysis reflects the number of students who met the Osipow criteria for inclusion in the comparison groups.

TABLE 11

Comparison of Factor 1 Scale to
Neuroticism Scale (Males)

	<u>N</u>	<u>M</u>	<u>SD</u>
Very High Factor 1	19	12.58	2.99
High Factor 1	20	11.90	4.33
Low Factor 1	36	11.69	5.26
Very Low Factor 1	17	10.24	3.99

TABLE 12

Comparison of Factor 1 Scale to
Neuroticism Scale (Females)

	<u>N</u>	<u>M</u>	<u>SD</u>	
Very High Factor 1	19	15.32	3.53	A
High Factor 1	26	12.96	4.19	A B
Very Low Factor 1	18	11.78	5.35	B
Low Factor 1	40	11.48	4.24	B

TABLE 13
Neuroticism Scale Scores for
Osipow Criteria Groups

	<u>N</u>	<u>M</u>	<u>SD</u>
High Likelihood	16	13.25	4.43
Further Need	71	12.00	4.73
Little Felt Need	26	10.77	4.47

Indecision Scale Scores and the Sixteen
Personality Factor Questionnaire

Since the data analysis indicated the Indecision Scale to be the most significant predictor of Neuroticism Scale scores, ANOVAs were performed to determine the relationship between the Indecision Scale and 16PF scales.

Significant overall differences between Indecision groups were found on the 0, Q3, and Q4 scales of the 16PF ($F = 7.20, p = .01$; $F = 2.66, p = .05$; $F = 3.98, p = .01$). Results of Duncan's Multiple Range Tests performed on these variables are presented in Table 14.

To check for potential gender differences, separate Indecision Scale/16PF analyses were performed for males and for females. Significant differences for males were found on the 0 scale of the 16PF ($F = 5.14, p = .01$). Results of Duncan's Multiple Range Tests for this are presented in Table 15.

Significant differences were found for female indecision groups on the 16PF for scales 0, Q3, and Q4 ($F = 3.50, p = .05$; $F = 2.96, p = .05$; $F = 3.82, p = .01$). Results of Duncan's Multiple Range Tests for these variables are presented in Table 16.

The results of the exploratory analyses indicate that scores on 16PF Scales 0 (self-assured vs. apprehensive), Q3 (undisciplined self-conflict vs. controlled), and Q4 (relaxed vs. tense) differ with level of indecision for

TABLE 14
Overall Comparison of Indecision
Scale to 16PF Scale

	<u>N</u>	<u>M</u>	<u>SD</u>	
	<u>Scale 0</u>			
Very High Indecision	41	7.17	1.92	A
High Indecision	49	6.49	1.78	A
Low Indecision	68	5.65	1.93	B
Very Low Indecision	37	5.54	2.05	B
	<u>Scale Q3</u>			
Very High Indecision	41	5.12	1.52	A
High Indecision	49	5.92	2.23	B
Very Low Indecision	37	5.97	1.85	B
Low Indecision	68	6.16	1.91	B
	<u>Scale Q4</u>			
Very High Indecision	41	7.39	1.81	A
High Indecision	49	6.65	1.90	A B
Low Indecision	68	6.24	2.14	B
Very Low Indecision	37	5.86	2.59	B

TABLE 15

Comparison of Indecision Scale to
16PF Scales (Males Only)

	<u>N</u>	<u>M</u>	<u>SD</u>	
Very High Indecision	18	6.89	2.37	A
High Indecision	26	6.12	1.70	A B
Low Indecision	29	5.55	1.88	C B
Very Low Indecision	19	4.58	1.50	C

TABLE 16

Comparison of Indecision Scale to
16PF Scales (Females Only)

	<u>N</u>	<u>M</u>	<u>SD</u>	
	<u>Scale 0</u>			
Very High Indecision	21	7.62	1.28	A
High Indecision	24	6.50	1.93	B
Very Low Indecision	18	6.39	2.23	B
Low Indecision	40	5.98	1.97	B
	<u>Scale Q3</u>			
Low Indecision	40	6.60	1.92	A
High Indecision	24	6.25	2.25	A B
Very Low Indecision	18	5.61	1.58	A B
Very High Indecision	21	5.24	1.34	B
	<u>Scale Q4</u>			
Very High Indecision	21	7.76	1.76	A
Very Low Indecision	18	6.89	2.35	A B
High Indecision	24	6.54	2.06	B
Low Indecision	40	5.98	1.89	B

the sample as a whole, with 0 differing for males and 0, Q3, and Q4 differing for females.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

Numerous authors have described the indecisive disposition and have indicated the difficulty of career interventions with this population (Salomone, 1982; Fuqua & Hartman, 1983). The CDS has been suggested as a potential screening device for those students who are chronically indecisive and who may require more extensive psychological interventions before a career decision can be made. The purpose of this study was to test whether extreme indecision as measured by the CDS is related to neurosis as measured by the EPI or to other personality variables as measured by the 16PF.

The results of this study provide some support for the contention that extreme career indecision is related to neuroticism, but other interpretations cannot be ruled out and, in fact, may be more plausible based upon the data obtained from the 16PF. Hypothesis 1 in the present study suggested that students exhibiting high scores on the Indecision Scale (upper 16 percent) should obtain significantly higher scores on the Neuroticism Scale of EPI, thus, supporting the proposition that these students may be labeled as chronically indecisive. This hypothesis

was partially supported by the data. Students in the Very High Indecision group scored significantly higher on neuroticism than students in either the Low or Very Low Indecision groups. Though the Neuroticism Scale differences between the Very High Indecision and High Indecision groups did not reach significance, the Very High group did average more than one point (0.26 SD) higher on the Neuroticism Scale.

Students who are decided upon a career and students who are developmentally undecided upon a career (i.e., all students except those in the Very High Indecision group) could be expected to obtain similar scores on a measure of neuroticism since it is life experience rather than emotional disorder that separates these groups, thereby, supporting the contention that the groups are composed of decided and developmentally (as opposed to chronically) undecided.

The utility of identifying specific groups of undecided students by Indecision Scale differences, however, is somewhat equivocal. The overall ANOVA yielded an R^2 of .05 indicating the variable to account for only 5 percent of the total variance. Pearson product-moment correlation between the Indecision and Neuroticism scales was calculated to be .23, indicating that an approximately equal percentage of the variance can be accounted for by the correlation alone. The correlation was significant at the

.01 level. Therefore, little statistical advantage is gained by dividing subjects into decidedness groups based upon Indecision Scale scores rather than calculating simple correlations between the two variables. Thus, the developmental undecidedness vs. chronic indecision dichotomy breaks down, and the differential role of neuroticism becomes questionable. Proportions of Neuroticism Scale variance accounted for by Indecision Scale ANOVAs and Pearson correlations are presented in Table 17 below.

Hypothesis 2 in the present study suggested that students obtaining high scores on Factor 1 of the CDS (upper 16%) could be labeled chronically indecisive and should obtain significantly higher scores on the Neuroticism Scale of the EPI. A similar trend was found as in Hypothesis 1, but the statistical significance was not as great, indicating that the relationship with neuroticism is slightly stronger for Indecision Scale than for Factor 1. Again, the Factor 1/Neuroticism relationship was significant, primarily due to the contribution of female students. Students in the Very High Factor 1 group scored significantly higher on the Neuroticism Scale than did students in the Low or Very Low Factor 1 groups. Though the Neuroticism Scale differences between the Very High Factor 1 and High Factor 1 groups did not attain statistical significance, the Very High Factor 1 group averaged

TABLE 17

Proportion of Variance Accounted for
by Indecision Scale Scores (R^2)

	Overall	Males	Females
ANOVA	.054	.045	.090
Pearson	.051	.027	.095

approximately one point higher on the Neuroticism Scale (0.22 SD) than did the High Factor 1 group.

Although Neuroticism Scale scores did increase with higher Indecision Scale combined with Lower Certainty Scale scores, the test of Hypothesis 3 concerning the Osipow criteria for intervention and assessment did not reach significance. Students classified as having High Likelihood of Need for Intervention did score slightly higher on the Neuroticism Scale than did those students in the Little Felt Need for Intervention group, but not to a statistically significant level. It, thus, remains possible that the criteria proposed by this hypothesis may be appropriate for career assessments and interventions but are less of an indicator of the appropriateness of psychotherapy.

Integration of 16PF Data

Considering the analysis of data obtained from the CDS and EPI, one might conclude that scores on the Indecision Scale are at least in some way related to neurosis and that the scale may have some utility in the identification of chronically indecisive individuals for whom psychotherapy might be appropriate. Results of the Indecision/16PF analysis, however, fail to lend credence to this interpretation. In an overall comparison of indecision groups on the 16PF, differences between groups reached significance on only three of the 16PF scales--0,

Q3 and Q4. Students in the Very High Indecision group scored highest on scales 0 and Q4. Students in the Very High Indecision group also scored lowest on scale Q3.

The relevance of Scales 0 and Q4 to Neuroticism is readily apparent. Students scoring high on Factor 0 of the 16 PF are described as being apprehensive, worrying, depressive, troubled, and prone to guilt (Cattell, 1972).

The person who scores high on Factor 0 tends to be depressed, moody, a worrier, full of forboding, and brooding. He has a childlike tendency to anxiety in difficulties. He does not feel accepted in groups or free to participate. High factor 0 score is very common in clinical groups of all types. (p. 21)

Such a description supports earlier findings that undecided students are more anxious than their peers who have decided upon a career. Higher scores on Factor 0 for undecided students are particularly relevant when the college environment is considered. The collegiate pressures toward making a career decision, albeit prematurely, are paramount, and it seem evident that students who have not made such a decision would not feel as accepted or free to participate in the college environment. The assertion that "I'm the only one of my friends who doesn't have a major" is all too often presented to the college counselor. It is possible that the brooding and worry are natural responses to career indecision in a college environment rather than causes of that indecision.

Students scoring high on the Indecision Scale of the CDS also attained higher scores on Factor Q4 of the 16PF. High Q4 scorers are described as being tense, frustrated, driven, and overwrought (Cattell, 1972).

The person who scores high on Factor Q4 tends to be tense, excitable, restless, fretful, impatient. He is often fatigued, but unable to remain inactive. In groups, he takes a poor view of the degree of unity, orderliness, and leadership. His frustration represents an excess of stimulated, but undischarged drive. (p. 22)

This description of the extremely undecided student again makes intuitive sense in view of the environment within which that student must operate. In an environment where career decision and academic achievement toward that goal are highly reinforced, the student who has yet to make a career decision is somewhat akin to a horse at the starting gate. The crowd is cheering, the bets are made, the race has begun, but the horse is unfamiliar with the track and doesn't know in which direction to run. Leave the horse at the gate for his freshman and sophomore years, and you are likely to have a fatigued and frustrated horse. Again, the higher Q4 scores attained by extremely undecided students may be more a result of undecidedness than an indicator of chronic indecision.

Very High Indecision students scored significantly lower on Factor Q3 than did students of the other three groups. Low scorers on Factor Q3 are described in the manual as having undisciplined self-conflict, being

careless of protocol, and as following their own urges (Cattell, 1972).

The person who scores low on Factor Q3 will not be bothered with will control and regard for social demands. He is not overly considerate, careful, or painstaking. He may feel maladjusted, and many maladjustments (especially the affective, but not the paranoid) show Q3. (p. 22)

The fact that students scoring higher on the CDS Indecision Scale attain significantly lower scores on Factor Q3 seems to contradict the explanation proposed that differences between groups are a result of the environment in which the undecided student finds him/herself rather than a cause of that indecision. The explanation that the undecided student feels anxious, tense, and maladjusted because he/she has failed to meet perceived societal demands is counter to the finding that indecisive students have little regard for social demands. The significance of the Indecision Scale/Q3 finding is, however, equivocal. While group differences were statistically significant, the scores of all indecision groups fall close to the "average" range (within approximately one half SD of the mean), and the scores have little, if any, practical significance.

Though higher scores on 16PF scales 0 and Q4 were shown to be associated with Very High Indecision groups, the scores were generally not of sufficient magnitude to indicate substantial clinical pathology. The 16PF manual

indicates that the bipolar definitions for each of the factors are most descriptive of individuals who score high (sten of 8-10) or low (sten of 1-3) on each of the scales. The Very High Indecision group attained sten scores between seven and eight on most of the 16PF factors that attained statistical significance. While such scores might indicate the presence of apprehension and/or tension, they are not to be considered extreme.

Gender Differences

Though the Indecision/Neuroticism trend was evident in both male and female students, only data from female students concerning Hypothesis 1 reached statistical significance. While it is possible that the Indecision/Neuroticism relationship is stronger for females, another plausible explanation lies in gender differences in the acknowledgement of neuroticism. In West Texas culture, it may be more socially acceptable for females to acknowledge difficulties when they exist. Gender differences in the reporting (rather than the occurrence) of psychological symptoms have been proposed by Phillips and Segal (1969). The authors state that it is less stigmatizing for women to verbalize emotional problems, and that they are generally more willing to articulate emotional difficulties. Clancy and Glove (1974), however, failed to find gender differences in the perceived desirability of psychiatric symptoms.

In the current study, t-tests were performed to determine personality differences between males and females in the Very High Indecision group. Of the variables studied, only the EPI Neuroticism Scale and Factor A of the 16PF attained statistical significance ($\underline{F} = 4.25$, $\underline{p} = .05$; $\underline{F} = 4.20$, $\underline{p} = .05$). Very High Indecision females scored significantly higher than Very High Indecision males on both of these scales. Individuals who score high on Factor A of the 16PF are described as being outgoing (Cattell, 1972)

The person who scores high (sten of 8 to 10) on Factor A tends to be goodnatured, easy going, emotionally expressive (hence naturally Affectothymia), ready to cooperate, attentive to people, softhearted, kindly, adaptable. He likes occupations dealing with people and socially impressive situations. He readily forms active groups. He is generous in personal relations, less afraid of criticism, better able to remember the names of people. (p. 17)

The above description lends support to a notion that the personality variable which Cattell labels affectothymia (rather than social desirability) may be a factor in the higher neuroticism scores of females when compared with males. Higher Factor A scores suggest that the Very High Indecision females are more emotionally expressive and less afraid of criticism than their more reserved male counterparts.

Summary and Conclusions

In summary, the hypothesis that students scoring high on the Indecision Scale of the CDS are chronically indecisive (neurotic) was only partially supported. Students in the Very High Indecision group scored significantly higher on the EPI Neuroticism Scale, with the effect being much more pronounced for female students than for males. The interpretation of this finding, however, is somewhat equivocal, and other, perhaps more plausible, explanations for the Indecision Scale/Neuroticism Scale relationship were proposed.

Evidence obtained from the 16PF indicates that apprehension and tension rather than the indecisive disposition described earlier in this paper are the primary characteristics that differentiate high from lower scorers on the CDS Indecision Scale. Though the tendency toward apprehension/frustration in highly undecided students is not extreme, it does appear to have practical significance. Students in the Very High Indecision group attained average scores above the seventh sten on scales 0 and Q4. Thus, high Indecision Scale scorers experienced the anxiety that has been found in previous studies (e.g., Kimes & Troth, 1974), but exhibit few, if any, characteristics of the indecisive disposition described earlier in this paper. If, for example, the Very High Indecision group had an indecisive disposition and were, in fact more

neurotic, one would expect significant differences in other scales of the 16PF such as Factor C and I. Low scorers on Factor C, for example, are labeled as emotionally less stable and easily upset. High Factor I scorers are described as tender-minded, dependent, overprotected, and sensitive (Cattell, 1972). No such statistically significant differences were found on these scales.

It appears, then, that high Indecision Scale scores are more indicative of extreme undecidedness rather than chronic indecisiveness. The higher Neuroticism Scale scores are most likely indicative of the anxiety associated with career indecision. Based on the absence of other statistically significant findings from the 16PF analysis, it is doubtful that other characteristics measured by the Neuroticism Scale, such as emotional lability, contribute significantly to the Neuroticism Scale score. Whether this anxiety results from, or is a cause of, career indecision remains to be determined. Mendonca and Siess (1976) did, however, report that a counseling procedure utilizing "a combination of anxiety management and problem-solving training was effective and resulted in significantly greater gains than either method alone" (p. 339).

An alternative explanation is that the Very High Indecision group is, indeed, neurotically indecisive, but the characteristics contributing to that neuroticism vary

so much from individual to individual that particular 16PF scale contributions to overall neurosis are not evident. One indecisive student may experience neuroticism in the form of shyness, timidity, and threat-sensitivity (Factor H), while another may experience neuroticism due to emotional instability (Factor C).

Male/female differences in Neuroticism Scale scores for the Very High Indecision group may be a reflection of gender differences in neuroticism or of the possibility that, when anxious, females tend to express their anxieties more than males. Significant 16PF scale differences between males and females in the Very High Indecision group were found only on Factor A of the 16PF (Reserved vs. Outgoing)

Implications for Future Research

Evidence obtained in the present study indicates that college students attaining high scores on the Indecision Scale of the CDS experience greater amounts of apprehension than do their more decided colleagues. Since other personality characteristics which might be indicative of neurosis or an "indecisive disposition" were not found to be characteristic of this group, a logical explanation would be that the college environment exerts pressure upon many students to prematurely select an occupation, thereby, causing apprehension and frustration. Future research might compare Very High Undecided college students as

measured by the Indecision Scale to their counterparts who have not attended college. If this explanation is correct, the noncollege undecideds would not show evidence of the apprehension/frustration exhibited by highly undecided college students.

Data for this study were obtained during the first weeks of the spring semester, 1987. The possibility that chronically indecisive students were absent from this study cannot be ruled out. It seems logical that chronically indecisive students would also be procrastinators, therefore, waiting until the last minute to participate in experiments for extra credit. Future research might compare data obtained during the final weeks of classes with that obtained early in the semester to provide a test of this hypothesis.

Perhaps a more definitive test of the original hypothesis could be provided by examining individuals who have reached the age of 25 and who have yet to decide upon a career. Such individuals are, by definition, chronically indecisive (Salomone, 1982), and a comparison of this group with a similar-aged decided group on measures of career decision and personality could shed further light on possible personality characteristics of the chronically indecisive individual. Alternatively, a replication of the longitudinal study reported by Hartman, Fuqua, Blum, and Hartman (1985) using a college student population

might better differentiate chronically indecisive from developmentally undecided groups. College students are approaching the age at which chronic indecision becomes apparent, and longitudinal data could shed further light on the undecidedness/indecision issue.

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APPENDIX A
SUMMARY TABLES FOR ANOVAS

TABLE 18

Analysis of Variance of Neuroticism Scale
Differences Between Indecision Groups

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
<u>Entire Sample</u>					
Model	208.59	3	69.53	3.61	.01
Error	3683.48	191	19.29		
Total	3892.07	194			
<u>Males Only</u>					
Model	80.39	3	26.80	1.38	.25
Error	1710.48	88	19.44		
Total	1790.87	91			
<u>Females Only</u>					
Model	186.46	3	62.15	3.29	.02
Error	1870.01	99	18.89		
Total	2056.47	102			

TABLE 19

Analysis of Variance of Factor 1 Differences
Between Indecision Groups

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>P</u>
<u>Entire Sample</u>					
Model	156.31	3	52.10	2.66	.05
Error	3735.76	191	19.56		
Total	3892.07	194			
<u>Males Only</u>					
Model	51.74	3	17.25	0.87	.46
Error	1739.13	88			
Total	1790.87	91			
<u>Females Only</u>					
Model	206.31	3	68.77	3.68	.01
Error	1850.15	99	18.69		
Total	2056.47	102			

TABLE 20

Analysis of Variance of Neuroticism Scale Differences
Between Osipow Criteria Groups

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Model	63.11	2	31.56	1.47	.23
Error	2363.62	110	21.49		
Total	2426.73	112			

APPENDIX B
CONSENT FORM

Consent Form

By signing my name below I agree to allow information regarding myself to be used for research purposes and for any publication of the results of this research. I understand that by using my student number from my "1300 Psychology User's Guide" and my social security number, my name will not be associated with any data obtained from me.

I understand that I will be asked to fill out a set of questionnaires which should take less than two hours. I understand that I may refuse to participate in this research project with no penalty.

I understand that Dr. Jane Winer (Psychology building, Texas Tech University, Room 206, (806) 742-3732) has agreed to answer any inquiries I may have concerning the procedures and has informed me that I may contact the Texas Tech University Institutional Review Board for the Protection of Human Subjects by writing them in care of the Office of Research Services, Texas Tech University, Lubbock, TX 79409, or by calling them at (806) 742-3884.

If this research causes any physical injury to participants in this project, treatment is not necessarily available at Texas Tech University or the Student Health Center, nor is there necessarily any insurance carried by the University or its personnel applicable to cover any such injury. Financial compensation for any such injury must be provided through the participant's own insurance program.

I consent to release results of the Eysenck Personality Inventory obtained in the evaluation of the Psy 1300 program to Bruce Meyer and Dr. Jane Winer for research purposes. I understand that my identity will be kept confidential and that only group data will be published following this research.

I understand that this sheet with my signature is to be returned unattached to any other questionnaires.

Date

Signature of Subject

Signature of Investigator

APPENDIX C
EXPERIMENT F SUMMARY

Experiment F Summary

As college students progress from their freshman to senior years, the pressure to select an appropriate career becomes more pronounced, and, for many students, frustration mounts. Career undecidedness can, in some students, be associated with anxiety, low motivation in college work, poor grades, or leaving college. Certainly much of our identity and, to a certain extent, social status is wrapped up in the answer to that ubiquitous question, "What's your major?" Studies suggest that approximately 50% of college freshmen and sophomores are undecided about a major.

Hundreds of students appear at college counseling centers across the country each day seeking help with their career planning efforts. Such students are most often given an array of self-help materials, interest and personality inventories, and individual counseling in an effort to determine which careers are most appropriate and satisfying for the student. There are several developmental theories of career decision upon which the counselor can base his/her intervention and provide appropriate career guidance.

Career counseling is more beneficial for some students than for others, and not much is known concerning the characteristics of those students who will benefit vs. those who will not. There is some evidence that students who are very undecided about a career may have personality characteristics which make it more difficult for them to make decisions. If this is true, a different form of career counseling might be more appropriate for these students. Experiment F is an attempt to determine if students who are Very Undecided about a career have personality characteristics which differ from those who are Decided or Slightly Undecided.

The first instrument you completed was the Career Decision Scale which measured how certain you are of your career choice. The other two questionnaires were personality measures. Statistical tests are currently underway to examine the hypothesis that students who are Very Undecided have personality characteristics which differ from students who are Slightly Undecided or Decided. The demographic sheet that you completed will help up determine if age, race, gender, education of parents, or GPA are factors involved in the career decision process. This

information may help counselors provide career counseling more tailored to individual needs.

The TTU Counseling Center provides career counseling at no charge to students. The service is located in West Hall and is available by appointment. Thank you for participating in Experiment F.

APPENDIX D
CAREER DECISION SCALE

CAREER DECISION

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Marathon Consulting & Press
P. O. Box 09189
Columbus, Ohio 43209 - 0189

Your Name _____ Today's date _____ Your date of birth _____

This questionnaire contains some statements that people commonly make about their educational and occupational plans. Some of the statements may apply to you; others may not. Please read through them and indicate how closely each item describes you in your thinking about a career or an educational choice by *circling* the appropriate number on the answer sheet.

If you are excited about going to work and feel no hesitation about it you would circle "4" as it is circled in the example on the next page to indicate the description was exactly the way you feel. If the item is very close, but not exactly the way you feel—for example, you're generally excited about going to work after you graduate, but are experiencing some minor concerns about it—you would circle the number "3". You would circle "2" if the item described you in some ways, but in general it was more unlike than like your feelings; for example, if you were generally more concerned than excited about work after graduation. Finally, you would circle "1" if the item did not describe your feelings at all; that is, you were experiencing a great deal of concern and no excitement about graduation and work.

An example is given below:

Sample Self-Description Item	Sample Answer			
	Exactly like me	Very much like me	Only slightly like me	Not at all like me
I am excited about graduating and going to work.	4	3	2	1

If you change your answer, please be sure that all previous marks are completely erased. Please give only one response to each item and respond to all items.

CIRCLE ANSWER

Like Me Not Like Me

- | | | | | |
|--|---|---|---|---|
| 1. I have decided on a career and feel comfortable with it. I also know how to go about implementing my choice. | 4 | 3 | 2 | 1 |
| 2. I have decided on a major and feel comfortable with it. I also know how to go about implementing my choice. | 4 | 3 | 2 | 1 |
| 3. If I had the skills or the opportunity, I know I would be a _____ but this choice is really not possible for me. I haven't given much consideration to any other alternatives, however. | 4 | 3 | 2 | 1 |
| 4. Several careers have equal appeal to me. I'm having a difficult time deciding among them. | 4 | 3 | 2 | 1 |
| 5. I know I will have to go to work eventually, but none of the careers I know about appeal to me. | 4 | 3 | 2 | 1 |

REMEMBER — 4 is exactly like me, 3 is very much like me, 2 is only slightly like me, and 1 is not at all like me.

- | | | | | |
|--|---|---|---|---|
| 6. I'd like to be a _____, but I'd be going against the wishes of someone who is important to me if I did so. Because of this, it's difficult for me to make a career decision right now. I hope I can find a way to please them and myself. | 4 | 3 | 2 | 1 |
| 7. Until now, I haven't given much thought to choosing a career. I feel lost when I think about it because I haven't had many experiences in making decisions on my own and I don't have enough information to make a career decision right now. | 4 | 3 | 2 | 1 |
| 8. I feel discouraged because everything about choosing a career seems so "ifly" and uncertain; I feel discouraged, so much so that I'd like to put off making a decision for the time being. | 4 | 3 | 2 | 1 |
| 9. I thought I knew what I wanted for a career, but recently I found out that it wouldn't be possible for me to pursue it. Now I've got to start looking for other possible careers. | 4 | 3 | 2 | 1 |
| 10. I want to be absolutely certain that my career choice is the "right" one, but none of the careers I know about seem ideal for me. | 4 | 3 | 2 | 1 |
| 11. Having to make a career decision bothers me. I'd like to make a decision quickly and get it over with. I wish I could take a test that would tell me what kind of career I should pursue. | 4 | 3 | 2 | 1 |
| 12. I know what I'd like to major in, but I don't know what careers it can lead to that would satisfy me. | 4 | 3 | 2 | 1 |

REMEMBER — 4 is exactly like me, 3 is very much like me, 2 is only slightly like me, and 1 is not at all like me.

- | | | | | |
|--|---|---|---|---|
| 13. I can't make a career choice right now because I don't know what my abilities are. | 4 | 3 | 2 | 1 |
| 14. I don't know what my interests are. A few things "turn me on" but I'm not certain that they are related in any way to my career possibilities. | 4 | 3 | 2 | 1 |
| 15. So many things interest me and I know I have the ability to do well regardless of what career I choose. It's hard for me to find just one thing that I would want as a career. | 4 | 3 | 2 | 1 |
| 16. I have decided on a career, but I'm not certain how to go about implementing my choice. What do I need to do to become a _____ anyway? | 4 | 3 | 2 | 1 |
| 17. I need more information about what different occupations are like before I can make a career decision. | 4 | 3 | 2 | 1 |
| 18. I think I know what to major in, but feel I need some additional support for it as a choice for myself. | 4 | 3 | 2 | 1 |
| 19. None of the above items describe me. The following would describe me better: (write your response below). | | | | |

APPENDIX E
EYSENCK PERSONALITY INVENTORY

EYSENCK PERSONALITY INVENTORY

FORM A

By **H. J. Eysenck**
and **Sybil B. G. Eysenck**

Name _____ Age _____ Sex _____

Grade or Occupation _____ Date _____

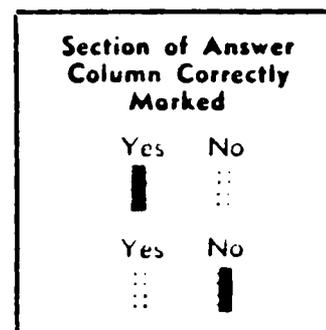
School or Firm _____ Marital Status _____

INSTRUCTIONS

Here are some questions regarding the way you behave, feel and act. After each question is a space for answering "Yes," or "No."

Try and decide whether "Yes," or "No" represents your usual way of acting or feeling. Then blacken in the space under the column headed "Yes" or "No."

Work quickly, and don't spend too much time over any question; we want your first reaction, not a long drawn-out thought process. The whole questionnaire shouldn't take more than a few minutes. Be sure not to omit any questions. Now turn the page over and go ahead. Work quickly, and remember to answer every question. There are no right or wrong answers, and this isn't a test of intelligence or ability, but simply a measure of the way you behave.



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