THE RELATIONSHIP BETWEEN VOCATIONAL INTEREST
DIFFERENTIATION AND CAREER UNDECIDEDNESS

A Thesis

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by

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Approved by

A handwritten signature in black ink, appearing to read 'Samuel O.', is written over a horizontal line.

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS.....	ii
LIST OF TABLES.....	iv
Chapter	
I. INTRODUCTION.....	1
II. LITERATURE REVIEW.....	5
Research on Undecidedness.....	5
Undecidedness and Vocational Interest	
Differentiation.....	17
Measurement of Vocational Undecidedness	23
Measurement of Interest Differentiation	26
Summary.....	30
III. METHOD.....	32
Subjects.....	32
Instruments.....	33
Procedure.....	36
Operational Definitions.....	37
Data Analysis.....	38
Hypotheses.....	38
IV. RESULTS.....	40
V. DISCUSSION.....	52
VI. SUMMARY.....	61
APPENDIXES	
A. Frequency Data for Career Decision Scale..	66
B. Sample Data Sheet.....	68
LIST OF REFERENCES.....	69

LIST OF TABLES

Table	Page
1. Means for Population, Group and Sex Characteristics.....	41
2. Correlations of Dependent Variables.....	42
3. Correlations at Levels of Self-Reported Decidedness.....	44
4. Correlations at Levels of Job Experience.....	45
5. Correlations at Levels of Work Salience.....	47
6. Correlations at Levels of College Credits.....	48
7. Sources of Variance for Interest Differentiation.....	50
8. Sources of Variance for Total Undecidedness.....	51

CHAPTER I

INTRODUCTION

This study was intended to investigate the nature and strength of relationship which may exist between vocational/educational undecidedness and occupational interest differentiation in adult students. Specifically, the purpose was to test the theorized negative correlation between educational/vocational undecidedness and differentiation as well as to extend a previous finding (Kazin, 1978). The strength of this test results primarily from use of the two measurement systems - one for each construct - which previous research indicates as having most validity and effectiveness. The Career Decision Scale and the Vocational Preference Inventory will be employed.

Holland (1973) asserts that vocational interest differentiation is positively related to and predicts stability of vocational choice, decision making ability, and maturity of vocational attitudes. From this theoretical position, a negative relationship between differentiation and undecidedness has been inferred because

sharply defined interests should provide the basis for sound decisions regarding vocational choice. However, efforts to empirically confirm this hypothesis have provided little support for the relationship (Holland & Holland, 1977; Holland, Gottfredson & Nafziger, 1975; Lunneborg, 1975; Kazin, 1977; Cellini, 1978). One problem in previous research on the question has been that of finding effective and useful measurements of both undecidedness and differentiation. At least four different means have been used to measure each of these constructs.

A search of relevant literature indicates that only Kazin (1977) has found support for the theorized significant relationship between the two constructs. Kazin found that degree of differentiation varied with the type of undecidedness problem being reported by students. These types of undecidedness, as identified by the Career Decision Scale (Osipow, Carney, Winer, Yanico & Koschir, 1976; Osipow, 1979) include Need for Structure, Perceived External Barriers, Positive Choice Conflict and Personal Conflict. In addition, Kazin found that differentiation varied significantly across different undergraduate populations. These findings are provocative because Kazin's use of the CDS is the only

apparent difference between his research and that which preceded it. Thus, there is the suggestion that the CDS provides an improved means for the measurement of undecidedness, at least in this context.

In the present study, levels of undecidedness - as measured by the CDS - are compared with levels of differentiation as measured in the standard method first developed by Holland (1965). Results from this procedure are expected to reveal whether differentiation scores are significantly correlated with Total Undecidedness Scores. Kazin's data do not permit this comparison although they do suggest the likelihood of a significant negative correlation. Cellini (1978), however, in a partial replication of Kazin's study, did not find the predicted negative correlation.

The practical value of finding a negative correlation may be that further research into the causes of undecidedness and differentiation would be stimulated. If a lack of differentiation is one cause of undecidedness (as Holland suggests) then vocational counseling efforts might be aimed at treating undifferentiation and the antecedents of differentiation might become worthwhile objects of research and counselor manipulation. Further, if the hypothesized relationship does exist,

the effectiveness of some kinds of vocational counseling might be usefully assessed by comparing pre- and post-treatment differentiation scores. However, if results are similar to those found in most previous studies and suggest no important or consistent correlation between differentiation and Total Undecidedness, then stimulus may be provided for further study of the antecedents of educational/vocational undecidedness.

CHAPTER II

LITERATURE REVIEW

Research on Undecidedness

Several efforts have been made to empirically identify descriptive and differentiating characteristics of vocationally undecided and decided students. These efforts, whether considered individually or collectively, have failed to provide an adequate basis for the reliable differentiation of undecided and decided students on the basis of personal, social or academic characteristics. Those who have summarized research in this area have generally bemoaned the confusing and conflicting data which are extant (Harman, 1973, Lunneborg, 1975, Holland and Holland, 1977). Some of these reviewers, seeking to do better than those whose work they have reviewed, have developed new methodologies or conducted more comprehensive studies. However, these newer studies have generally added only further confusion and conflicting data to the issues. Perhaps the only widely shared conclusion at this point is that both undecided and decided populations are heterogenous, and, thus, defy simple description.

The following literature review first provides an examination of the status of research in this general area. From this background, the review proceeds to examine research concerning interest differentiation and the measurement of vocational undecidedness, two troublesome sub-areas in which clues to the nature of undecidedness have been sought.

In an early attempt to study the nature of undecidedness, Holland and Nichols (1964) developed an Indecision Scale which served as the basis for a further investigation of the characteristics of undecided students. A sample of 500 male and female Merit Finalists was employed. Beginning with an idiosyncratic pool of 273 activities, hobbies, school subjects and sports, the authors identified the fifteen items which best discriminated between the decided and undecided students in their sample. Separate lists for boys and girls were found to be necessary because of sex differences. These lists became the Indecision Scales.

High scores on the Indecision Scales, when correlated with data on personality, interests, self-rating and achievements, provided the basis for personality interpretation. Holland & Nichols suggest that boys with high indecision scores preferred social, persuasive, artistic, aggressive and prestigious activities and occupations.

Furthermore, these boys tended to possess unusual potential for artistic and persuasive achievements. Results for girls showed some of these same trends but the relationships were smaller and more ambiguous.

Attempting to look beyond these correlations to the issue of etiology, Holland and Nichols suggest that students may be undecided for a variety of reasons - they may have a complex and creative outlook on the world or work, they may be confused, or they may be poorly informed about occupations.

This description of undecided students did not hold up well in Baird's (1968) attempt to cross validate the Indecision Scale. Baird studied two samples of college freshmen representing a wide range of academic ability. Results of this study indicate that the Indecision Scales (one for boys and one for girls) did not discriminate reliably between decided and undecided students. Rather than identifying undecided students, Baird concluded that the scales identified persons with a generalist disposition, with more competencies and a greater range of experiences than the norm. Baird suggested that the students previously identified by the Indecision Scales as being undecided, might simply be bright students who had not chosen a vocation because they were delaying in

the face of several genuine alternatives. Thus, Baird's results cast doubt on the conclusions previously drawn regarding the nature of undecided students.

In two extensive studies which followed this work, Baird (1969) again failed to find any significant difference between decided and undecided students. In the first of these studies, 6,289 male and 6,143 female college freshmen were administered a comprehensive assessment device (American College Survey - ACS). Of the total group, 451 male and 295 female students said that they were undecided. The ACS consists of 118 scales and ratings which create data about students interests, achievements, competencies, backgrounds, personalities, attitudes, self-descriptions, goals and aspirations.

On the basis of his failure to find significant correlations between these factors and undecidedness it was Baird's "overwhelming conclusion" that there is no reliable difference between a student who is vocationally decided and one who is not.

In a second study, reported in the same monograph (Baird, 1969), the sample under study consisted of 59,618 college-bound students who took the American College Test (ACT) while in high school. Of this total, 13,695 students stated that they were undecided. Independent

variables in the study included the ACT composite Score, high school GPA and expressed goals for college achievement. Results of this study indicate that no difference in ACT scores or high school GPAs existed between decided and undecided students. The only difference of any possible significance concerned college ambitions. Undecided students tended to emphasize developing their minds and intellectual abilities more than did decided students.

Ashby, Wall, and Osipow (1966) did find some differences between decided and undecided groups in their study of approximately 200 college freshmen. These students were divided into three groups on the basis of their vocational orientation-undecided, tentative, and decided. Measurable differences between these groups were sought on a variety of personality, background, and college performance characteristics. The most important conclusion, based on an analysis of data, was that the undecided group tended to be more dependent than the other groups, as measured by the Bernreuter Personality Inventory. These students seemed to be in need of extra support and encouragement in making and carrying out vocational decisions. On measures of academic achievement, no significant differences were found between

decided and undecided students, although both these groups had higher academic achievement than did the tentative group.

Several researchers at the University of Kentucky have undertaken longitudinal studies of undecided and decided students. Elton and Rose (1971) studied college seniors to determine if there were differences, at graduation, in personality or ability between students who, as freshmen, had been classified as either decided or undecided. One thousand twenty three male students, representing all the men in University of Kentucky graduating classes for 1969 and 1970, comprised the sample population. These subjects were divided into three groups: 1) those who said they were undecided as freshmen and who remained undecided as seniors; 2) those who were decided as freshmen but who had changed their decisions before graduation; and 3) those who had maintained their original career decision through college. Factor scores from the Omnibus Personality Inventory (OPI), Form C, and the American College Test (ACT) Composite Score were the independent variables. Analysis of the data indicated that no **statistically** significant difference existed in personality or ability among the three groups.

In another study, Rose and Elton (1971) also compared mean OPI and ACT Composite Scores for two

groups of students who had been undecided as freshmen. The purpose of this study was to find differences and similarities between undecided students who had left college and other undecided students who had persisted to graduation. The groups under study were composed of 290 vocationally undecided males who had entered the university in 1966. The 85 of these students who had persisted to graduation (Group I) were compared with a randomly selected group of 88 males, chosen from those who had left college before graduation (Group II). Undecided males in Group II were found to be significantly ($p < .01$) more conforming, more masculine in their roles, and less academically able than members of the other group. In addition to finding these differences, the authors also found significant similarities in levels academic aspiration, family income and in high-school non-academic achievement.

Rose and Elton concluded from these results that "undecided students" are diverse and for this reason it is not possible to describe them as a single entity.

Also at the University of Kentucky, Harman(1973) studied undecided students who had requested and received vocational educational counseling. As part of their counseling, all subjects (30 males and 33 females),

completed the Strong Vocational Interest Blank (SVIB). Scores on the Omnibus Personality Inventory (OPI) and the American College Test (ACT), taken by the students before college entrance, were also used in the study. A follow-up on these students was conducted within a year of their counseling. At follow-up, 13 of the males were still undecided as were 18 of the females. Harman looked for differences between the decided and undecided groups on the independent variables.

Harman found no statistically significant differences on SVIB, OPI and ACT measures between females who were either decided or undecided after vocational counseling. For males, there was no significant difference between the groups on the ACT scores or SVIB scores. However, on the OPI, decided males scored significantly higher than did undecided males on the Response Bias Scale. Heist and Yange (1968) have described low scorers on this scale as having more difficulty in concentrating on a problem for a long time. Based on this interpretation, Harman suggests that undecided males may not be able to concentrate long enough to solve their vocational indecision problems.

Also using a longitudinal format, Lunneborg (1975) attempted to find predictors as well as correlates of

undecidedness. This study involved 1622 college juniors and sought to find what differences might exist in pre-college and college measures of personality, interests and achievement between Junior year students who had declared a major and those who had not. Data regarding high school GPA in various subjects, standardized test scores, planned college major (if any), college credits earned, and college GPA were known for each student. In total, 53 variables were known for each student.

Results of a correlational analysis indicate that undecidedness was most positively correlated with college credits earned, college GPA, outdoor interests, a planned major in engineering and business interests. Low academic achievement was found to be the best predictor of undecidedness. From these results Lunneborg derived a portrait of the undecided student as being less achieving in academics, less interested in outdoor activities, less interested in business, and possessing poorer English usage skills than his/her decided counterpart. However, Lunneborg concluded that even these differences were an inadequate basis for predicting future undecidedness for individuals.

Concluding this review of the literature on undecidedness is a summary of the most recent, large

scale attempt to delineate differences between vocationally decided and undecided students. Like those who had preceded them in this effort, Holland and Holland (1977) found generally equivocal results.

Samples of 1005 high school juniors and 692 college juniors were administered a battery of tests and inventories of personality, decision-making ability, interests and vocational attitudes. A total of 24 independent variables were measured for each subject.

Results of this study indicate that decided and undecided students are alike on most of the measured variables. Only measures of identity, vocational attitude, and artistic orientation produced statistically significant differences for both boys and girls in the high school sample. Only measures of interpersonal competency and identity showed differences between the college men and women. Only differences in the identity scale replicated across all four groups. Holland and Holland interpret these results to mean that undecided students typically lack a sense of clear identity. These students are seen as having a shifting picture of themselves vis a vis occupational possibilities.

Summarizing and integrating these results into the existing literature on vocational undecidedness,

Holland and Holland conclude, like others before them, that it may be most useful to discard the notion of an "undecided type" of student. They suggest, instead, that the group of undecided students be considered as comprised of at least three subtypes. One subtype would be those for whom there is not any sense of urgency about their undecidedness. The authors found this condition to exist for 50 per cent of their sample. They further suggest the existence of that two other subgroups, each comprising perhaps 25 per cent of the total undecided population. These two groups consist of those who are 1) slightly to moderately or 2) moderately to severely deficient in the following ways: immaturity, interpersonal competency, anxiety and alienation. Taken together, these traits create what the authors call on "indecisive disposition". They see this disposition as the probable result of a life history in which an individual has failed to achieve sufficient cultural involvement, self-confidence, tolerance for ambiguity, sense of identity, and knowledge of self and of the occupational environment.

The preceding review seems to have demonstrated, as have those published literature reviews which have preceded it, the inconclusive state of research into the

personality traits, interests, aptitudes, and performances of vocationally undecided students. As noted repeatedly in this review, a variety of traits has been ascribed to this group by different researchers. However, there has been a uniform failure to replicate results and, thus, to reach agreement about the nature of undecided students. The most common conclusion, and perhaps the only one which is supported by the research evidence, is that the group of undecided students - as well as the group of decided students - should be considered to be heterogenous and generally in good health psychologically.

All of the research considered here has been concerned with high school and college students. Studies using very large samples have proved no more and no less effective than have studies employing smaller samples. Longitudinal studies have not proved to be more consistent or definitive than have present-time studies. It seems accurate to say that a stalemate exists with regard to future directions and methods in this research area.

Undecidedness and Vocational Interest Differentiation

Research into the presumed relationship between vocational undecidedness and vocational interest differentiation has constituted a sub-area of the general research on the nature of undecidedness itself. Holland's Theory of Careers (1973) and the development of instruments to operationalize its theoretical constructs, has served as the primary basis and impetus for work in this area. A correlate of the theory (Holland, 1973) asserts that high vocational interest differentiation is positively related to, and predicts, stability of vocational attitudes. From this correlate, it has been inferred that vocational interest differentiation would be negatively correlated with vocational undecidedness, on the assumption that undecidedness represents a low degree of vocational stability. However, research by Holland and others has failed to find significant support for this theorized negative correlation. The following review outlines the course and content of these efforts.

Holland and Holland (1975) found no significant correlation between interest differentiation and undecidedness in a study involving 1,005 high school juniors and 692 college juniors. In this study, differentiation was only one of many characteristics being considered in

an effort to clarify the differences between vocationally undecided and decided students. This result, on a large and appropriate sample of students, cast doubt on the validity of the theorized relationship between the two constructs. The Self-Directed Search (SDS) was the source of differentiation scores. This measure (Holland, 1972) requires that the respondent indicate preferences for occupations, activities and school subjects. From these responses, six occupational scale scores are derived, corresponding to the six occupational types - Realistic, Conventional, Artistic, Investigative, Social and Enterprising. The method by which these scores are employed to create a differentiation score is a subject discussed in the following section of this literature review.

Lunneborg (1975) tested the theory by comparing interest differentiation scores for college juniors. Subjects in this study were 1622 college juniors who had taken the Vocational Interest Inventory (VII) in 1971 as part of a pre-college test battery. The VII produces scores on Roe's eight occupational scales.

Lunneborg's sample contained 45% females whose mean age at testing was 16.5 years. She compared differentiation scores for students who had declared majors

(N=1227) with those of students who had not declared (N=395). Interest differentiation scores were, as predicted, negatively related to undecidedness, but the correlation was quite weak, with R^2 ranging from .15 to .05 depending on the way in which differentiation was measured. Several other pre-college predictors-high school math GPA, English usage scores, and outdoor interests - proved to correlate more strongly. Lunneborg concluded that low differentiation of interests was only a weak hint of tendencies to future undecidedness.

Kazin, (1977) administered the VPI and the Career Decision Scale (Osipow, Carney, Winer, Yanico & Koschir, 1976) to 377 undergraduate students. The Career Decision Scale (CDS) asks students to respond to 18 statements which represent 16 possible antecedents of vocational/educational undecidedness and 2 descriptions of decidedness. Responses range from 4 (exactly like me) to 1 (not at all like me). Total scores for undecidedness, thus, may range from 16 to 64. This scale is more fully described in the Methods section of this thesis.

Subjects in this study were drawn from three different college populations presumed, on the basis of group membership, to vary on levels of career decidedness. Forty-four men and 46 women were drawn from an introductory

psychology class, 51 men and 57 women were drawn from a Career Planning course, and 104 men and 75 women from a Survey course for freshmen and sophomore students who have not declared a specific academic or career goal. Kazin hypothesized that within and between these groups, levels of differentiation would vary according to the type and level of career undecidedness being experienced by the students. As discussed in the Methods section of this thesis, four types or bases of undecidedness are measured by the Career Decision Scale: Need for Structure, Perceived External Barriers, Positive Choice Conflict and Personal Conflict. In his study, Kazin labeled these same types: Need for Structure, Block, Multi-potential and Delay.

Results of this study indicate that levels of differentiation did vary significantly ($p < .01$) between groups. Students whose undecidedness was characterized as a problem of Positive Choice Conflict had significantly higher ($p < .01$) differentiation scores than did students with other causes for their undecidedness.

Kazin's results thus suggest that levels of occupational interest differentiation are indeed related to a subject's type of undecidedness. The results also suggest that groups may differ on mean levels of

differentiation as well as on levels and types of undecidedness. These results are not, however, sufficient to conclude that the theorized correlation between levels of interest differentiation and undecidedness does exist. The data presented are inadequate for this conclusion for two reasons. First, several data cells contain fewer than 10 subjects and therefore provide a relatively high chance for false results. Secondly, two of the four types of undecidedness as identified by the CDS are determined by responses to only two items on that questionnaire. Thus, the stability and reliability of these factors can be questioned. Despite these apparent weaknesses, Kazin's results seem significant in that they were the first to point toward a significant empirical link between type of undecidedness and differentiation.

Cellini (1978) administered the VPI and the CDS to 56 male and 60 female undergraduates. Mean age for both groups was approximately 20 years. All students were enrolled in an introductory psychology course. Based on Holland's theoretical assertion that persons with relatively undifferentiated VPI profiles would tend to be undecided, Cellini predicted that such persons would obtain relatively high Total Undecidedness scores

on the CDS. However, no significant correlation was found between Total Undecidedness and interest differentiation.

Cellini suggests that this unanticipated outcome may be the result of inadequacy in the method used to measure differentiation. He notes that some "flat" profiles indicate high - but undifferentiated - interest in all of the six occupational scales, while other "flat" profiles indicate low, undifferentiated interest in all six areas. He suggests that persons with the first type of profile may be able to choose from several areas of interest and that they do not have the same undecidedness problem as do individuals with the second type of profile. He concludes that the theorized correlation between undecidedness and differentiation might well be found to exist, if a measurement system for differentiation could be devised which would segregate these two kind, of undifferentiation.

In summary, four different attempts have been made to find whether a significant correlation exists between interest differentiation and vocational undecidedness. Inconsistent results from these attempts suggest that present empirical support for a significant correlation between undecidedness and vocational interest

differentiation is a weak one.

Measurement of Vocational Undecidedness

Difficulty in establishing a satisfactory way to define and measure undecidedness has been one of the problems blocking research in this area. Undecidedness is not simply the opposite of decidedness, and neither is it a condition which can be accurately assessed by a response to a yes/no criteria. Undecidedness, logically, is a continuum. However, in the absence of an instrument to adequately measure this continuum, researchers have generally used only two-point, polar systems. In the research reviewed here, four different measurement methods have been employed: self-report, objective status judgements, subjective evaluation of self-report essays, and questionnaires. Only questionnaires provide the continuum of scores necessary for effective correlational studies.

Holland and Holland (1977) in their study of high school and college juniors, used a self-report method of deciding whether a student was vocationally undecided. A student was considered decided if he/she responded "true" to the following statement: I have made a tentative occupational choice or I am currently employed full-

time. This method provides only two points on the resulting scale - decidedness and undecidedness. Results of this study indicated no correlation between undecidedness and interest differentiation.

Lunneborg (1975) used a student's prior selection of an academic major as the criteria of decidedness in a study of college juniors. This scale, too, has only two points. If a student had declared a major, he/she would be considered as decided. The reasoning underlying this method was that, in the American college system, the junior year is the traditional point at which a major must be selected. Not to have selected by this point would indicate - using the preceding logic - undecidedness. Results of this study indicated a meager correlation between student's interest differentiation (measured while they were still in high school) and his/her decision (or lack of a decision) regarding an academic major in the junior year of college.

Another means of developing yes/no criteria about undecidedness was employed by Hartman, Utz and Farnum (1979). In their study, subjective judgment of a written paragraph was used as the means to determine undecidedness. In this procedure, graduate students were asked to write a statement regarding their career

decision status. These statements were then read by master's degree students who were to decide whether the paragraph's author was decided or undecided. This method results in a two-point scale.

The Career Decision Scale (Osipow, Carney, Winer, Yanico & Koschir, 1976) has been used as the measure of undecidedness by two investigators whose research is discussed in this review. For this reason, a brief description of this scale is presented here. A more complete description and evaluation is included in the Methods section of this thesis. The CDS consists of a questionnaire which measures 16 antecedents of educational and or vocational undecidedness. These items are derived from experience in interviewing vocational clients. Responses to these items are made on a scale of four (exactly like me) to one (not at all like me). Thus scores for Total Undecidedness can range from 16 (1×16) to 64 (4×16), with 64 indicating the highest degree of undecidedness. In this way, the CDS provides a continuous scale for the representation of degrees of undecidedness.

Kazin (1977) used the CDS to measure undecidedness in three different groups of college students. In his study, Kazin was not concerned with scores for Total

Undecidedness. Instead, the focus was on the relationship between differentiation and the four types of undecidedness which are identified by the CDS. Results indicated that interest differentiation (based on data from the Vocational Preference Inventory) did vary with types of undecidedness. This finding suggested that interest differentiation might also vary with the degree of Total Undecidedness but Kazin's data do not permit examination of this point.

Cellini(1978) did take advantage of the CDS's continuous scale for measuring undecidedness. However, in a study of college students, no significant correlation was found between a student's degree of Total Undecidedness and the student's degree of vocational differentiation as based on VPI data.

Measurement of Vocational Interest Differentiation

Like vocational undecidedness, differentiation of occupational interests has also proven to be a difficult concept to operationalize and measure. Researchers have developed and employed at least four different methods to operationalize the concept.

Holland's original definition of differentiation, which is the one prescribed in Self-Directed Search and

Vocational Preference Inventory manuals (Holland, 1972; Holland, 1965) is that the differentiation score is the subtractive difference between the highest and lowest occupational scale scores. This is both the conceptual and computational formula. Both of Holland's interest measures produce scores on six occupational scales. Scale scores on the VPI range from zero to fourteen while scale scores on the CDS range from zero to nine.

Each of the other three methods for measuring differentiation has been developed, at least partly, in anticipation that it might provide a measure of the concept which would fulfill Holland's theoretical predictions more successfully than had the original computational method. In this respect, however, none of the alternatives has proven to be superior to the original.

Seeking a more precise way of representing similarities and dissimilarities between occupations, Cole, Whitney and Holland (1971) developed a method for the mathematical analysis of the relationships between the six occupational scales in the Holland system. This analysis allows for the representation of each of the scales as a point on a spatial plane (map) of occupations. Using this map, the similarity between different occupations is judged by their distance from each other.

In this scheme, differentiation is considered to be the distance between the point which represents one's occupational preference (as determined by the VPI score) and the center of the plane (representing equal interest in all occupations). Thus, a differentiated VPI profile would be represented by a point relatively far from the planes' center and a less differentiated profile would be represented by a point relatively closer to the center. No attempt has been made to correlate differentiation scores derived in this way with undecidedness scores in a population. However, an attempt to correlate scores of this type with vocational stability resulted in a correlation of only .043 and in the negative direction.

Lunneborg (1975) employed three different methods of computing differentiation of interests. The purpose of this was to find, which, if any, method correlated most successfully with undecidedness in college students. In this instance, occupational scale scores did not come from the VPI or SDS - as they have in every other case examined here - but from the Vocational Interest Inventory (VII) (Lunneborg, 1975). This instrument produces scores on eight occupational scales, according to Roe's system: Service, Business, Contact, Organizational, Technical, Outdoor, Sciences, General Cultural, and Arts

and Entertainment.

Of the three methods employed in this study, the first - which is designated as "maximum-minimum" is the same as that prescribed originally by Holland. The second, designated "Median", is computed by summing the deviations from 50 of the standard scores for each of the eight occupational scales. In this way, Lunneborg attempted to consider differentiation as a measurement of deviation from the average differentiation score. The third method, designated "Random", sought to measure the degree to which an S's responses were different from those which would be produced by an individual responding in a completely random way - with no particular interests.

Results of this study indicate that all three kinds of differentiation scores were weakly correlated with undecidedness. In a summary statement, however, Lunneborg concluded that the maximum-minimum method would be the recommended procedure of choice because of its equivalence with the other methods and its greater simplicity in calculation.

This review of these attempts to measure differentiation suggests that no method has been shown to be superior to Holland's original formulation in

correlating with undecidedness. Holland maintains his preference for the original formulation in his most recent publications.

Summary

Research has failed to provide investigators and counselors with reliable information regarding the correlates and antecedents of vocational/educational undecidedness. The conflicting data regarding personal, social, and academic characteristics of both decided and undecided students has led to the frequently expressed conclusion that both decided and undecided populations are widely heterogenous with respect to these variables.

Occupational interest differentiation has been among the personal variables which have been examined in efforts to find correlates of undecidedness. A negative correlation between interest differentiation and undecidedness has been presumed to exist based upon theoretical assertions by Holland (1973). Research using primarily college populations has failed to support this assertion.

Seeking to end this stalemate, several researchers have developed and employed alternative methods for measuring the differentiation and undecidedness concepts.

Efforts to improve the measurement of differentiation appear to have failed to demonstrate any superiority over the original measurement method proposed by Holland (1965). Efforts to improve the measurement of undecidedness, however, appear to have been more successful in as much as researchers now may use a continuous, rather than a bi-polar scale. The Career Decision Scale provides this continuous scale. The two studies of undecidedness which have recently employed the CDS have yielded conflicting indications regarding the correlations between interest differentiation and Total Undecidedness.

CHAPTER III

METHOD

Subjects

Two groups of subjects were studied, both groups consisting of adults over 20 years enrolled in the Continuing Education College (CED) at The Ohio State University. Known characteristics of the population from which these samples were drawn are incomplete but include the following: Thirty men and fifty-one women participated. Seventy percent are part-time students, 85 % are over 21 years old, and more than half are studying in business, education, and data processing fields.

The first group of subjects (Group I) consists of students over 20 years old who had never attended OSU before and who responded to the college's invitation to attend an orientation session for new students. This invitation is routinely mailed with letters notifying students of their admission to the university. This group is taken as representative of general group of students enrolled in CED. Because many people in this group are known to be enrolled in course work intended to prepare

them for specific graduate programs, the group mean for decidedness was expected to be high.

The second group of subjects (Group II) consists of adults who responded positively to a notice posted in the CED office. This notice informed them of free, voluntary vocational/educational testing to last approximately one hour, to be followed, at a later date, with an interpretation session. This sample was intended to represent a group of adult students who are more vocationally/educationally undecided than the norm for the general population of adult CED students.

Instruments

Career Decision Scale. (Osipow, Carney, Winer, Yanico, & Koschir, 1976; Osipow, 1979) This questionnaire consists of 18 items, the last 16 of which describe various potential causes or explanations of undecidedness. The first two items indicate the degree to which the respondent is decided. For each item, the respondent is requested to respond on a four-point scale ranging from "exactly like me" to "not at all like me". The sum of the last 16 items is used as the index of Total Undecidedness.

Two different factor analyses of the CDS (Kazin, 1976; Osipow, Carney & Barak, 1976) found four distinct factor groupings for the 16 items. These factors are: Need for Structure; Perceived External Barriers; Positive Choice Conflict; and Personal Conflict.

Osipow, Carney & Barak (1976) studied the reliability of the CDS using an undergraduate population at The Ohio State University. Test-retest correlation for the total indecision scale were .90 and .82 for two different samples.

The validity of the CDS has been studied on several occasions. Osipow, Carney and Barak (1976) compared pre- and post-treatment scores for a total of 94 undergraduates in two educational/vocational exploration groups. In both cases, post-testing indicated a significant reduction in the Total Undecidedness score. Sutera (1977) found that undergraduates in a sixteen week residential career planning program had significantly lower scores on the CDS following completion of the program. Concurrent validity was indicated by the fact that students' scores on the Career Maturity Attitude Scale (Crites, 1973) were significantly increased during the same period.

Carney (1977) tested the CDS on another similar, though non-resident, undergraduate population involved in a career exploration class. Pre- and post-test comparisons indicated that the group total score on the CDS was significantly reduced upon completion of the course.

A recent study by Hartman, Utz & Farnum (1979) attempted to determine the instrument's utility as a measure of undecidedness in graduate students. They found that the instrument performed very much as it had with undergraduates. Only test-retest reliability, based on a Pearson product coefficient which yielded $r = .61$ over a one week period, was judged to be marginal. Pearson correlations of $r = .43$ and $.44$ ($p < .01$) were found in validity studies in which independent ratings of a career decision paragraph were compared with a student's CDS score.

Vocational Preference Inventory (VPI). The VPI was developed by Holland (1958) and consists of a list of 160 occupations. For each occupation, the S is asked to indicate whether he or she "likes" or "dislikes" the occupation. Six of the instrument's 11 scales correspond to the six occupational types - Realistic, Conventional, Enterprising, Artistic, Investigative, and Social. These

6 scales will be used in this study while the other five (Self control, Status, Masculinity, Infrequency, and Acquiescence) are irrelevant here.

The VPI has been extensively studied and reliability and validity have been adequately established. Holland (1975) presents correlations with the Strong and Kuder interest measures which he concludes are indicative of the validity of the VPI interest scales. The internal reliability of the six scales range from .83 to .89 for college males (n=6289) and from .76 to .88 for college females (n=6143) (Holland, 1975).

Procedure

All subjects were administered a personal data questionnaire which requests information about: sex, age, number of college credit hours earned, number of years of full-time work, a true/false response to a decidedness question, present full-time job title, previous degrees and areas of previous major study, present major or intended vocation. S's under 21 years were excluded from data tabulation. S's in the orientation groups were administered the instruments during those sessions. Cooperation was voluntary - the nature and purpose of the instruments was not discussed before students decided

whether or not they would take them. Students were debriefed generally when testing was completed. Students in the second sample took the tests individually in offices housed in the College's facilities. They were generally debriefed when they returned for follow-up advisement and counseling.

Operational Definitions

Differentiation - This construct was measured by the "high minus low" scale score formula initially developed by Holland (1973). Thus, Ss lowest occupational scale score is subtracted from their highest occupational scale score to yield their differentiation score. This method has been selected, and three contending methods rejected, because previous investigations have indicated very close correlations among them and because none has been shown to correlate more successfully than another with undecidedness. The fact that Holland, after participating in the development and trial of three methods, still prefers (1977) his original method was influential in this decision.

Undecidedness. This construct will be measured using the 16 indecision items on the Career Decision Scale. Ss Total Undecidedness Score will be created by

the addition of the responses - ranging from 1 to 4 - on these items.

Data Analysis

Testing of hypotheses required computation of correlational values for the dependent variables under several conditions. In addition to correlations for the population as a whole, and for Groups I and II, correlations were computed for other groupings which were created on the basis of: sex; sex and group membership; self-reported levels of undecidedness; job experience; and work salience. These correlations were examined for significance and for conformity with predicted results.

F-tests and t-tests were employed to test the significance of mean differences between the various subject groupings.

Hypotheses.

1. Differentiation scores show a significant negative correlation with Total Undecidedness scores for the population.

2. Differentiation scores are significantly lower and Total Undecidedness scores significantly higher for Group II than for Group I.

3. Differences in mean scores for differentiation and Total Undecidedness are significant between levels of self-reported undecidedness. Correlations between these variables are greatest for those S's who are most decided.

4. Differences in mean scores for differentiation and Total Undecidedness are significant between levels of job experience. Correlations between these variables are greatest in the group representing most job experiences.

5. Differences in mean scores for differentiation and Total Undecidedness are significant between levels of career salience. Correlations between these variables are greatest in the group representing highest work salience.

6. Differences in mean scores for differentiation and Total Undecidedness are significant between levels of earned college credit. Correlations are greatest in groups representing more credits earned.

CHAPTER IV

RESULTS

This chapter presents frequency, correlational and analysis of variance data developed in the present study. Discussion of these data follows in the next chapter.

Table 1 provides descriptive information about the total population and the two Groups under study. Group 1 consists of those persons tested in a general orientation session for new adult students in the Continuing Education Division (CED) of Ohio State University. Group 2 consists of adult students in CED who requested vocational testing and guidance. This information is derived from the Data Sheet completed by each S.

One of the central purposes of the study was to generate data regarding the hypothesized correlation between occupational interest differentiation and Total Undecidedness in various subject groupings. Table 2 presents some of the data relevant to this purpose. Statistically significant correlations were found only for Group 2 ($r=.336$, $p<.05$) and for women in Group 2

Table 1
Means For Population,
Group and Sex Characteristic

Group	N	Age	S.D.	Work Years ^a	S.D.	Credit Hours ^b	S.D.
Popula- tion	81	28.95	6.78	8.57	6.81	116.52	87.06
Group 1	36	28.92	6.71	8.20	6.37	95.97	79.49
Group 2	45	28.98	6.91	8.87	7.21	132.04	90.13
Men	30	29.17	6.62	8.67	6.87	133.14	80.40
Women	51	28.82	6.94	8.51	6.85	106.88	90.07
Men, Group 1	15	29.33	5.77	9.06	5.66	119.21	81.94
Men, Group 2	15	29.00	7.57	8.27	8.10	146.13	79.49
Women Group 1	21	28.62	7.43	7.57	6.90	79.70	75.33
Women Group 2	30	28.97	6.69	7.30	6.85	125.00	95.50

Work Years^a = Number of years in labor force

Credit Hours^b = Number of college quarter hours earned.

Note: No significance found

Table 2

Correlations of Dependent Variables

Group	N	T.U.	SD	I.D.	SD	r	P > 0
Population	81	32.94	9.69	7.31	3.06	.02	.85
Group 1	36	29.47* ^a	11.07	7.44	3.13	-.21	.22
Group 2	45	35.71	7.46	7.20	3.03	.34	.02* ^b
Men	30	32.80	8.37	7.13	2.89	-.06	.76
Women	51	33.02	10.47	7.41	3.18	.05	.70
Men Group 1	15	29.20* ^a	7.86	7.27	3.15	-.20	.47
Men Group 2	15	36.40	7.46	7.00	2.70	.16	.57
Women Group 1	21	29.67	13.08	7.57	3.19	-.22	.33
Women Group 2	30	35.37	7.55	7.30	3.22	.42	.02* ^b

T.U. = Total undecidedness

I.D. = Interest Differentiation

*a - $P < .01$ between groups

*b - $P < .05$ for correlation

($r=.415$, $p<.05$). The correlations were in the positive direction. The correlation for men in Group 2 was $.156$, $p<.50$.

Additional correlational data are presented in Tables 3 through 6. Tables 7 and 8 present ANOVA data regarding the dependent variables.

Table 3 presents data regarding the correlations found for the dependent variables at three levels of concern about self-reported decidedness. The Data Sheet completed by S's provided four categories of decidedness ranging from "decided" to "undecided and very concerned about it". These extreme categories were left unchanged. However, the two intermediate degrees of undecidedness - "not a major problem" and "resolving gradually" - were compressed into one category for data analysis.

Table 4 presents data regarding correlations for the dependent variables as found at three different level of job experience.

Table 5 presents data regarding correlations for the dependent variables found at two levels of work salience. The Data Sheet completed by S's provided four levels of work salience from which they could choose one. For data analysis, these levels have been compressed to two. The first level is comprised of S's who indicated

Table 3

Correlations at Levels of Self-reported Decidedness

Level	N	<u>Total</u> <u>Undecidedness</u>		<u>Interest</u> <u>Diff.</u>		r	P > 0
		Mean	SD	Mean	SD		
Totally Decided	26	28.42	11.57	7.54	3.24	-.18	.38
Undecided- low concern	27	34.33*	9.54	7.63	3.31	.20	.30
Undecided- high concern	28	35.78*	6.07	6.79	2.64	.25	.20

* P < .01

Table 4

Correlations at Levels of Job Experience

Level	N	<u>Total</u>		<u>Interest</u>		r	P > 0
		<u>Undecidedness</u>		<u>Diff</u>			
		Mean	SD	Mean	SD		
1-3 jobs	22	34.68	11.12	6.81	3.29	.24	.28
4-7 jobs	41	30.93	9.00	7.49	3.22	-.09	.56
> 8 jobs	18	35.39	8.87	7.50	2.41	-.00	.98

Note : No significance found

that work was either the most important source of life satisfaction (N=2) or one of the two or three most important sources of satisfaction (N=52). The second level is comprised of S's who indicated either that there were several sources of satisfaction more important than work (N=20) or that work was not a major source of satisfaction (N=7).

Table 6 presents data regarding correlations for the dependent variables found at five levels of college credits earned. On the Data Sheet S's indicated the number of college credit hours they had earned. For data analysis, these responses have been divided at the cut-off points which typically separate freshman, sophomore, junior, and senior classes. A fifth group includes those who have earned more than enough credits for an undergraduate degree.

Another aspect of several hypotheses was concerned with mean differences for the dependent variables between and among levels of the various independent variables. Table 7 and 8 present analysis of variance data relevant to this concern. These data indicate that no one of the independent variables considered accounts for a significant amount of the variance in interest differentiation variance. Variance in Total Undecidedness scores is

Table 5

Correlations at Levels of Work Salience

Level	N	<u>Total</u>		<u>Interest</u>		r	P
		<u>Undecidedness</u>		<u>Diff</u>			
		Mean	SD	Mean	SD		
High Salience	54	32.41	9.75	7.67	3.07	-.08	.55
Low Salience	27	34.00	9.67	6.59	2.95	.29	.14

Note: No significance found

Table 6

Correlations at Levels of College Credits

Hours	N	<u>Total</u>		<u>Interest</u>		r	P
		<u>Undecidedness</u>		<u>Diff</u>			
		Mean	SD	Mean	SD		
0-45hrs	27	34.63	11.67	7.41	2.89	-.10	.63
46-90hrs	7	30.58	9.03	7.29	4.03	.06	.89
91-135hrs	12	29.58	8.41	6.41	1.93	-.52	.08
136-180hrs	18	30.28	8.80	6.22	3.10	.00	.99
> 180hrs	17	36.41	7.10	8.94	3.09	.07	.79

Note: No significance found

significantly related to the Group variable ($p < .005$) and to the self-reported levels of concern with undecidedness ($p < .05$)

Tables of data presented in this section indicate a lack of support for the hypotheses being tested. Two significant correlations were found between the dependent variables, however, these correlations were in the positive direction rather than the negative, as hypothesized. Variance in interest differentiation scores does not appear to be significantly related to the variables controlled for in these analyses. Variance in Total Undecidedness was significantly related to Group membership and to levels of self-reported decidedness. Hypothesized patterns of correlations and mean differences were not found.

Table 7

Sources of Variance - Interest Differentiation

Source	DF	Sum of Square	F	P
Group	1	1.195	.12	.726
Sex	1	1.712	.18	.675
Group Sex	1	.0001	.00	.997
Decidedness	2	11.811	.63	.537
Job Experience	2	7.267	.38	.683
Work Salience	1	20.765	2.26	.137
College Credit	4	76.368	2.16	.08

Note: No significance found

Table 8

Sources of Variance - Total Undecidedness

Source	DF	Sum of Squares	F	P
Group	1	778.474	8.92	.004 *
Sex	1	2.083	.02	.878
Group Sex	1	10.500	.12	.730
Decidedness	2	809.630	4.71	.011 *
Job Experience	2	340.860	1.85	.163
Work Salience	1	45.654	.48	.489
College Credits	4	584.035	1.60	.183

* P < .01

CHAPTER V

DISCUSSION

The data presented in the preceding chapter fail to support any of the hypotheses which the study was designed to test. This chapter consists of a narrative presentation and consideration of these data. First, the nature of the sample and the relative performances of the two measurement instruments are discussed. Then, results of each hypothesis test are presented. Concluding this chapter is a discussion of other possible implications of the data and recommendations for future research directions and procedures.

The sample of adult students appeared to approximate prior expectations of its composition. Average age was 28.95 years - significantly higher than for the samples which have been previously utilized in this area of research. The youngest S was 21 and the eldest was fifty years old. Subjects reported an average of 8.6 years in the work force and an average of 116 college quarter hours earned. More than 90% reported having held more than three jobs. These data suggest that these S's

comprise the more vocationally and educationally experienced group which was sought and anticipated. Such a group was desired because previous studies which had failed to find a significant decidedness/differentiation correlation had employed only younger, less experienced S's. Thus, such a population as was sampled here seemed to be required if previous findings were to be extended.

The instrument used to measure Total Undecidedness - the Career Decision Scale - appears to have good validity with adult students. An analysis of mean scores for Total Undecidedness indicates a significant difference ($p < .01$) between Group 1 and Group 2. This result indicates that adult students requesting vocational assistance score significantly higher for Total Undecidedness than do unselected adult students. Also supporting the validity of the CDS are data which indicate a significant difference ($p < .01$, Newman-Keuls post hoc test) between mean scores for Total Undecidedness at two levels of self-reported vocational decidedness. These levels separate students who reported being career decided, and those who were either undecided but not highly concerned, or undecided and significantly concerned. Mean scores for Total Undecidedness increased significantly between the first of these groups and each of the other two (See Table 8).

Data from this study do not give much support for the validity of the method selected to compute interest differentiation. No significant differences in mean values for this variable were found between any of the subject groupings. Interestingly, perhaps, differences in mean scores between groupings were in the hypothesized direction, but were too small to have significance. A discussion of this finding concludes this chapter.

Based upon these understandings of the nature of the sample and the satisfactoriness of the methods used to measure the dependent variables, it is now possible to comment upon the study's results as they bear on its six hypotheses.

Hypothesis 1 is a restatement of Holland's (1973) suggestion that a significant negative correlation exists between interest differentiation and vocational undecidedness. The data presented in the preceding chapter indicate no such significant correlation for the population as a whole ($r = .021$).

Hypothesis 2 represents an attempt to employ a less rigorous test of the theorized correlation. To be supported, this test required only that mean scores for both of these variables, differ significantly in the predicted direction between Group 1 and Group 2. This

is less rigorous than a correlational test which requires that individual pairs of scores must covary in similar degrees. Scores for Total Undecidedness on the CDS were significantly different between these groups, thus giving support to the assumption that the groups represent populations which differ on levels of undecidedness. Mean scores for interest differentiation, however, were not significantly different between the two groups ($p < .70$). Thus, the hypothesis is unsupported by the data.

Hypotheses 3 through 6 were proposed in order to provide additional opportunities for the examination of any relation between the dependent variables. Because of the previously determined heterogeneity of undecided populations (Holland and Holland, 1975; Elton and Rose, 1971; Harman, 1973) it seemed desirable, for data analysis purposes, to attempt divisions of this population into more homogeneous groupings. It was thought that such homogeneous groups might provide an opportunity for the observation of correlations and mean differences which might have been previously obscured in the "noise" of a heterogeneous population.

Data relating to Hypotheses 3 through 6 present a total of 13 correlations which provide a range of r values from .001 to .520. Examination of these

differences reveals no pattern with regard to sign (plus or minus) or degree. Differences appear to be random and uninterpretable.

Hypothesis 3 proposed that the correlations between Total Undecidedness and differentiation are higher for S's who are career decided or whose undecidedness is not a major concern, than for S's who are less decided and more concerned about their undecidedness. This represents an attempt to reduce the heterogeneity of the undecided population along the dimension of "urgency" which was reported by Holland and Holland (1977). Mean scores for the three homogeneous subgroups were also compared. Results indicate no significant difference between groups with regard to either mean scores for differentiation ($p < .537$) or variations in the differentiation/decidedness correlation ($r = -.178, .204, .246$) at the three levels of self-reported concern. Variation of mean scores for Total Undecidedness was statistically significant ($p < .01$), between levels of self-reported concern about decidedness/undecidedness.

Hypothesis 4 was proposed in order to provide a framework for examining differences in mean scores and correlation coefficients for differentiation and Total Undecidedness between sub-groups which were created

according to the number of jobs previously held by S's. This was to be a test of the notion that more job experience would develop higher differentiation scores and lower Total Undecidedness scores, thereby increasing the size of the theoretically predicted, negative correlation between these factors. No significant correlations were found in any group ($r = .239, -.092, -.004$). Mean scores for differentiation and Total Undecidedness were not significantly different between levels of job experience ($p < .683$ and $p < .163$, respectively).

Hypothesis 5 was intended to provide a basis for examining differences in mean scores and correlation coefficients between sub-groups which were distinguished on the basis of work salience. This was intended to be a test of the notion that differentiation and Total Undecidedness would fulfill theoretical expectations if sub-groups were homogeneously comprised of S's whose interests in careers were at similar levels. No significant correlations were found at the two levels of salience ($r = -.082$ and $.285$). Mean scores for differentiation and Total Undecidedness were not significantly different between levels of work salience ($p < .137$ and $< .489$, respectively).

Hypothesis 6 was intended to provide a basis for examining differences in mean scores and correlation

coefficients between sub-groups which were distinguished on the basis of college credits earned. This was intended to test the notion that differentiation and Total Undecidedness might fulfill theoretical expectations in subgroups which were homogeneously comprised of S's who had earned similar numbers of college credits. No significant negative correlations was found at any level of college credits earned ($r = -.097, .063, -.520, .001, .069$). Because no pattern of results exists, this data seems uninterpretable. Mean scores for differentiation and Total Undecidedness were not significantly different between levels of college experience ($p < .08$ and $< .183$, respectively).

Overall, the results have failed to demonstrate the theorized significant negative correlation between vocational interest differentiation and Total Undecidedness. Despite an older, more vocationally experienced sample, this outcome is very similar to that found in previous studies which have examined these dependent variables in college populations (Holland & Holland, 1977; Lunneborg, 1975). Considered cumulatively, results of research done to date seem to suggest either that the theoretical prediction is incorrect or that the methods used to measure the variables are invalid or

inaccurate. Whatever the ultimate resolution of this stalemate, it seems accurate and necessary to conclude, for now, that the interest differentiation score obtained by subtracting lowest VPI vocational scale score from highest vocational scale score, does not correlate in an interpretable way with Total Undecidedness.

In looking for ways to break this stalemate, it does not seem necessary - as it frequently has in the past - to consider alternative methods of measuring undecidedness. The CDS seems to have demonstrated its validity in this capacity by allowing for the expression of significant differences between groups of students who vary on levels of self-reported undecidedness and on their expressed need for vocational assistance. Attention in the future will most profitably be focused on the conception and measurement of differentiation.

If the concept of differentiation is in error, perhaps it is in assuming that the type of diffuse, abstract interest differentiation which is measured by the VPI vocational scale scores, is the type of interest differentiation which correlates with Total Undecidedness. It may be that the differentiation of interest which precedes and accompanies vocational decidedness is a more specific differentiation than is measured with

this instrument. Or, it may be that differentiation is a transient crystalization of interests which exists only briefly. In this view, relative undifferentiation - as found in this study - would be the normal state for individuals and differentiation would be found most prominently in individuals who are actively making or who recently completed vocational choices.

If the conception of differentiation is correct as it stands, it still is possible that the method chosen to measure it is inappropriate. The best way to seek a solution to this problem is simply to measure correlations between Total Undecidedness and every reasonable measurement of interest differentiation. This type of exhaustive effort to extend previous findings would be a pertinent contribution to research.

Researchers have a choice of several directions which might reasonably lead to further knowledge of vocational undecidedness and interest differentiation. One directions which seems especially important and promising is the examination of differentiation as a transient phenomenon.

CHAPTER VI

SUMMARY

The purpose of this paper is to report on the results of a study which examined the correlations of occupational interest differentiation and Total Undecidedness in an adult student population. Before describing the study or discussing its purpose or results, it will be useful to establish a broader perspective on the purposes and problems of research in this general area.

The nature and antecedents to vocational undecidedness have long been of interest of vocational counselors. If the causes of undecidedness were known, then it might be possible to take specific remedial or preventive steps and thus assist persons in moving toward sound choices. This practical need for knowledge has frequently been matched by a scientific and theoretical curiosity about the difference between vocationally decided and vocationally undecided individuals. From this combination of need and curiosity, has come a stream of research which has attempted to address the relevant questions (Ashby, Wall & Osipow, 1966; Baird, 1968; Elton Rose,

1971; Rose & Elton, 1971; Harman, 1973; Holland, & Nichols, 1964, Holland & Holland, 1977).

Most of this research has sought to compare decided and undecided students on a variety of social, personal, and academic variables. The specific aim of this work has been to identify characteristics which would permit identification and prediction of vocational undecidedness. Results to date have left much to be desired. In a recent review of the research literature Holland and Holland (1977) found that "few clear or compelling differences emerge" between decided and undecided students. Holland and Holland declared that the most striking outcomes of their literature review were the findings that decided and undecided students were so much alike and that the differences which had been found between them were so often conflicting and contradictory. These comments seem to fairly reflect the general inconclusiveness of research outcomes in this area.

During the course of these several investigations, one area of concern to researchers has shown evidence of significant improvement. This is the area of measurement of undecidedness. In earlier studies, students could be classified as only decided or undecided - no

gradations were possible. Several methods including self-report, status judgements and subjective observations were used to make this distinction, but none of these methods provided an alternative to the basic, simplistic bi-polar arrangement. In several recent studies, however, the Career Decision Scale (Osipow, Carney, Winer, Yanico & Koschir, 1976; Osipow, 1979) has been used. As it provides a continuous scale of undecidedness and has demonstrated validity as a measure of undecidedness, it seems to offer especial usefulness in correlational studies such as the present one.

Holland, (1973) in presenting the concept of interest differentiation and proposing a link between it and vocational undecidedness, provided the impetus for for a new sub-area of undecidedness research. It is to this sub-area that the present study belongs. Basically, Holland proposed that a person with high differentiation of occupational interests would have high vocational stability. Conversely, a person with a low differentiation score would have low stability, or be undecided. Research, however, has not supported this theorized negative correlation between undecidedness and interest differentiation (Holland & Holland, 1977; Lunneborg, 1975; Kazin, 1977; Cellini, 1978). This lack of support has

been repeated despite several attempts to improve the measurement of interest differentiation and thereby increase its correlation with undecidedness. None of the several alternatives so far attempted has shown itself to be more useful than the original method proposed by Holland (1965).

The present study represents an attempt to test the hypothesized negative correlation between undecidedness and interest differentiation. The Career Decision Scale (CDS) has been used to measure Total Undecidedness. The Vocational Preference Inventory provided scores from which interest differentiation was computed. The sample was comprised of 81 students, older than 20 years, with considerable work experience, who were enrolled in college courses through the Division of Continuing Education of Ohio State University.

Six hypotheses, based on Holland's formulations, were tested. The data collected did not support any of the hypotheses. Correlations between the dependent variables were insignificant or in the positive (rather than the negative) direction. Mean differences for interest differentiation were shown to be insignificant between groupings based on: request for vocational guidance; sex, work salience; job experience; college

credit hours; and self-reported levels of undecidedness. The CDS, on the other hand, indicated significant mean differences for Total Undecidedness between groups distinguished by expressed need for vocational assistance and by self-reported levels of vocational undecidedness. The latter results support the validity of the CDS as a measure of undecidedness.

Results of this and other studies suggest that interest differentiation, as conventionally measured, does not correlate significantly with undecidedness. Possible explanations for this situation include: improper measurement of the differentiation construct; invalid conception of differentiation as a stable variable; invalid conception of differentiation as a general orientation toward the occupational world rather than a reaction to specific job choices; and an overestimation of the role of differentiation in contributing to undecidedness. Future researchers might do well to examine the alternative methods and concepts suggested by these and other possible explanations.

APPENDIX A

Frequency Data For Career Decision Scale

Score	Frequency	Cum Freq	Percent	Cum Percent
16	3	3	3.704	3.704
17	1	4	1.235	4.938
18	1	5	1.235	6.173
19	3	8	3.704	9.877
20	1	9	1.235	11.111
21	3	12	3.704	14.815
22	1	13	1.235	16.049
23	4	17	4.938	20.988
25	3	20	3.704	24.691
26	3	23	3.704	28.395
27	1	24	1.235	29.630
29	1	25	1.235	30.864
30	5	30	6.173	37.037
31	4	34	4.938	41.975
32	8	42	9.877	51.852
33	4	46	4.938	56.790
34	2	48	2.469	59.259

APPENDIX A (continued)

Score	Frequency	Cum Freq	Percent	Cum Percent
35	1	49	1.235	60.494
36	3	52	3.704	64.198
37	5	57	6.173	70.370
38	3	60	3.704	74.074
39	1	61	1.235	75.309
40	2	63	2.469	77.778
41	2	65	2.469	80.247
42	2	67	2.469	82.716
43	5	72	6.173	88.889
44	2	74	2.469	91.358
46	1	75	1.235	92.593
47	1	76	1.235	93.827
50	1	77	1.235	95.062
51	2	79	2.469	97.531
54	1	80	1.235	98.765
63	1	81	1.235	100.000

Date of Birth / /
Sex M F

Today's Date / /

1. Are you decided on a career or major?
A. ☐ Yes, and my intended career area is _____
(Please be as specific as possible.)
B. ☐ No, and my undecidedness is... ☐ not a major problem now.
☐ something I am resolving gradually.
☐ my major concern right now.
2. Approximate number of years in the work force since high school. _____
(Please include time spent in homemaking and military service.)
3. Your best estimate of the number of jobs you have held. Include major part-time jobs, significant promotions, and changes of employer or job site. Include homemaking and military service if applicable. Circle one of the below.
a) 1 b) 2 c) 3 d) 4-7 e) 8-11 f) more than 11
4. Your present official job title. _____
(Please indicate "homemaker" if applicable.)
5. Work is (Check one.)
☐ a) The most important source of life satisfaction for me.
☐ b) One of two or three very important sources of life satisfaction for me.
☐ c) Important, but there are several more important sources of satisfaction.
☐ d) Not a major source of life satisfaction for me.
6. Approximate number of college credit hours earned to date. _____
7. What was your "major" in any studies you have undertaken since high school?
_____. Indicate "no major" if applicable.
8. My plans for college study are....(Check as many as you desire then rank order those you check.)
☐ a) Important to me because they will allow advancement in my present career.
☐ b) Important to me because they will help me implement a career change.
☐ c) Important to me because they will provide opportunity to learn new skills
☐ d) Important to me because they provide the opportunity for new experience.
☐ e) Important to me because they provide the opportunity to meet new people.
☐ f) Not that important to me.
9. I would like to be contacted for individual interpretation of test results and additional advice. ☐ yes ☐ no
Name _____
Home phone number _____
Work phone number _____

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