

DEVELOPMENT OF A LEISURE/WORK INTEREST INVENTORY

by

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Chapter 1

INTRODUCTION

There is a growing public awareness in this country of the availability of leisure, and the effect it can have on our individual lives. Recognition of leisure needs have been illustrated by recent articles in Parade: "They'll Help Organize Your Time" (Kiestler, 1979) and a follow-up article by Madelyn Carlisle "Is Your Fun Too Much Work" (October, 1981). The 1970's seemed to have been a period of leisure research and development of leisure interest assessment devices. This can be illustrated by the publication of the Journal of Leisure Research and publication by a major test publisher of the Leisure Activities Blank (LAB) (McKechnie, 1975). These developments have come about basically because the variety of possible leisure activities has been expanding so rapidly that effective individual choice processes have been unable to keep up (Walsh, 1977).

The process of assisting individuals in their leisure decision-making has been increasingly identified as being of a general counseling nature (McDowell, 1975; Hayes, 1977; Mitchell, 1979). This movement toward use of a general counseling approach has led a long-time leisure counseling practitioner to conclude that while leisure counseling as a distinct specialty has been significant, it is now time to consider it part of the general counseling field (Bloland and Edwards, 1980).

From another perspective, career counselors were recognizing leisure as an important component of a career (Allen, 1980; McDaniels, 1977; Winters & Hansen, 1976; Wrenn, 1973). Full recognition of leisure as a counseling concern was reflected by the fact that the highly respected journal The Counseling Psychologist (Oct. 81) devoted an entire issue to leisure topics. Further evidence for adding leisure to a career counseling approach came recently from Rummer and Kahnweiler (1981). From their study of college students' perception of work, leisure, and the future, they concluded that career, leisure planning, and decision making should be integrated into the career guidance process.

It has been demonstrated that leisure counseling is a legitimate concern in our society. It is the thesis of this study that the best approach to leisure counseling is to integrate it into the general counseling process. Modern career counseling, which includes values clarification, assistance in identification of interests and abilities, and help in the decision-making process, is recognized as appropriately including leisure counseling. Both therapeutic recreation and vocational rehabilitation counseling are properly the concern of specialists. For general counseling for life satisfaction, however, both work and leisure are proper concerns of the career counselor.

Need for Study

In the 1960's Hubert (1969) recognized a need for a special instrument to assist in leisure counseling. At that time there were no interest inventories that presented leisure options to counselees. Career counseling inventories of the time were not appropriate for leisure counseling. Following Hubert's lead, several leisure inventories were developed to fill the need for a leisure counseling instrument.

To initiate her research in developing a leisure counseling model for normal populations, Mitchell (1979) extensively reviewed the literature and identified eighteen leisure counseling instruments as being used the most with normal populations. A recent search of the literature conducted by this writer confirmed this list and revealed only one other inventory of possible use. Mitchell's list of eighteen could be reduced to seven when inventories referring to values, temperaments or attitudes were deleted. Two of these seven leisure interests inventories, the "Computer Research Avocational Guidance Program" by Lawrence C. Hartilage and the "Avocational Activities Interest Finder" by Natalie D'Agostine were no longer available. The remaining five inventories, the "Leisure Interest Inventory," by Edwina Hubert; "Leisure Activities Blank," by George McKechnie; "Mirenda Interest Finder," by Joseph Mirenda; "Self Leisure Interest Profile," by Chester McDowell, and "Constructive Leisure Activities Survey," by Patsy Edwards, plus the "Leisure Inventory," by Carl McDaniels were reviewed extensively;

they contributed significantly, along with the career inventories listed in Chapter Three, to the development of the Leisure/Work Interest Inventory.

To determine the usefulness of leisure inventories, Mitchell (1979) analyzed the relationship of like-named scales of the "Leisure Activities Blank," the "Mirenda Interest Finder" and the "Constructive Leisure Activities Survey." Five scales were identified as being common to the three inventories: Crafts, Intellectual, Sports, Arts and Service. A fairly high correlation was found for the Crafts scales among the inventories. Some relationships among the inventories was also found for the Intellectual and Sports categories. There was no significant correlation found for the Arts and Service scales. To increase interpretability, Mitchell added the Basic Interest Scales of the Strong Campbell Interest Inventory - a standard career counseling instrument.

Mitchell found it necessary to develop a summation process in which several leisure inventories, plus a traditional career inventory, were needed to clarify leisure interest areas. Use of several interest inventories to begin a counseling process seems unnecessary, time consuming, and unwieldy. The major problem, however, in giving work and leisure equal weight in career counseling is that there is, at present, no single instrument available to assist in initial counseling of an individual other than those which either emphasize leisure to the exclusion of work, or

emphasize work and consider leisure an afterthought. As noted previously, in the late 1960's and into the 1970's, several instruments were developed that concentrated exclusively on leisure activities. From the time of the development of Strong's inventories for vocational counseling, leisure type items might well have been used, but only to be scored for occupations. Therefore, persons interested in leisure counseling developed leisure inventories, and persons interested in vocational counseling developed vocational inventories which concentrated on occupational interest outlets. Both of these types of inventories can still be useful for detailed exploration of work or leisure activities. However, what was needed was a single instrument which immediately creates an awareness for interest outlets in a combination of leisure and work activities. This initial counseling approach will then give proper and immediate recognition to leisure as a legitimate career concern along with the more traditional work activities options.

Developmental Design

To respond to this need for a new type of counseling instrument, and interest inventory giving equal attention to leisure and to work options will be developed. The instrument is intended to assist in initiating the counseling process. Therefore, the instrument will be brief, easily administered, quickly scored, and have interest categories that are readily recognized by the counselee and seen to be appropriate for either work or leisure.

In answer to Loesch's (1980) criticism that leisure inventories lack any underlying rationale, this inventory will be based on a definite rationale. Career inventories, until integration of Holland's (1973) or Roe's (1972) theories into their structure, similarly lacked any theoretical approach. In the development of this inventory, a connection between basic orientations to facts or ideas, or people or things for either work or leisure activities will be shown (Prediger, 1981). Within this two dimensional structure of dimensions of Facts/Ideas and People/Things, basic interest categories will be developed. Basic interest categories such as "Nature", "Travel", "Sports", and "Social Relations" are utilized because they are readily understood and lead easily to exploration of work or leisure options. Specific items used in the development of the basic interest scales will be selected based on their being equally applicable to work and leisure. For example, a liking for "being in the woods" could apply either to camping out or to being a forest ranger or both.

For development of this instrument the following research questions will be answered:

- 1) Can items deliberately selected and designed to be equally appropriate to work and leisure activities resolve, on analyses, into the hypothesized basic interest categories?

- 2) Based on subsequent analysis, will the initially designed categories be separate and independent enough to justify their existence?
- 3) Will the high point scores on the basic interest scales be consistent with the choices of individuals for specific work or leisure activities?

Validity and Reliability

Content validity will be established in two ways for the scales. First, a thorough reading of the literature will enable a comparison of interest categories found relevant to both work and leisure interest domains. From this a comprehensive list of interest categories and items can be obtained. Then selection of specific items and categories will be confirmed by independent judges. Concurrent validity will be established by subsequent testing of community college students and adults with the new inventory, to compare their actual current work and leisure activities with high point scores on the inventory.

Reliability of the instrument will be estimated both by internal consistency estimates of the scales (Chronbach Alpha) and by test-retest reliability. Two weeks to a month after the original validation group is tested a portion of the original group of subjects will be retested to get an estimate of the stability of the scales.

Limitations

The target population chosen for this research is deliberate. Elementary and secondary school students are excluded. They certainly have need for leisure activities but their activities are determined in a different way and are frequently different in nature from adult activities. Similarly, retirees' types of activities, concerns, and work and leisure options are different from the target group, which is a wide range population of college students and adults from approximately age 18 to 65. Studies have shown that this group has the most concern about leisure and work options.

Definition of Terms

Work - Engagement in an activity that is an attempt to satisfy at least the need for security, but also has the potential to satisfy higher order needs such as altruism, interest in the activity itself and creativity.

Leisure - Any activity which an individual knowingly (i.e. consciously) defines to be leisure (Loesch, 1981, p. 59).

Career Development - The total combination of the psychological, socioeconomic, physical, educational and cultural effects throughout life on the roles of leisure and work.

Career Counseling - Assisting individuals in the career development process.

Summary

Awareness of the need for identifying appropriate leisure options has led to the development of a leisure counseling emphasis. To assist in leisure counseling special leisure inventories were developed. As a separate specialty, leisure counseling is rapidly becoming a thing of the past and is being integrated into a broader concept of career counseling. Past career counseling instruments dealt with work options only and leisure inventories dealt with leisure options only. To meet a need to assist counselors in modern career counseling which recognizes both leisure and work, a new counseling instrument is needed. To meet this need the Leisure/Work Interest Inventory will be developed. This instrument will give immediate recognition to both work and leisure options as viable life activities separately and integrated in career development.

Organization of Chapters

Chapter One discussed the increase in awareness of leisure, and the need for leisure counseling; established a need for a new counseling instrument; and presented an overview of the development of such an instrument. Chapter Two is a review of the literature. Here the complex nature of the relationship work and leisure is discussed. Theories and definitions of leisure are presented. Then a connection between needs, values, and interests is shown. Chapter Three concerns the development of the

Leisure/Work Interest Inventory. A rationale for use of inventories is provided. A development of the specific scales is described, methods of analysis are detailed, and finally, the results of the development of a preliminary instrument are described. Chapter Four will discuss results of the reliability and validation studies. Chapter Five will be a summary and conclusion.

Chapter 2

REVIEW OF THE LITERATURE

Topics deemed important to the rationale for establishment of a Leisure/Work inventory, and a basic structure on which to organize the inventory are covered in this literature review. Many developments, especially those in the 1970's have indicated a need for leisure counseling. Modern approaches to career counseling incorporate leisure in the career development definition. Work-leisure relationships are shown to be potentially quite complex. Satisfaction of intrinsic needs is a common bridge between work and leisure. The two dimensions of People versus Things, and Facts versus Ideas, can serve as a structure on which to organize basic interests that apply to both work and leisure activities.

The Need for Leisure Counseling

Both public and professional publications in the 1970's and now in the 1980's reflect a growing awareness of the importance of leisure and the need for leisure counseling. Kaplan (1975) goes so far as to state "the primary value of mankind in industrial society is leisure." A developing concentration on leisure in the 1970's appears to reflect a change in values. This change in values has been documented in Yankelovich's book, New Rules (1981).

According to Yankelovich, work has grown less important and Americans are searching for self fulfillment rather than adopting the self denying ethic of earlier years. Whether in work or leisure or in some other aspect of life, self fulfillment is the goal. Confirmation of the need to look beyond the work role as ones source of identification, came from Warnath (1975). Warnath stated that confirmation of individual worth through work has been severed for the great majority of our population. This has resulted in a need for counselors to assist persons in locating sources of satisfaction outside of employment in order to gain more meaning in life. Changes other than values have also contributed to the increase in attention to leisure. Obviously, technological advances have lessened the amount of time required for daily home maintenance duties and freed more time for leisure. To a certain degree, in some places, the number of hours worked per week has decreased. Thanks to the Federal Government, the three day weekend has become common for all of us. This increasing time which can be seen as free time, plus a marked increase in number and types of leisure activities have led to a need for assistance for some individuals in finding satisfaction among the host of options.

That there is a need for leisure counseling has been evident by the number of articles and books published on the subject. In addition, the establishment of leisure counseling centers, or at least leisure counseling components in established counseling centers, has reflected the presence of such a need.

A computer search of the ERIC data base from November, 1966 through December, 1979 (Loesch, 1980) identified 81 articles related to the topic of leisure counseling. This search did not include the Journal of Leisure Research and the Journal of Leisurability, two journals established in the 1970's specifically on the topic of leisure. Articles on leisure counseling are being published in ever increasing numbers. As noted in the introduction, The Counseling Psychologist (October, 1981) devoted an entire issue to articles on leisure counseling. Entire books have been published on the topic of leisure counseling. Foremost among these books are the publication by McDowell, Leisure Counseling: Selected Lifestyle Processes (1976), and Avocational Counseling by Overs and Taylor (1977).

Leisure Theory

At first it seems to be simple and obvious to describe and define leisure. However, upon closer examination both laymen and theorists have great difficulty in describing leisure. Is leisure simply free time; a state of mind; need satisfaction; a compliment to work; the opposite of work, or something else? There are no developed theories as yet to help answer this question. Models exist, however, that outline the variables assumed to be important to the concept of leisure. Discussions exist in the recent literature that review the many explanations of leisure (Peevy, 1981; Loesch, 1980). The three models reviewed here were chosen for review

because they are current, explicit, and represent three different approaches to the understanding of leisure.

First, Kaplan (1975,1978) takes a broad interdisciplinary approach to the understanding of leisure. Additionally, Kaplan has integrated the concepts of European as well as American writers. Kaplan's model consists of sixteen different variables at four different levels in a dynamic relationship (See Figure 1). At the first level, the variables of leisure which are A, Condition; B, Selection; C, Function; and D, Meaning, enter into a dynamic relationship: if a change occurs in one variable (e.g., A, Condition), then variable B, C, and D will be affected. Variable A, Condition of Leisure, includes such factors as age, sex, income and education. Variable B, Selection, is the choice process that leads to selection of a specific leisure activity. Variable C, Function, concerns the intention of an activity as well as the effects of the activity - one a psychological effect, the other a sociologic effect. Variable D, Meaning, is the essence of the leisure act to the person, or onlooker, or society.

Level II concerns the dynamics of clusters in leisure. A cluster exhibits a set of characteristics sufficiently important to distinguish it from other clusters. Cluster A, Person-Family, illustrates the Kaplan's point that for the study of leisure the person cannot be separated from family influences. Cluster B is Group-Subculture. The group is composed of persons the individual

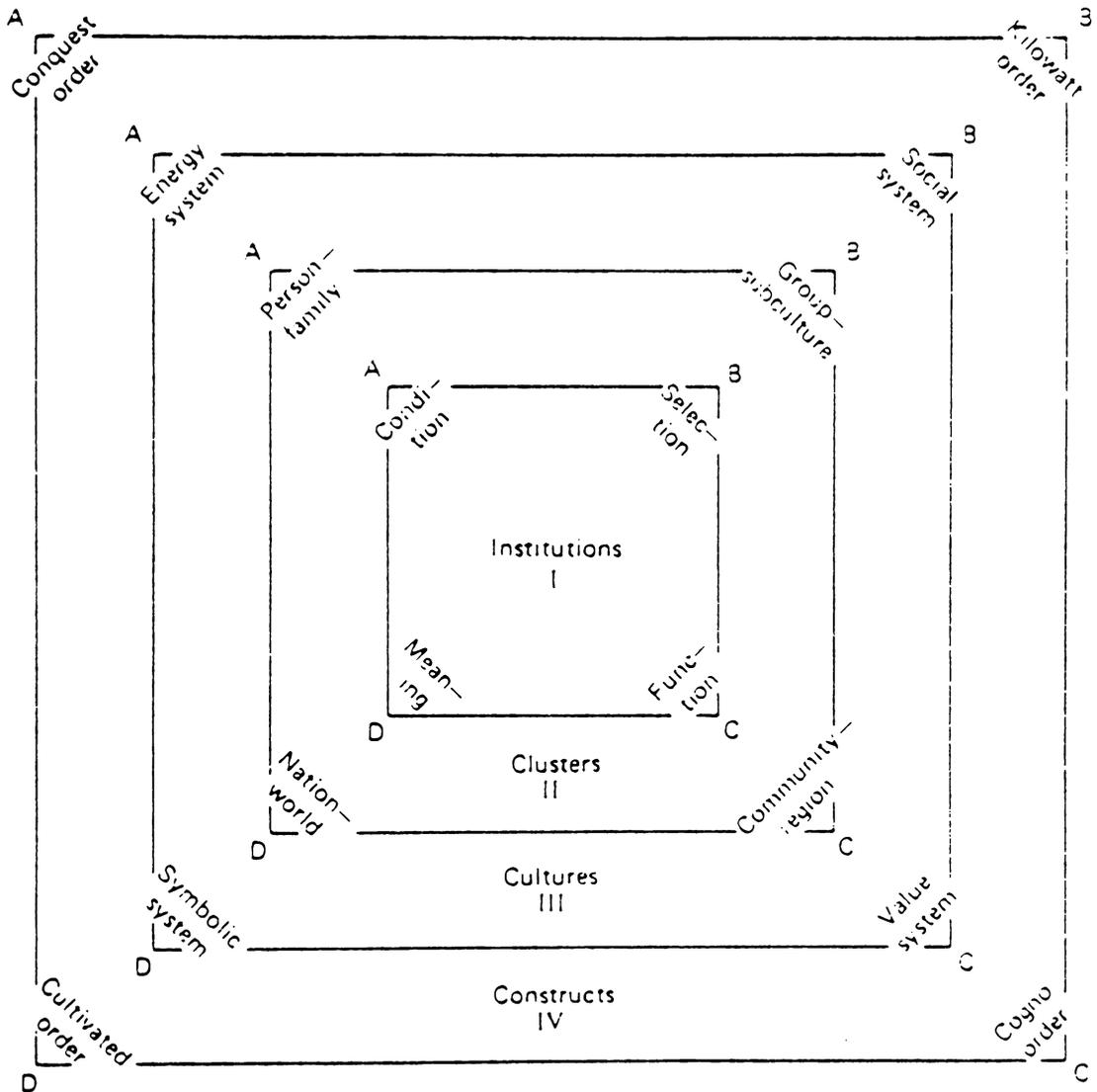


Figure 1 Kaplan's Leisure Model

Source: Max Kaplan. Leisure Theory and Policy.
 New York: John Wiley, 1975, p. 33.

knows or with whom she or he has direct contact. The subculture is a broader term applying to youth, retirees, suburbanites, etc. Cluster C, Community-Region, involves the life and values of a particular community and the region beyond the community as the next natural area. Cluster D, Nature-World, is the effect of national and world influences through reading, tourism, television, news, etc.

The dynamic effect of culture upon leisure is the concern of Level III. Cultural effect A is the Energy System. This system involves the total production and control of resources used or available to society. Effect B, the Social System, involves the structure and organization of persons into society. Effect C, the Values System, concerns the effect of the nature of society's values. And Effect D, the Symbolic System, illustrates how leisure can be utilized as a symbol. (For example, as behavior of the rich).

Broad constructs in leisure represent the fourth level of Kaplan's model. A conquest Society, A, illustrates the effects of conquests over nature on leisure. The Kilowatt Society, B, a machine powered society, involves machines replacing muscle and a flow toward urban centers changing the nature of leisure. The Cogno Society, C, Characterizes our society as a time of acquiring great knowledge but also of great doubting or reassessing. Finally, the Cultivated Society, D, is a world-wide society

showing world styles in art, architecture, music and other aspects. Kaplan's model does little to explain the dynamics and interaction of leisure. It does, however, outline most of the conceivable variables involved in leisure to assist in further thorough investigations.

Second, Kelly (1978) presents a model of leisure revised by field research from a model originally differentiating the types of leisure from nonwork. The original model was based on an extensive analysis of both modern and classic definitions of leisure. Kelly takes a sociological approach to the conception of leisure. The unique part of Kelly's approach was to take an original conception and then subject it to a wide ranging field test.

In building the original model Kelly noted that central to all leisure conceptions was the element of freedom of choice. Explicit in most, and implicit in many other theories, was a distinction between leisure which is not a required activity and work which is both a social and personal necessity. Therefore, Kelly built a two-dimensional model utilizing the dimensions of social constraint and work relation. This model resulted in classifying three types of leisure and one type of required activity. The first and purest type of leisure was low both in social constraint and work relation, and was called unconditional leisure. This is an activity chosen for its own sake, providing

intrinsic satisfaction. Coordinated leisure involves skills similar to those involved in work, but is chosen in relative freedom from work or other roles constraints. Complimentary leisure is high on social constraints but complements work in being a rest from employment demands or in building personal relationships. The last category is not a leisure activity, for the activities are high in work relation and high in social constraint. These activities are done to maintain the person and dependents.

Subsequent field research done with a sample of people from three different cities on the perceived meaning of leisure confirmed the importance of leisure as a compliment to other social roles, but did not confirm a relationship to work itself as important for differentiating types of leisure. Work relation was then subsumed under a broad constraint-freedom dimension in the revised mode. Rather than work relations, a second dimension that emerged was an intrinsic-social meaning dimension (See Figure 2).

Cell 1, Unconditional leisure, is an activity chosen for intrinsic satisfaction and is done for its own sake. Cell 2, Recuperative leisure, represents recovery from constraints including employment or other required activities. Cell 3, Relational leisure, is an activity that is engaged in primarily for social satisfaction. Cell 4, Role-determined leisure, is a leisure activity also, but has a heavy obligational element. In this revised model leisure can be classified according to perceived

FREEDOM

		HIGH	LOW
Meaning	Intrinsic	1. Unconditional	2. Compensatory/ Recuperative
	Social	3. Relational	4. Role-determined

Figure 2 Kelly's Leisure Model

Source: Kelly, Jr. A revised paradigm of leisure choices. Leisure Sciences, 1978, p. 359.

meaning and satisfaction rather than as a distinction from work. The two chief orientations to leisure are seen to be intrinsic and social.

Kelly concludes that his revised model represents a consequence of traditional definitions of leisure as freedom combined with the modern concept of intrinsic motivation. Elements added by Kelly's model are that leisure satisfaction may be social as well as intrinsic and that freedom is relative rather than absolute. Leisure then is conceived to be not just a state of mind but some kind of activity in a social and environmental context that is perceived as free and satisfying to the person.

Third, Neulinger's (1981) approach to the understanding of leisure was developed from a psychological point of view. Leisure is conceived of as a state of mind or an experience. Neulinger states that the purpose of his model is to classify states of mind and not people, activities, or life situations. These states of mind may be of varying duration and an individual may fluctuate among different states. The primary dimension of leisure is perceived freedom (the emphasis is on perceived). An emphasis on perceived freedom avoids the problem of defining freedom and allows a focus on the phenomenological level. The freedom dimension is then broken down into perceived freedom and perceived constraint categories. The model further distinguishes the freedom and constraint categories in terms of a second variable, "motivation". Motivation can be intrinsic, extrinsic or both. If the satisfaction gained

stems from the activity and not from a payoff or consequence of the activity, then the behavior is judged to be intrinsically motivated. The activity is extrinsically motivated if satisfaction comes from the payoff only. Figure 3 shows the model.

Pure leisure (Cell 1) is a state of mind brought about by an activity freely engaged in and done for its own sake. It is an ideal. Leisure-work (Cell 2) is a state of mind brought about by an activity freely engaged in and providing both intrinsic and extrinsic rewards. Leisure-job (Cell 3) is a state of mind brought on by an activity freely engaged in, but providing satisfactions only in terms of its consequences. An example is exercising to maintain health, but not on doctor's orders. Pure work (Cell 4) is a state of mind characterized by an activity engaged in under constraint but providing intrinsic rewards. An example given is a professor engaged in research as an intrinsic activity yet aware of a need for a paycheck. Work-Job (Cell 5) is a state of mind characterized by an activity engaged in under constraint. The average employment situation which may provide both intrinsic and extrinsic satisfactions is an example. Pure Job (Cell 6), is a state of mind engaged in under constraint with no intrinsic reward. A job one must do to earn a living is the example. The first three cells (leisure) all share the essential condition of the person perceiving her or himself as the originator of the activity and not under constraint to quit or continue. Cells four through six (Non Leisure) all share a sense of constraint and a lack of perceived freedom.

FREEDOM					
Perceived Freedom			Perceived Constraint		
Motivation			Motivation		
Intrinsic	Intrinsic & Extrinsic	Extrinsic	Intrinsic	Intrinsic & Extrinsic	Extrinsic
1. Pure Leisure	2. Leisure-Work Leisure	3. Leisure-Job	4. Pure Work	5. Work-Job Non Leisure	6. Pure Job

Figure 3 Neulinger's Leisure Model

Source: Neulinger, J. Introduction to Leisure. 1981, p. 30.

Leisure Definitions

A review of the literature on leisure topics reveals that there are a great many definitions of leisure that vary considerably. Two recent reviewers have arranged these definitions into broad categories. Loesch (1980) identified five major categories of definitions:

- 1) Time-based - leisure is viewed as something one does in time left over after time spent on something else.
- 2) Activity-based - An activity engaged in by personal choice (after required activities are completed).
- 3) Work-related - compensatory leisure where an individual fails to fulfill needs through work and thus finds such fulfillment in leisure or spillover leisure where an individual fulfills needs through work and continues to find fulfillment through work related leisure activities.
- 4) Psychological - focus is on the subjective nature of the human experience. Inherent in these definitions is an emphasis on personal freedom of choice.
- 5) Composite - attempt to describe leisure in comprehensive terms as Kaplan does (1975).

Peevy's (1981) extensive review of the literature on leisure has resulted in the following categories of leisure definitions:

- 1) Classical - leisure is conceived to be a state of being, a condition of the soul.

- 2) Empirical - leisure viewed as of secondary importance to work.
- 3) Residual - what is to be taken out of total time in order that leisure should remain.
- 4) Normative - stressing the quality of leisure.
- 5) Holistic - presenting aspects of activity, attitude and setting for a total concept.

The summary listings of the definition of leisure are not significantly different. The specific meanings of leisure, however, vary considerably, from time left over after work to a self perceived psychological state. Loesch (1981) after reviewing the range of leisure definitions again and noting weakness, arrived at another definition. This definition states that: "Leisure is whatever an individual knowingly (i.e. consciously) defines to be leisure." Loesch states that this definition was created specifically for leisure counseling purposes. Advantages of this definition are first, that it avoids the concept of residuality; second, it emphasizes personal freedom of choice; third, it incorporates the concept of conscious awareness; and finally, it is an activity based definition.

Leisure Counseling Approaches

The beginning of leisure counseling can be traced back to the mid 1950's. At that time, leisure counseling was basically applied in a therapeutic recreation setting to help mentally retarded and

emotionally disturbed persons develop beneficial leisure behaviors (Chase, 1977). Many contemporary approaches are heavily influenced by a therapeutic recreation background, but have been expanded to other populations. Loesch (1980) maintains that current approaches to leisure counseling can be associated with three professional groups. One group is the physical education and recreation specialists who frequently use the term recreation counseling to identify their approach. Rehabilitation counselors are a second group that emphasize the therapeutic potential of leisure activities. The third group includes school counselors, mental health workers, and counseling psychologists. Counselors stress the psychological aspect of leisure activities and through leisure counseling help people find leisure activities that are intrinsically meaningful.

Several comprehensive reviews of contemporary approaches to leisure counseling exist, including recent reviews by Mitchell (1979), Loesch (1980), and Peevy (1981). From the counseling psychology point of view Tinsley and Tinsley (1981) provided the most recent review of leisure counseling approaches. They view previous works on leisure counseling to have serious limitations. Past leisure counseling approaches have narrowly focused on leisure activity choice only and put an emphasis on dealing exclusively with leisure concerns. A two-dimensional classification scheme was utilized by Tinsley and Tinsley to identify the various leisure counseling

approaches. One dimension is type of relationship, which ranges from information giving to counseling. The other dimension is the goal of leisure counseling, ranging from activity selection to personal growth. Four categories of leisure assistance result from this scheme labeled "Leisure Guidance," "Leisure Decision Making," "Leisure Counseling," and "Leisure Education." Leisure Education under the Tinsley and Tinsley classification does not include any leisure assistance approaches.

Approaches of leisure assistance that are identified as leisure guidance rely primarily on information giving techniques and are intended to help the client choose an appropriate leisure activity. Edwards (1977), and later assisted by Bloland (Edwards and Bloland, 1980), is one example of this type of approach. Edwards' original approach to leisure guidance resulted from her offering a private service to community adults in the Los Angeles, California area. Initially Edwards' approach was to assess an individual's interests via a structured interview, or possibly an interest inventory, and then refer to a specific leisure activity. The focus of the session was on gathering factual information and then giving information on where to locate a specific leisure activity. Tinsley and Tinsley (1981), quoting mostly from Edwards' (1977) book, concluded that her approach had little to offer the professionally sophisticated counselor.

In 1980 Edwards joined Dr. Paul Bloland, Chairman of the Department of Counseling at the University of Southern California

to propose a leisure counseling model (Bloland & Edwards, 1980). This model has a leisure life style awareness and leisure resource guidance focus for normal populations using the traditional trait-factor vocational guidance approach. Four principal steps are involved in a sequential process that may take as few as one, or up to seven hours. The process starts with a structured interview to collect information on leisure activities, transferrable skills, and possible limits to leisure. If needed for further interest clarification, interest inventories may be utilized as the second step. Step three involves analysis of the collected information by the counselor to determine the client's values and interests in order to select appropriate leisure activities. The Edwards and Bloland approach puts a heavy emphasis on counselor diagnosis and counselor suggestions.

Leisure decision-making is toward the counseling end of the relationship dimension. Unlike leisure guidance models these approaches offer some hint that the goals of leisure counseling are conceptualized more broadly and/or the affective qualities of the relationship are important. Three frequently cited models classified in this category are Hayes (1977), McDowell (1977), and Overs (1977). Hayes' model of leisure decision-making resulted from his work in a program to help retarded individuals adjust to community living. His model, however, is presented as being applicable to a variety of programs. A special concern of Hayes

is the qualification of a professional leisure counselor (1977). An in-depth interdisciplinary approach to academic preparation is advocated. The social, physical and psychological aspects of the individual need to be well understood, and the counselor must be able to facilitate both individual and group interactions. The actual process of leisure counseling, according to Hayes, includes goal setting, value and attitude clarification, and gaining self confidence and self esteem. The specific steps in the model are: 1) entry into a program, 2) initial contact to establish rapport and gather information, 3) counselor consultation with a rehabilitation team or its equivalent, 4) development of an individualized program for the counselee, 5) actual provision of counseling, 6) pre-discharge session, 7) discharge from the program and follow-up assistance, 8) evaluation and assessment of the counselee's ultimate community involvement. This approach involves much more overall client contact than Edwards' approach. In addition, there is emphasis on building self-esteem and a careful follow-up procedure.

McDowell (1976) proposed an approach to leisure assistance which emphasized rational decision-making. The ultimate counseling goal was to help the counselee develop independent responsibility for his or her choices. Additionally, from his studies, McDowell concluded that leisure counseling has positive effects on leisure attitudes, leisure self concept, and work self concept. Specific

steps in the model are: 1) identification of general leisure goals, 2) identification of underlying needs, 3) identification of specific lifestyle criteria, 4) identification of possible obstacles, 5) identification of leisure alternatives and clarification of the consequences of each alternative, 6) identification of leisure resources and planning for involvement, 7) participation in the activity and evaluation of the action, and 8) termination of the counseling relationship plus later follow-up evaluation. A special concern of McDowell's was the need to integrate theory into leisure counseling practices (1977).

According to Tinsley and Tinsley (1981) the most extensively applied and the most thoroughly evaluated leisure counseling model to date is that of Overs (1977). The Overs decision-making model differs from the models of Hayes and McDowell in its focus on the total individual and its attention to the counseling relationship. Personal adjustment problems, in regard to participation in leisure activities, are given special attention. Mothers may have guilt feelings about taking time for leisure. Some individuals fear competitive or new situations. Overs' model was adapted from vocational counseling approaches. Generally, it consisted of helping counselees in identifying interests, abilities, and limitations and in exploring the total range of leisure choices. Specific steps are: 1) identification of interests and specifying physical, mental, and emotional limits; 2) exploration and identification of

leisure alternatives; 3) location of community sources; 4) trial of one or more activities. Overs felt that counseling psychologists, because of their understanding of motivation, adjustment problems, human development, the decision-making process, values clarification techniques, and their ability to use psychometric instruments, were the best qualified professionals to conduct leisure counseling at a sophisticated level.

Leisure counseling, as opposed to leisure decision-making assistance, involves a focus on the total individual and conceives of the goal of leisure counseling as contributing to the overall self actualization of the individual. The Tinsley's presented their own approach to leisure counseling as being nearest the optimal approach (Tinsley & Tinsley, 1981). The approach was designed to help counselees enhance their self actualization through enrichment of their work and leisure experiences. Goals of the approach were to help a counselee gain greater self-awareness, assume greater responsibility for his/her own behavior, and identify and implement desired changes to enhance his/her self actualization. The first step in the counseling process was to have counselees describe feelings, beliefs, values and characteristics about themselves which includes an assessment of current styles of living; then Maslow's need hierarchy was explained; following that, counselees discuss their personal definitions of work and leisure; next a discussion of how counselees can promote their personal growth

through modification of their attitudes toward work and leisure; personal journals on the use of time and satisfactions gained help identify unacceptable feelings and styles of living; then personal contracts for change in leisure and other life aspects are made; finally, possible barriers are identified and actual leisure participation is begun. Tinsley concludes that as increased self responsibility and personal power replace passivity, counselees choose new goals and begin implementing self-directed changes in leisure and other behaviors.

Other approaches which are not reviewed by Tinsley and Tinsley but are worth mention because they are recent models and designed for "normal" (non therapeutic) populations, are those of Mitchell (1979), Peevy (1981), and Seligman (1980). Mitchell (1979) expressly set out to build and test a counseling model for normal populations. Leisure attitudes, values, and activities are all considered in Mitchell's approach. The model consists of the following steps: 1) assessment of attitudes, activities and values, 2) a leisure counselor planning process, 3) client-counselor planning, 4) implementation of plans, 5) evaluation of actions taken and 6) termination of counseling.

Peevy (1981) has taken a life stage approach to leisure counseling. Her review of life stage theorists resulted in a five-stage counseling model. Stage one is the childhood-adolescence stage, ranging from age 6 to age 18; Stage two is from 18 to 30

and is titled the young adulthood stage; Stage three, Middlecence I, is from age 30 to 50; Middlecence II is from ages 50 to 70, and late adulthood is age 70 and over. Peevy has identified leisure developmental tasks and specific counseling objectives for each stage to assist the developmental leisure tasks and specific counseling objectives for each stage to assist the developmental leisure counselor.

Seligman (1980), in an assessment approach to career counseling, has also identified life stages and specific tasks for each stage. Seligman has included both work and leisure tasks in each of the life stages. Seligman's approach, therefore, is a broader approach to developmental counseling including both work and leisure.

Finally, the most recent work of Edwards, although largely still a guidance approach, seems to be moving more towards a counseling approach by emphasizing even more the needs of individuals and self actualization goals (Bloland and Edwards, 1981). Bloland and Edwards conceive of both work and leisure as playing complimentary roles in satisfying basic psychological needs. Satisfaction of needs through work or leisure leads to self-fulfillment or self-actualization. The counseling model integrating work and leisure counseling involves four overlapping steps. Step one involves identifying counselee needs; Step two, identification of activities to satisfy counselee needs, Step

three, a listing of activities to be investigated for need satisfaction, and Step four, actually assisting the counselee in participating in selected activities.

Benjamin & Walz (1982) in summarizing leisure counseling approaches concludes that, regardless of the type of counselee or particular counselor orientation, the major goals of these approaches appear to be very similar. Goals include enhancement of self awareness; identification of attitudes, feelings, and values; and development of decision-making skills to increase personal satisfaction and enjoyment of living. Individuals are then made aware of the availability of leisure activities and helped in expanding their range of interests to develop new skills.

An Integration of Leisure Counseling into Career Counseling

One leisure counseling specialist, Patsy Edwards, has adopted a broadened career counseling approach "... in which work and leisure are conjoint contributors, not to job satisfaction but to an enhanced quality of life" (Bloland & Edwards, 1981). Work and leisure are seen to be integrated in a counseling approach. Need theory is utilized as a unifying construct with quality of life as a counseling goal. Walsh (1977) feels that the normal function of a person's life is to strive for perfect union of work and play suitable to hers or his personality. Another practitioner in leisure counseling has noted that there are several professions

that border on leisure counseling and the possible leisure counseling needs of some groups will be met by one profession and some by others (Overs, 1977). Overs goes on to state that the career counselor is most closely akin to the leisure counselor. Several authors maintain that the distinction between work and leisure is unclear and that work and leisure interpenetrate in many ways (Dower & Dowing, 1975; Day, 1972; Walshe, 1977). The message of a popular book on career counseling, The Three Boxes of Life (Bolles, 1978), is that education, work and leisure should not be conceived of as separate, sequential and segregated but all as a whole, interpenetrating and happening at the same time in life for individuals.

The life-flow concept proposed by Loesch (1980) comes very close to the position taken by Bolles and essentially supplies the basic rationale for integrating leisure into a broader concept of counseling. Education, work and leisure are seen to be present across the life span and to vary only in degree of salience and interrelatedness at any particular time. For example, one person may classify a particular activity as work and another may describe it as leisure, while a third person may see work and leisure in both activities.

A Career Counseling Definition

Several writers have included leisure in their definition of career counseling (Allen, 1980; Katz, 1973; Fierle & Reardon,

1979: McDaniels, 1976; Seligman, 1981; Winters & Hansen, 1976; Wrenn, 1974). The U. S. Office of Education listed one of the basic learner outcomes of career education to be attention to productive use of leisure time. Also, the joint position paper developed by the National Vocational Guidance Association and American Vocational Association (1975) identified leisure as being important in career development (Fierle & Reardon, 1979). Most recently and significantly with regard to assessment, Seligman's book, Assessment in Developmental Career Counseling (1981), mentioned leisure in developmental goals for most life stages.

The position taken by this writer is a developmental career counseling approach. The basic definition of career development adopted is that career development equals work plus leisure ($CD = W + L$) (McDaniels, 1977). Career counseling, defined this way, is assisting an individual in the career development process. This kind of career counseling gives attention to both leisure and work. A counselor's role is to assist an individual in understanding herself/himself and the world of leisure and work along with their interrelationships. Counseling and assessment performed in a developmental context would give proper attention to developmental goals according to different life stages as outlined by Seligman (1981), for example. Peevy (1981) recently has detailed a range of leisure developmental tasks that can help to clarify the leisure aspect of developmental career counseling.

The Relationship Between Leisure and Work

Defining the nature of the relationship between work and leisure appears to be getting increasingly more complex. Earlier studies viewed leisure as compensation for work. As far back as Super's 1940 study, work could have been seen as generalizing to leisure activities. An example would be the case of engineers taking up model rail road building for a hobby (Super, 1940). Recently Staines (1980) reviewed the considerable literature on the relation between work and nonwork. Overall, three general conceptions of the work-leisure relationship emerge. The first conception is labeled the positive approach and asserts that there is a similarity between what occurs at work and what happens off the job. Some of the typical labels for this conception are spillover, extension, generalization, or fusion. Opposed to this position is the negative or inverse relationship between work and leisure. Typical labels for this conception are compensation, polarity, and opposition. A third point of view is the null position which views work and leisure activities as being unrelated. This approach is labeled as segmentation or neutrality. Staines concluded from the studies reviewed that evidence favored the positive, negative and null approaches under different conditions. The most frequently supported position however, was the positive approach. To further complicate the issue, Champoux (1978) concluded that there are two distinctly different types of compensatory orientations such as compensatory-work orientation where

individuals receive enough creativity and activity interest satisfaction at work that they do not need to seek rewards away from work, or a compensatory-non-work orientation where individuals experience deprivations at work and then seek compensation away from work.

Special influences on the work-leisure relationship have been observed. Shepard (1974) found a relationship between self esteem and spillover or compensation. The relationship also affected the spillover or compensation outcome (Melamed & Meier, 1981). Locus of control was observed to affect the work-leisure pattern (Kabanoff & Obrien, 1980). In sum, the relationship between work and leisure seems quite complex. This problem led Kabanoff and Obrien to conclude that the "simplistic" notions of generalization, compensation and segmentation are not adequate to explain work-leisure relationships.

The specific type of work-leisure relationship observed appears to be influenced by the researcher's academic orientation. Industrial psychologists frequently envision work as being central to a persons life. Sociologists see a spillover effect from work to leisure, and recreationists view leisure as compensation for work (Champoux, 1980). Odaka (1970), a sociologist, described five ways in which an individual can relate to work and leisure that seem to cover all the possibilities well. First, there is a work oriented unilateral relationship where work is most important and little thought is given to leisure. Second, there is a leisure

oriented unilateral attitude where little thought is given to work. Third, work can be seen as sharply split from leisure. Fourth, an integrated person would allow the work and leisure spheres to articulate with activities in the opposite sphere, thus contributing to each other. Fifth, there can be a virtual identification where work is seen as a form of leisure and there is no distinction between the two.

Regardless of the complexity, a common thread that seems to run through the various work-leisure relationships is that of intrinsic need satisfaction. Studies have revealed a definite link between work and leisure activities and the satisfaction of intrinsic needs (Adam & Stone, 1977; Bloland & Edwards, 1981; and Spreitzer & Snyder, 1974). Brok (1976) expresses well the position taken by this writer with regard to the essential relationships between work and leisure:

"... any work-leisure distinctions merit scrutiny because they may be artificial ways of dividing the meaning of human activities... any activity considered meaningful, involves the perception of free choice, often demands effort, is felt to be intrinsically rewarding and perhaps aids in the resolution of a developmental task. These criteria can apply to one's subjective experience of work or leisure. The borders between the two domains may be quite fluid." (p. 69).

People/Things, Facts/Ideas

Associated with intrinsic needs is a basic need for cognitive interaction with the environment resulting in a preference for dealing with People or Things or Facts or Ideas. Evidence that there is such a basic orientation towards one or a combination of these domains comes from a variety of sources. Studies of twins

have revealed a very basic similarity of interest patterns. Grotevant, Scarr and Weinberg (1977) studied identical twins in biologically related and adoptive families. They used the scales on the Strong Campbell Interest Inventory related to Holland's typology. Holland broadly classified interests into Realistic (Outdoor/Mechanical), Investigative (Science/Math), Artistic (Music/Art/Drama/Writing), Social, Enterprising (Business) and Conventional (Office/Clerical). Even when twins were reared apart, it was found that there was a definite correlation was found between a Holland interest classification and the twins studied. Farber (1981) also found a connection between the basic interests of twins. She noted a paradox in that the twins most similar in personality were those who had had the least contact, especially during the first ten years of their lives. This gave more weight to a genetic predisposition theory.

Prediger (1981) concluded that two basic bipolar dimensions can account for most of the variance in Holland's typology. One dimension involves facts at one end which is an impersonal task orientation involving facts, records, files, numbers and systematic procedures. The other end of this dimension involves ideas which are intrapersonal tasks involving abstractions, theories, knowledge, insight and new ways of expressing ideas. The other dimension has at one end thing tasks which are nonpersonal activities involving machines, materials, tools and biological mechanisms. The other pole of this dimension involves

people tasks which are interpersonal activities such as caring for, advising, persuading, entertaining or directing others. (See Figure 5, p. 58). Prediger evolved his classification scheme from the basic scheme developed by Sidney Fine for classification of occupations into data, people, or things orientations. With regard to these classifications Prediger quotes Jewell Boling of the U. S. Department of Labor, "Concepts of Ideas or Data, People and Things...provide in a sense, a logos for ordering reality as elemental as that of the Greeks--fire, water, earth and air." Prediger goes on to conclude that "... it would appear that the four work tasks may well constitute basic components of the work world--indeed, of life in general. With what else can one interact?" (Prediger, 1980).

Confirming evidence for the Facts versus Ideas dimension comes from the Myers Briggs Type Indicator (MBTI) (Myers, 1962). This inventory was based on Jung's theories. Four types of polarized preference strengths are interpreted from the MBTI: Extroversion versus Introversion, Sensing versus Intuition, Thinking versus Feeling, and Judging versus Perception. Sensing is interpreted as a preference for dealing with known facts and its opposite is intuition which is a preference for looking for possibilities and relationships versus working with known facts. Two of the five scales that comprise the Canadian Occupational Preference Scale also add construct validity to Prediger's conception. The scales

are "Things" versus "People" and "Routine versus "Abstract/Creative". The scales were based on a factor analysis study done in 1949 by William C. Cottle (Begin, 1978).

The only leisure inventory published by a major test company is the Leisure Activities Blank (McKechnie, 1975). The Leisure Activities Blank (LAB) was the only leisure inventory established by factor analysis. McKechnie (1974) grouped the LAB scales into higher-order leisure concepts of 1) mechanics and crafts; 2) glamour sports, easy living and ego recognition; 3) intellectual activities and 4) sports, adventure, and clean living activities. Inspection of items in these classifications could lead to labeling one, a Things orientation; two, a People orientation; three, an Ideas orientation and four, a People-Thing orientation. A Facts orientation might not have emerged, due to McKechnie not emphasizing Fact related items in his inventory. Other leisure inventories, however, have listed a separate category for Facts related items. McDowell (1974), in the Self Leisure Interest Profile and Mirenda (1974), in the Mirenda Leisure Interest Finder both have collection categories which are consistent with a Facts orientation.

In sum, there appears to be a general preference for dealing with Facts or Ideas or People or Things. These preferences seem basic to life in general. Both leisure and work activity interests could be classified in a two dimensional Facts versus Ideas and People versus Things scheme.

Needs, Values and Interests

Super's (1980) conceptualization of the relationship between needs, values, and interests seems most appropriate here. Figure 4 illustrates the order of relationships from basic biological equipment to interests.

Values are more situationally oriented than needs, and needs are more physically oriented than values. Values represent goals that a person wants to attain. Then, interests represent various activities in which a person engages. A basic need would be the Facts/Ideas and People/Things perceptual orientations. Values originating from these basic orientations would then differentiate into basic interests.

It should be noted that as one goes further out from the center of the scheme, the biological influence is less and environmental influence is greater. This leads to values being termed either intrinsic or extrinsic. Extrinsic values have a distinct element of concern with regard to the external world. Prestige, association, security, and income are common examples of extrinsic values. Writers vary slightly as to which values they classify as intrinsic (Miller, 1974; Nevas, 1976; Zytowski, 1970). Altruism, creativity, and intellectual stimulation seem to be listed by all. Variety, independence and achievement are listed by some writers. It is the connection between intrinsic needs and their associated values and satisfaction within intrinsic activities

ENVIRONMENT

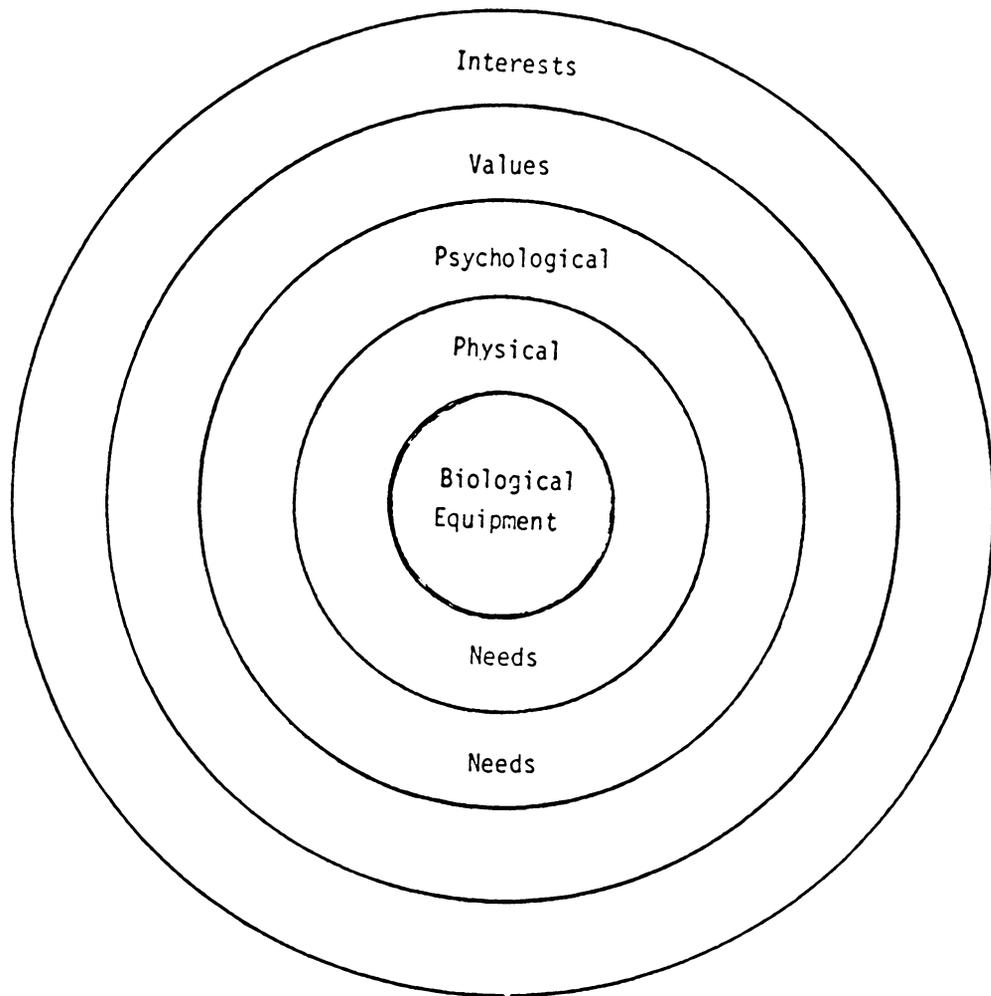


Figure 4 Super's Needs, Values, and Interests Model

Source: Super, D. Unpublished lecture. Summer, 1980.

that is the connecting link between work and leisure and is the focus of this study. Extrinsic values and associated interests are certainly of concern in counseling others but the first concern in the counseling approach advocated here is to assist the person in what really interests him or her without immediate regard to income, security or what others will think. These concerns should properly be addressed later in the counseling process.

Interests

Needs and values are quite general and can be satisfied in a wide range of activities. The satisfaction of intrinsic values such as creativity, variety, and intellectual stimulation can be visualized as being met in a variety of activities according to the perception of the individual. As Guilford (1959) points out, interests pertain to certain activities rather than to a condition or status. Therefore, interests are more concrete and specific aspects of a persons self and can be dealt with more directly.

Basically, interests can be verbally expressed whereas a person professes a liking or disliking for a particular activity. Or interests can be inventoried by collecting the response to lists of activities. Super & Crites (1962) pointed out that expressed interests could be unstable and vary with the maturity of the individual, and could depend upon the phrasing of the question. In an interest inventory each response by the

individual is given a weight and together the responses to the activities represent not a single subjective response but reveal a pattern of interests which is rather unstable. Typical examples of the inventory approach are The Ohio Vocational Interest Inventory (D'Costa, Winefordner, Odgers & Koons, 1981), The Strong Campbell Interest Inventory (Campbell, 1981) and The California Occupational Preference System (Knapp & Knapp, 1980).

The explicitness and direct relation of interests to activities over use of needs and values, plus the advantages of inventoried interests over expressed interests indicate a potential advantage for the use of interest inventories in career counseling.

Summary

Changing values, increased leisure time and an increasing diversity of leisure activities has led to an awareness of a need for leisure counseling. Aside from therapeutic recreational counseling, leisure counseling has been considered by some to be part of career counseling. Career counseling is defined as facilitation of career development. The particular concept of career development utilized has been one giving full weight to leisure by stating that career development equals work plus leisure ($CD = W + L$). Literature on specific work-leisure relationships shows the relationship to be a complex one. One commonality between work and leisure is intrinsic needs. Satisfaction of

intrinsic needs is seen to be a worthy counseling goal. A perceptual preference orientation of favoring either a Facts, Ideas, People or Things interaction with the environment has been shown to be basic. A connection between needs, values and interests was discussed. The advantage of utilizing the concept of interests versus values or needs was pointed out. Finally, it was concluded that use of an interest inventory versus expressed interests would be an advantage in career counseling.

Chapter 3

INSTRUMENT DEVELOPMENT

Rationale for Use of an Inventory

The value of using an interest inventory has been well stated by Guilford (1954) "...no means of assessing interests that is more dependable, more sensitive to individual differences and more economical of time and money than the verbal inventory" (p. 1). Weitz (1968) made several good points for proper use of an inventory in a counseling situation. First of all, he suggested that the most appropriate criterion for use of an inventory is the degree to which its application moves the guidance process forward towards its goal. Second, taking a position of problem-centered guidance means a counseling goal of aiding the counselee in acquiring generalized problem solving behaviors. Because a counselee is taught the value of information checking through proper utilization of an inventory, the counseling processes is moved toward the goal of generalized problem solving behavior. Finally, to put the use of an inventory in perspective, Weitz pointed out that an inventory serves merely as an efficient means of providing the counselor with information about the counselee's interest patterns so that the counselor and the counselee can collaborate on resolution of the counselee's problem.

Walshe (1976) added to the rationale for use of inventories in counseling by discussing the advantages of leisure inventories and inventories in general. She pointed out that a counselee's difficulty in decision making is primarily a psychological problem and tools are needed to help discover individual human motivations. She noted that the chief advantage of the interest inventory is that it is easy to interpret. Finally she stated that testing "...should serve to provide people with a definitive basis for making decisions on their own, not only in areas of leisure endeavor, but in all aspects of their lives" (p. 85).

Therefore, inventories used carefully, can be a definite aid in the counseling process. Inventories encourage thinking about specific plans, assist the counselee in checking information about himself or herself, suggest alternatives for the counselee to explore, and provide the counselor with information on the counselee. The inventory to be developed in this study is intended to be a brief initial counseling instrument to meet the above objectives and also to consider leisure options equally with work options. This instrument is to be an ice-breaking device to elicit communication and thinking with regard to both work and leisure.

Leisure and Career Inventories

An inventory to meet career counseling goals as defined in this study must create awareness of both work and leisure options

and their interrelationships. All available leisure inventories, by design, exclude reference to work, therefore, they are not the inventory of choice for initial career counseling.

With the exception of one inventory, all "career" interest inventories have been designed with work only in mind. There are certain instances in which, more as an afterthought, a career inventory has been found to be of some use in leisure counseling. Super (1940), using the Strong Vocational Interest Blank (SVIB) in his study of vocational interests, concluded that vocational interest inventories, because of their correlations with avocations could be used in leisure guidance. As previously discussed, Mitchell (1979), found the Strong Campbell Interest Inventory to be of some use in leisure counseling.

Cairo (1979), based on a follow-up of the Career Pattern Study subjects, also concluded the SVIB could be used in leisure counseling. The SVIB and its revision, the Strong-Campbell Interest Inventory (SCII), although containing numerous leisure and educational items, also contain for the most part occupational titles. Occupational titles have the potential disadvantage of eliciting responses to extrinsic values/interests reflected in the titles. As pointed out earlier, the basic goal is to deal initially with intrinsic interests. Furthermore, the SVIB and SCII were expressly designed for counseling for work options. It is quite likely an instrument developed with both work and leisure in

mind would be different. Finally, both the SVIB and SCII, for initial counseling purposes, take too long to complete (30-40 minutes) and then need to be sent off for scoring (approximately two weeks).

There are some other career interests inventories that are brief and readily scored that have been used in leisure counseling. Taylor, Kelso, Cox, Alloway, and Matthews, (1979) have found weak but positive correlations between the Vocational Preference Inventory (VPI) (Holland, 1959) and leisure activities. The VPI, however, is strictly a list of occupational titles and is obviously subject to the criticism that it elicits extrinsic responses. Furthermore, it is obviously designed with an emphasis on occupational options. Holland (1973) claims that his typology has relevance for leisure counseling. However, the instrument presently used that was designed for his theory, the Self Directed Search (SDS) (1978), is an extremely faulty instrument from many perspectives. Aside from being clearly sex biased, even in its revised form, this instrument confounds profiles and scoring to the point that Crites (1978) labeled it the "misdirected search". There are many other faults, but for the purposes of this discussion, it should be noted that the SDS also uses occupational titles and self perceived competencies phrased in a vocational sense. Therefore, it is clearly a work oriented instrument. Most other available career inventories also suffer from the fact that

they either contain occupational titles, include obvious occupationally oriented activities and/or were expressly designed for occupational counseling.

There is one inventory that has been developed with both work and leisure in mind. In 1948, J. P. Guilford, Edwin Shneideman and Wayne Zimmerman developed The Guilford - Shneideman - Zimmerman Interest Survey (G-S-Z). This inventory consists of 18 scales. A number of the scales were separated into two aspects of the same basic interest (e.g., scale one, "Artistic, Appreciative" and scale two, "Artistic, Expressive"). These scales were developed from review of the existing inventories and factor studies. The manual states that a unique feature of the survey is a separate score for each of the interest fields: a vocational score and a hobby score. No other published vocational inventory that explicitly gives recognition to the leisure aspect of career has been found. The manual states that this design recognizes the fact that an individual may like an activity as an avocation but not as a vocation, or vice versa. The G-S-Z Interest Survey is not currently in actual use.

Even in this inventory, however, there is more than a hint that the main emphasis is on work. It is emphasized in the manual that information on avocational interests help people judge vocational interests with more confidence. A suggestion that it is important for a counselor to be able to suggest leisure options seems to be an afterthought. Additionally, a table is provided

for work options under each of the interest areas. However, no table is provided for leisure options. Also, on the technical side, Bennett (1953) noted that some activities listed can hardly be considered appropriate for both hobby and vocation. Finally, for present day use this inventory is inadequate for there has been no updating with regard to subsequent interest studies of the last 34 years. Therefore, an instrument is needed to assist in initiating the counseling process that is psychometrically sound, based on a solid rationale, up to date and that treats leisure as being an important factor and not, as Loesch (1980) has suggested has been done up to now, as "works poor relation" (p. 13).

Considerations in Developing an Inventory

As Cirino-Gerena (1970) noted, in developing an inventory, a series of methodological decisions must be made. The literature was far from conclusive as to which decision was the best to make. As a result, interest inventories were developed in a wide variety of ways. Some important considerations are what types of items to utilize, what kind of response format to use, whether to use occupational (or specific leisure activity scales) or use homogeneous interest scales, use of norms, and in recent years, how to control sex bias.

The items to be utilized in the development of this inventory will attempt to avoid occupational titles or other items that directly refer to a specific activity which may enhance an

extrinsically oriented response. The interests concentrated on in this study are those associated with intrinsic satisfaction.

Nevas (1976) explained well the problem of using occupational titles in her statement, "A positive response to an occupation might reflect approval or admiration, for example, rather than an estimate of enjoyability. Interest thereby expands to a construct analogous to overall work satisfaction rather than to intrinsic satisfaction with task quality. An interest becomes attraction to a job for whatever reasons ..." (p. 13).

A forced choice response format is preferred by several test developers (Hubert, 1969; Kuder, 1976; and Lunneberg, 1981). Lunneberg made the point that a forced choice format helps younger persons make a decision. However, Bauernfeind (1965) made a strong case against the ipsative scoring that results from a forced choice format which leads to great difficulty in interpretation. For these reasons plus this researcher's own experience with free response items (typically of the like, indifferent, dislike format) the free response format is chosen. A free response item allows the person the freedom to check as many items "like" as he or she wishes. A straight forward L, I, D, format facilitates a return to the inventory items for individual discussion and allows exploration of all interests. Finally, clear opportunity for responding in terms of dislike for an activity

allows examination and discussion of rejects. This is considered to be very important by Tyler (1975).

Occupational (or empirical) scales, aside from being very difficult and expensive to establish, are not really the type of scales to initiate awareness of basic interests in a beginning counseling situation. In addition, both Cirino-Gerena (1970) and Harmon (1974) pointed out that it is best to develop homogeneous scales from an unselected item pool first, then develop occupational scales. Note that the SVIB/SCII basic interest scales were developed from a selected item pool determined by a sample of occupations! Cirino-Gerena (1970) listed several advantages for homogenous scales. They are: 1) more psychologically meaningful because the scales resemble psychological traits, 2) most of the interest domain can be covered with relatively few homogeneous scales, 3) homogeneous scales focus on general interest areas versus specific occupations, 4) homogeneous scales are not tied to any specific age group, 5) they give insight into the dimensions of vocational interests and frequently the role of the item chosen, and 6) they can be quickly scored. Dawis (1981) adds to this position by stating that "... if well constructed, scores from homogeneously keyed scales are more precisely--that is, less ambiguously--interpreted." Furthermore, she points out that in terms of reliability the multi-item homogeneous key is far superior to occupational scales. High reliability, however, is

achieved at the expense of empirical validity. But the use of the instrument to be developed is much more that of creation of awareness and a discussion starter than a predictor.

Sex bias will be dealt with according to the recommendations outlined by Harmon (1974). Items will not be included that imply one activity is more appropriate for one sex than the other, e.g., saleslady, policeman. The pool of items will be appropriate for both sexes. Groups utilized in developing the scales will be sexed balanced as far as possible. And scores on the scales will be available for both men and women.

Harmon (1974) recommends that three basic types of norm groups be developed: high school, college, and adult. For this study, concentration was on college students and adults. Therefore, only college and adult norms will be developed.

In summary, for an instrument to be utilized as an initial counseling instrument to create awareness of work and leisure outlets in terms of basic interest fields, it has been decided that the instrument to be developed will not contain explicitly occupationally oriented items, will be of a free response format, will be constructed of homogenous basic interest scales and have adult norms.

Factor Studies and Theoretical Structure

Past factor studies, whether of general interests or of career interests, have revealed a great deal of similarity in

their findings of common interest factors (Super, 1962). More recently a common configuration of factors was revealed across several diverse types of interest inventories (Cole, 1971). This common configuration was interpreted in terms of Holland's typology. The circular theoretical structure proposed by Roe (1972) consisting of Technology, Science, Outdoor, Arts and Entertainment, Service, General Cultural, Business, and Organization has also been shown to be similar to Holland's typology (Meier and Ben-Yehuda, 1980; Holland, 1978; Lunneberg, 1976; and Prediger, 1980). These studies have concentrated primarily on vocational interests. However, Holland (1973) claims his typology relates to leisure activities also, and as previously noted, there is some support for this (Taylor, 1978). Prediger (1981) maintains that underlying Holland's typology are the two bipolar dimensions of Facts/Ideas and People/Things. Prediger also pointed out that at least one author feels that Data/Ideas, People and Things are elemental. Indeed it does seem that Facts, Ideas, People and Things do account well for both work and leisure activities. A preferential orientation to People or Things or Facts or Ideas seems also to connect directly to intrinsic interests. Intrinsic interests are the base upon which the connection between work and leisure is made. The initial focus of the counseling position adopted here is on alternatives for satisfaction of intrinsic interests. Therefore, the basic structure of the Leisure/Work Interest Inventory

will be that of a two-dimensional circular arrangement of People/Things and Facts/Ideas. See Figure 5.

It is, of course, recognized that few people are oriented exclusively toward one category of activity and that most activities are a combination of these basic orientations.

Basic Interest Scales

The number of scales utilized to account for the domain of interests on other inventories has ranged from 6 (Holland) to 23 (SCII). Some number in between 6 and 23 seems best for initial communication purposes. If six scales (Holland) or even four (Facts/Ideas, People/Things) are used then immediate communication of what a high score on a particular scale means is difficult. Having a high score on "Things" has to be explained as to all of the various activities that relate to it. In addition, within the "Things" area a person's interest could vary considerably. This is also true for Holland's Realistic score. A high Realistic score is meaningless by itself, and component interests of outdoors, athletics, and mechanics could vary considerably within an individual. On the other hand, 23 or more scales for the purpose of initial counseling seems too cumbersome, i.e., Technology could be broken down into carpentry, electronics, repair, etc. Based on a comprehensive review of both work and leisure inventories, and considering the ready meaningfulness of a specific scale versus having too many detailed scales, 14 to 16 scales seems more appropriate.

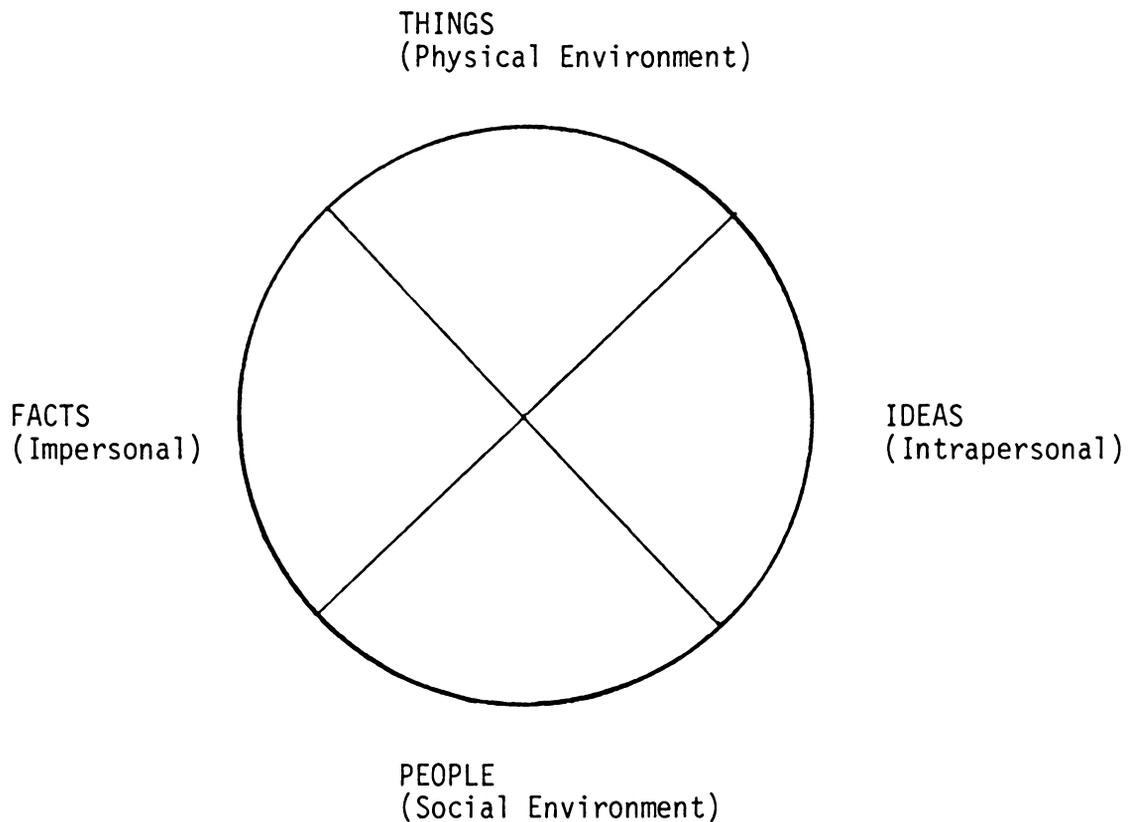


Figure 5 Facts/Ideas versus
People/Things

Source: Adaptation of Prediger's Model
Prediger, D. J. Getting ideas
out of the DOT and into voca-
tional guidance. Vocational
Guidance Quarterly, 1981, 30,
21-36.

In choosing the specific scales to be included, much the same reasoning that Guilford, Shneidman, and Zimmerman, (1948) utilized was followed. Guilford felt that breadth of scope and comprehensive coverage were the key notes in selection of interest fields. Specific basic interest categories chosen were based on the best evidence available at the time. For this study, the writer obtained the following currently available leisure inventories: Leisure Activities Blank (McKechnie, 1975); Self Leisure Interest Profile (McDowell, 1974); Mirenda Leisure Interest Finder (Mirenda, 1974); Constructive Leisure Activity Survey (Edwards, 1974); Inventory of Leisure Interests (Hubert, 1969); Leisure Inventory (McDaniels, 1977). In addition, the most commonly utilized career inventories were obtained: Vocational Interest Inventory (Lunneborg, 1981); California Occupational Preference System (Knapp & Knapp, 1980); Strong Campbell Interest Inventory (Campbell, 1981); Kuder General Interest Survey (Kuder, 1971); Career Assessment Inventory (Johansson & Johansson, 1976); Ohio Vocational Interest Survey (D'Costa, Winefordner, Odgers & Koons, 1970). Scales developed for these inventories were examined and compared. Then a set of scales was selected that could essentially account for the domains covered in all these inventories. The basic interest scales of the SCII were utilized as a model.

Further rationale given for the use of basic interest scales comes from the SCII manual. Basic interest scales by virtue of

internal consistency are an important focus around which people group their own interests. Because the items are all drawn from one area, the content of the scale is readily understood, and the concentration of related items in a single scale provides a reliable measure (Campbell, 1981). Recall also, these SCII scales had been shown to be useful in leisure counseling (Cairo, 1979, Mitchell, 1979). However, for development of this inventory additional scales were added and some were combined, in light of all the evidence from the other inventories. Items on the new basic interest scales don't include occupational titles as was frequently the case on the SCII. Scales were then arranged to fit the Facts/Ideas, People/Things format.

Arrangement of the basic interest scales into a Facts/Ideas and People/Things format, aside from fitting an intrinsic interests rationale approach, also assists in making a ready reference to other existing occupational classification systems. Basic interests arranged this way can be converted into the Data, People, Things format of the Department of Labor. And as Prediger (1981) has demonstrated, this Facts/Ideas and People/Things arrangement coincides with both Roe's and Holland's typology. Both Roe's followers and Holland have instruments and accompanying suggested occupations for their interest fields in the California Occupational Preference System, the Vocational Interest Inventory, and the Self Directed Search. It would be little trouble to score

high point interests on the Leisure/Work Interest Inventory for either the Roe or Holland system.

Items

As previously noted, items making specific reference to an occupation or even a specific leisure activity were avoided in order to be able to elicit, as much as possible, a response related to intrinsic satisfaction. Items chosen were those that reflected a possibility of referring to both work and leisure. Specific categories of items included: 1) activity items - repair things, be outdoors, painting; 2) learning items - take courses in geology, psychology, music; 3) observing items - watching shows and events related to various subjects; 4) association items - being in a medical lab, being in a hardware store; 5) reading items - reading about photography, nature, psychology; and 6) volunteer items - volunteer for Red Cross activities, volunteer hospital activities. The item pool was generated from the various leisure and career inventories from which hints for the basic interest scales were taken (previously listed). In all, hundreds of items were reviewed and those deemed suitable for the inventory were listed under the basic interest categories. Most of the items gleaned from the inventories were altered to make them less occupationally or leisure activity specific. As a result of reviewing the inventories, ideas were also generated for development of new items. Ultimately, selection of an item depended on its being nonspecific

with regard to a particular occupation or leisure activity but approximately equally applicable in a work and leisure way to a clearly identifiable basic interest area (e.g. "building things" - Technology). Items describing specific content areas of learning were considered equally applicable to work or leisure. This was deemed to be the case also for items relating to volunteer activities.

Inventory Development Procedures

The present inventory is being developed on a specific rationale and structured on the Facts/Ideas and People/Things dimensions. Recent research has demonstrated that a rational approach to test construction using qualified judges can result in scales as reliable and as valid as those constructed by statistical means (Ashton & Goldberg, 1973; Jackson, 1975; Burisch, 1978; Holden & Jackson, 1979). Therefore, staying with a goal that the scales and items are to be very clear and meaningful, judges will be used to verify the decisions of the developer. Five judges, chosen because of their knowledge of testing and counseling were asked to sort 204 items into 17 unnamed scales (12 items per scale). Sorting items into scales that will be named by judges themselves will add to the construct validity of the scales. Items will be retained in the final scales in which there is at least 60% judge agreement. Items having less than 60% agreement will be judged on whether they were assigned to adjacent basic interest categories which are based on theoretical arrangement.

Enough items will be retained for each scale to maintain reliability comparable to other brief, basic interest scales. Basic interest scales determined to be a representative and comprehensive coverage of the work and leisure interest domain are as follows: Sports, Nature, Technology, Travel, Physical World, Biological World, Arts & Crafts, Performing Arts, Literary Arts, Animals, Psychological World, Social Relationships, Leadership, Fact Organization, Numerical Calculation, and Protecting Others. According to cues given by Prediger (1980), Holland (1973), Roe, (1972), Campbell (1981) and McKechnie (1975), these basic interests are shown arranged as follows in Figure 6.

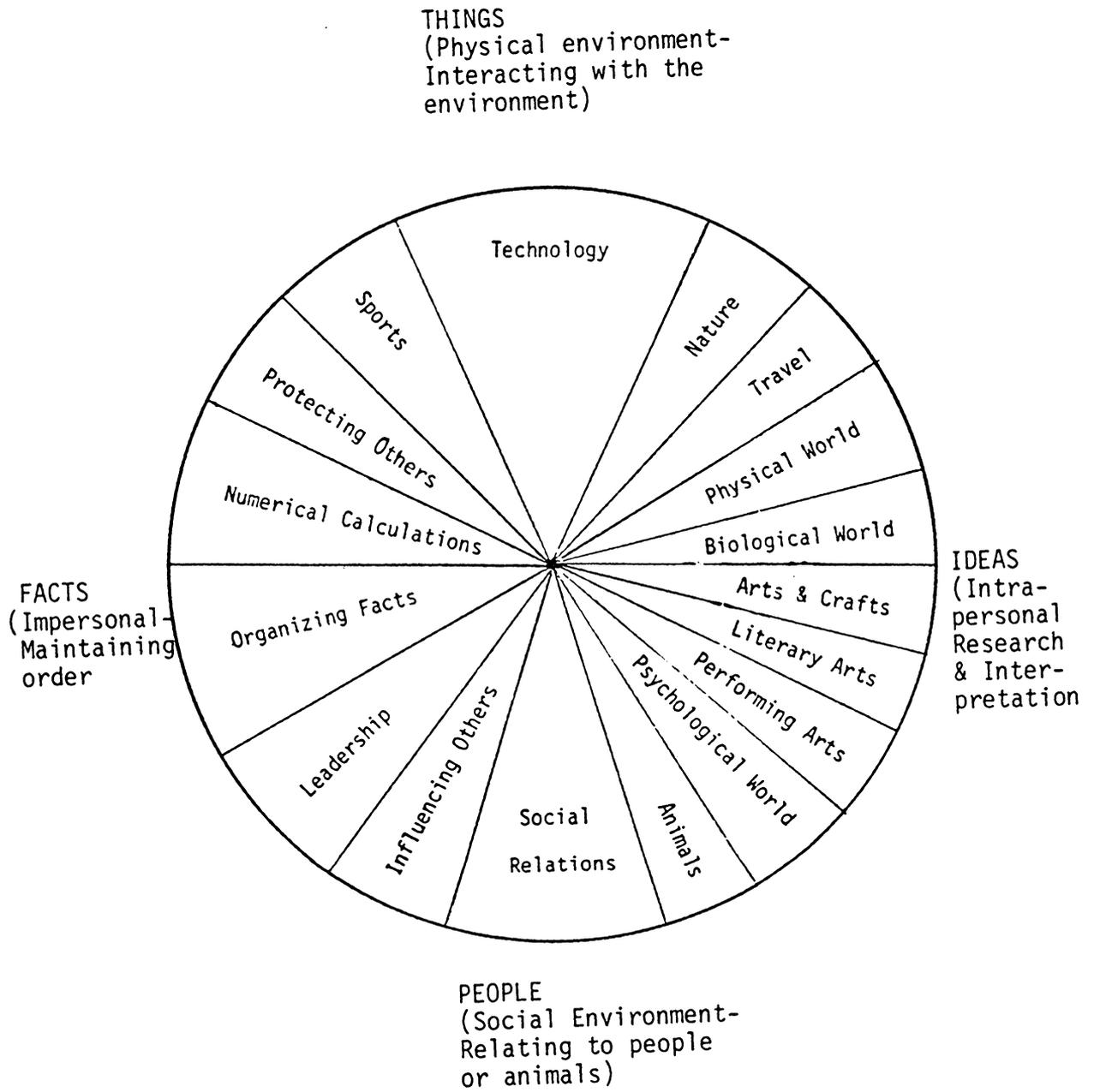


Figure 6 Basic Interest Arrangement

Definition of the Scales

- 1) SPORTS (Physical Competency) An involvement of yourself with the outer physical world to master objects or other persons. Activities involve observing, reading about, or participating in sporting events defined in the broadest sense. Specific activities include athletic events, physical fitness and games requiring physical coordination.
- 2) TECHNOLOGY (Physical Objects) A use of hands and/or tools to construct, maintain or repair physical objects. Activities involve learning about and building or repairing electrical or mechanical devices. Specific activities include using tools, operating machines and building and repairing things.
- 3) NATURE (Outdoors) The relation of yourself to nature in the broadest sense including plants, wildlife and agriculture in a non-laboratory way. Activities involve learning about nature or participating in outdoor activities. Specific activities include the exploration and experience of the outdoors such as observation and contact with plants and wildlife.
- 4) TRAVEL (New Experiences) New and varied experiences including motion sensation and visual stimulation. Activities involve gathering of information about travel and places and actual travel experiences. Specific activities include the riding in or operation of cars, boats, trains, and airplanes to travel through or to various geographic locations.

- 5) PHYSICAL WORLD (Understanding Physical Events) An understanding and researching of the more abstract mathematical and physical world. Activities involve learning about and applying knowledge to the physical and advanced mathematical world. Specific interest areas include chemistry, physics, geology, and astronomy.
- 6) BIOLOGICAL WORLD (Understanding Biological Events) An examination and explanation of biological mechanisms leading to an understanding and/or correction of damage to life forms. Activities involve learning about and applying knowledge of health and biology. Specific interest areas include medicine, botany, and anatomy and physiology.
- 7) ARTS & CRAFTS (Visual Artistic Creativity) A creation of a two or three dimensional object that provides satisfaction for yourself and/or others. Activities involve learning about, appreciating and/or creating visual art. Specific activities include painting, drawing, sculpture, photography and crafts.
- 8) PERFORMING ARTS (Dramatic Creativity) The entertainment of others to obtain satisfaction from their approval. Activities involve all forms of drama, music, and entertainment. Specific activities include acting, modeling, singing, and entertaining others such as joke telling.
- 9) LITERARY ARTS (Verbal Creativity) Understanding, manipulation and use of words in written and oral ways. Activities involve engagement in and learning about writing, literature and languages.

Specific activities include writing articles, composing poetry, discussing literary works, and reading and interpreting languages.

- 10) ANIMALS (Animal Contact) A personal relationship to an animal that brings satisfaction through personal, recognized and physical contact. Activities involve associating with and caring for animals. Specific activities include feeding, grooming, training and observing animals.
- 11) PSYCHOLOGICAL WORLD (Understanding Behavior) Observation, examination and development of behavior and feelings of humans. Activities involve an engagement in activities to understand the behavior of yourself and others. Specific interest areas include sociology, psychology and anthropology.
- 12) SOCIAL RELATIONS (Relating to Others) Establishment of personal relationships and interaction with other persons. Activities involve associating with and/or assisting others in personal ways ranging from being of general assistance to close caring relationships. Specific activities include helping, serving, caring, teaching, counseling, socializing and loving others.
- 13) INFLUENCING OTHERS (Persuasion) Influencing of others to exert personal control. Activities involve selling and persuading others. Specific activities include selling objects or ideas, convincing others of your point of view, advising others and influencing persons in other ways.

- 14) LEADERSHIP (Directing Others) Taking responsibility for organizing and directing the life of yourself and/or other persons. Activities involve learning about and engaging in leading and directing. Specific activities include planning, leading others, ordering others and management.
- 15) ORGANIZING FACTS (Ordering Information or Things) Collection, organization, processing and filing of facts or objects using routine, orderly and systematic procedures. Activities involve collection, classification and preservation of facts or objects. Specific activities include collection, sorting, organizing, record keeping and filing.
- 16) NUMERICAL CALCULATION (Data Ordering) Manipulation of numerical data to arrive at precise conclusions. Activities involve collection, calculation and summarizing of numerical data. Specific activities involve compiling, computing, balancing and charting.
- 17) PROTECTING OTHERS (Preserving Order) A potential use of force to maintain order. Activities involve use of rules and regulations to preserve, maintain and/or restore order. Specific activities include police action, fire fighting, safety enforcement and military action.

Some scales found to be relatively common to leisure inventories, career inventories, or both, were not included. Religion, although originally included as a basic interest, was eliminated because religion is seen not to be a leisure activity but more of

a separate personal role. Adventure was observed in both work and leisure inventories as a category of activities. Solitude, or scales referring to a passive state, was observed on many leisure instruments. Adventure and solitude are quite non-specific categories and it is felt that these categories really reflect a third dimension of interest activities in being active or passive.

Methods of Analysis

The instrument, composed of scales and items verified by judges, will be administered to groups of community college students in survey and introductory psychology classes. A broad range of persons is served by the community college: students directly out of high school, older women returning to school, people making career changes, people upgrading their job skills, people taking a course for self enlightenment. Selected classes will have the inventory readministered to them 2 to 3 weeks later to get an estimate of the stability of the scores. Internal consistency of the scales will be determined by Chronbach's Alpha (SPSS, 1981). Scale intercorrelations will be calculated to verify independence of the scales and show their specific relationships. Concurrent validity will be estimated by comparing high point scales of the subject to their expressed top two leisure activity choices and their top two work choices.

The Pilot Study

A preliminary form of the proposed instrument has already been developed, given a field trial, and subjected to correlational analysis and reliability estimates. Subjects utilized in this study were a mixed sample of university recreation students and volunteer working adults (N = 69) at Virginia Tech. Following the analysis, selected counselees and persons in career groups have been given the inventory to observe reactions. The preliminary instrument was found to be relatively simple to score, easy to interpret and easy to understand. Further review and reflection, however, resulted in addition of the basic interest scale of travel and the dropping of the religion scale, as previously mentioned.

Chapter 4

INVENTORY DEVELOPMENT RESULTS

In this chapter information on the selection of judges is given. Details are also provided on the specific subjects used in inventory development. The responses of the judges as well as the responses of the subjects who were given the inventory were used to help answer the research questions which were posed in Chapter 1. The questions were as follows:

1. The questions were as follows:

1. Will items deliberately selected and designed to be equally appropriate to work and leisure activities resolve, on analysis, into the hypothesized basic interest categories?
2. Based on subsequent analysis, will the initially designed categories be separate and independent enough to justify their continuing existence?
3. Will the high point scores on the basic interest scales be consistent with the choices of individuals for specific work or leisure activities?

Specific goals were a) to develop an inventory with basic interest categories that demonstrated acceptable statistical internal consistency similar to comparable inventories in use; b) to develop clearly defined categories of items that are statistically independent; c) to cover the domain of work and

leisure interests with an adequate but not too extensive number of categories; d) to limit the number of items per category according to the limit of acceptable reliability; e) to arrange the scales developed into the predetermined theoretical structure of Facts/Ideas and People/Things; f) to develop norms for the inventory; and g) to demonstrate concurrent validity for the scales.

Item Selection and Category Verification

A pool of over 600 items was generated from the work and leisure inventories previously listed. Twelve items per category (204 items total) were selected from the item pool. The items chosen were those which were not redundant, those which applied to both work and leisure without referring directly to work or leisure, and those clearly related to the previously defined scales.

To verify initial placement of items and confirm specific homogenous categories, qualified judges were utilized. Following Ghieselli's (1981) suggestion that confidence in content validity assessments would be enhanced if multiple judges were used and all necessary areas of expertise were represented, five judges were chosen to sort the items. All judges had obtained doctorates and had previous experience in either leisure or vocational counseling. Judge one had experience working as a counselor in high schools. Judge two was a community college counselor. Judge four counseled university personnel. Judges three and five had experience counseling persons for leisure options.

An appointment was made with each judge to introduce the project and provide some general background. Then each judge was asked to seclude himself or herself for up to one hour to sort the randomly mixed items into one of 17 categories. Item statements were typed on index cards and shuffled before each judge sorted the items. Items (on the cards) were to be sorted and inserted into one of 17 envelopes; then a word or two describing the category the items represent was put on the sealed envelope by the judge. Providing unnamed categories that the judge must identify assisted in verifying initial experimental choice of the categories.

Specific instructions were typed and handed to the judges. The instructions were as follows:

A LEISURE/WORK INTEREST INVENTORY

An attempt is being made to develop an interest inventory that would apply to both work and leisure. For the purposes of this study, work is defined as engagement in an activity that is an attempt to satisfy at least the need for security, but also has potential to satisfy intrinsic interests. Leisure is defined to be whatever an individual knowingly (i.e. consciously) defines to be leisure. Then,

work and leisure are thought of as having a common ground in intrinsic interest activities (interest in the activity itself).

A pool of items designed to apply to both work and leisure was sorted into basic interest scales that cover the domain of both work and leisure. Your task is to verify my judgment used in sorting the items into basic interest categories. Basic interest categories are a meaningful concentration of related items grouped to a single scale. When properly constructed, basic interest scales should help give insight into the dimensions of interests and frequently the role of a specific items. Basic interest categories are not broad factors. Because the items of a basic interest scale are all drawn from one, or closely related content areas, a scale should be easy to understand and readily interpreted. However, categories may vary in explicitness, therefore, there may be need in some cases to look for an underlying theme.

The specific procedures are to take the randomly mixed activity items and sort them into 17 basic interest clusters of approximately equal numbers of items. Then put all related items in

one envelope and label the envelope with a word or two that best describes the theme of the items enclosed. If any additional items come to mind, please list them on the envelope. Also, use the envelopes for any additional comments.

Judges were left alone to sort the items. Actual time for sorting the items ranged from 40 minutes to one hour and 20 minutes. After all the items were sorted, inserted in the envelopes and labeled, the experimenter returned and asked for comments. Coverage seemed comprehensive and the categories meaningful to the judges. No new categories were suggested and few new items were suggested. Some category labels were supplied that were helpful.

Table 1 shows the labels for the 17 categories supplied by each judge. They are classified by the original 17 categories. Some judges combined two categories. This is especially notable in the combining of Biological World and Physical World plus the combining of Organizing Facts and Numerical Calculation. It was decided to retain the separate categories, however, because at least 3 of 5 judges were able to separate the categories. Inter-correlation among the scales after the subjects are run could further assist in a decision as to whether these scales should be combined.

Table 1
ITEM CATEGORY LABELS BY JUDGE

CATEGORY	TECHNOLOGY	NATURE	TRAVEL	PHYSICAL WORLD	BIOLOGICAL WORLD	PSYCHOLOGICAL WORLD	ARTS & CRAFTS	PERFORMING ARTS	LITERARY ARTS
JUDGE 1	Mechanical/ Electrical	Outdoors	Travel	Natural/ Physical science		Psychology/ Human behav	Artistic/ Music		Writing/ Journalism
JUDGE 2	Technology/ Mechanics	Outdoors/ Nature	Travel	Physical Sciences	Life Sciences	Self/others Understand.	Visual Arts	Performing/ Auditory Arts	Written Arts
JUDGE 3	Handy Person	Nature Appreciat.	Travel	Physical Understand.	Laboratory Science	Human Behavior	Art Appreciat.	Community Entertain.	Writing Appreciat.
JUDGE 4	Construction Mechanics	Natural Science	Travel	Physical Science	Medical Science	Social Science	Visual Arts	Performing Arts	Writing Appreciat.
JUDGE 5	Mechanical Interest	Outdoor	Travel	Scientific		Self Improvement	Cultural & Art	Performing & Music	Literature

CATEGORY	ANIMALS	SOCIAL RELATIONS	INFLUENCING OTHERS	LEADERSHIP	ORGANIZING FACTS	NUMERICAL CALCULATIONS	PROTECTING OTHERS	SPORTS
JUDGE 1	Animals	Social	Sales	Leadership	Clerical	Math	Public Service	Athletics
JUDGE 2	Animals	Social Serv People	Influencing	Leadership	Clerical/ Detail	Quantitative	Protective Service	Sports
JUDGE 3	Domestic Animals	Altruism	Self Improvement	Community Organization	Routine Organization		Admin. of Justice	Personal Fitness
JUDGE 4	Animal Science	Social	Enterprising	Management	Clerical	Mathematical Science	Public Safety	Athletics
JUDGE 5	Animal Interest	socializ.	**	Directing	Managing		Protection	Sporting

** items sorted in Socialization, Directing, & Managing.

With regard to each of the 17 pre-determined categories a tally was made on the judges' location of each item. (See Appendix for tally sheets). The 12 original items were reduced by one to then be subjected to internal consistency analysis. The item eliminated in each category was the one that less than 3 of 5 judges failed to place in the appropriate specific category. If there was more than one item per category not appropriately placed by at least 3 of 5 judges then the next criterion for elimination was those items not placed in adjacent categories according to pre-determined theoretical scale arrangement. Frequently the item to be selected out was easily identified. Most judges were in agreement on item categorization. One judge only differed in placement on three out of the 204 items with the experimenter's original selection.

Use of qualified judges confirmed the placement of items in specific categories, adding to content validity. As previously noted this process alone has resulted in reliable and valid inventories. However, to further increase content validity and scale homogeneity, the items selected by the judges were also subjected to item analysis.

Subjects

Subjects used in inventory development were students attending Central Virginia Community College (CVCC) in the Spring of 1982. CVCC offers the following programs: 1) transfer programs which

are the equivalent of the first and second year of university education; 2) two-year technical and applied science degrees, designed to prepare a student for a job upon completion of the program; 3) certificates which provide training for specific operations of a given occupation. CVCC serves a district comprising the cities of Bedford and Lynchburg and the counties of Amherst, Appomattox and Campbell. In 1977 there were 183,432 persons residing in the service region, 74% over age 16. The industrial make-up of the region was as follows:

- Manufacturing - 40%
- Wholesale and retail trade - 13%
- Local, state and federal government - 11%
- Services - 10%
- Agriculture - 4%
- Contract construction - 4%
- Transportation and utilities - 3%
- Finance, insurance, and real estate - 3%
- Other - 12%

In the fall of 1978, 1,099 full-time and 2,318 part-time students attended CVCC. Eighty-four per cent of the students were white, 15% black, and 1% other. The number of males and females attending was approximately equal.

Specific subjects selected were students enrolled in Psychology 128 and Psychology 203 classes. It was felt that psychology students would be more willing and available than students

in other classes. More importantly, the selection of both Psychology 128 and Psychology 203 provides a good sampling of all CVCC students. Psychology 128, an applied psychology course, is required of all Associate in Applied Science programs and many certificate programs. Psychology 203 is the third quarter of a transfer psychology course that is required in some transfer programs and recommended in the others.

Data on the sex, age, chosen major, present job, and favorite leisure activity was obtained from the cover sheet of the inventory. There were 143 females and 103 males. Eighty-four of the subjects were age 23 or older, one hundred and fifty-seven of the students were under age 22. The subjects' ages ranged from 16 to 69. Chosen majors reflected the range of programs available at CVCC. Full-time occupations listed ranged from seamstress and welder to air traffic controller and business manager. Sixty-eight students were full-time students. Sixty-seven students worked part time and sixty-six worked full time. Some students' responses were not identifiable.

Item Analysis/Reliability

The response format used for this inventory was a three point scale of like, undecided, or dislike. For scoring, a like response was assigned two points, undecided two points and dislike zero points. The 11 items for each of the 17 scales (reduced from 12 to 11 by judges) were subjected to a test of internal consistency

using Chronbach's Alpha through the SPSS (1981) "Reliability" analysis package. SPSS provided an analysis that includes a resulting total scale internal consistency estimate when an item is systematically deleted. Therefore, it was possible to observe what each item contributes to the other 10 as a scale with regard to increasing or decreasing reliability. Those single items deleted that resulted in the most increase in reliability of the remaining 10 as a scale were the ones chosen for elimination in each set of 11 items. This reduced the items per scale from 11 to 10. Chronbach alpha internal consistency estimates for the resulting 10-item scales are shown in Table 2. Correlations range from .762 (Nature) to .926 (Animals).

To estimate subject stability with respect to the scales a test-retest reliability analysis was performed. Subjects were retested 16 or 17 days apart depending on the specific class. Results of this analysis are shown in Table 3. Correlations range from .753 (Social Relations) to .919 (Biological World).

There is no specific minimum number stated to be acceptable for a reliability coefficient. Nunnally (1978) states that for purposes of research, reliabilities in the range of .50 to .60 might suffice. However, for many individual choice situations a reliability of .90 might be the minimum. Helmstadter (1964) also notes that it's necessary to consider the content of a test when evaluating the adequacy of its reliability. Achievement and aptitude tests

Table 2

INTERNAL CONSISTENCY ESTIMATES

TECHNOLOGY	NATURE	TRAVEL	PHYSICAL WORLD	BIOLOGICAL WORLD	PSYCHOLOGICAL WORLD	ARTS & CRAFTS	PERFORMING ARTS	LITERARY ARTS
.920	.762	.777	.891	.904	.924	.904	.879	.927
ANIMALS	SOCIAL RELATIONS	INFLUENCING OTHERS	LEADERSHIP	ORGANIZING FACTS	NUMERICAL CALCULATIONS	PROTECTING OTHERS	SPORTS	
.926	.811	.836	.901	.861	.887	.854	.898	

Table 3

TEST-RETEST RELIABILITY

TECHNOLOGY .890	NATURE .780	TRAVEL .788	PHYSICAL WORLD .874	BIOLOGICAL WORLD .919	PSYCHOLOGICAL WORLD .860	ARTS & CRAFTS .850	PERFORMING ARTS .886	LITERARY ARTS .888
ANIMALS .877	SOCIAL RELATIONS, .753	INFLUENCING OTHERS .784	LEADERSHIP .872	ORGANIZING FACTS .825	NUMERICAL CALCULATIONS .824	PROTECTING OTHERS .840	SPORTS .856	

(tests of maximum performance) tend to have higher reliabilities than interest inventories and attitude scales (tests of typical performance). The general run of coefficients reported for other measures of the same trait is related to the decision regarding the type of test used with regard to adequate reliability.

Helmstadter reviewed 13 interest inventories and found the lowest reliability reported to be .42 and the highest .93 with a median for all being .84.

Aside from the above data, three contemporary inventories were selected to compare their reported reliabilities with the data obtained in the study. The first inventory was the frequently utilized career inventory, the Strong-Campbell Interest Inventory (SCII) (Campbell & Hansen, 1981). The second inventory was the Vocational Interest Inventory (VII) (Lunneborg, 1981), an inventory built on Anne Roe's theory; one half of its items are leisure activities. The third inventory is the only leisure inventory with any extensive data published on its reliability and validity, the Leisure Activities Blank (LAB) (McKechnie, 1974).

The SCII over a two week period demonstrated a test-retest reliability ranging from .82 for Medical Service to .93 for Literary Arts, median reliability was .91. Over 30 days the SCII reported a median reliability of .88. Over three weeks the VII reported test-retest reliabilities ranging from .75 Technology to .88 Outdoor with a median correlation of .81. The LAB reported

reliabilities over a three week period ranging from .76, Intellectual, to .94, Mechanics, with a transformed mean reliability coefficient of .85. As reported, the Leisure/Work Interest Inventory over 16 or 17 days demonstrated reliabilities ranging from .75, Social Relations, to .92, Biological World, with a median of .87. Considering Helmstadter's review plus the data on the SCII, VII and LAB it can be seen that the goal of establishing an inventory with reliability comparable to other inventories has been met, at least with respect to short term test-retest reliability.

With respect to internal consistency only the LAB and VII supplied data. A goal was to establish homogeneous scales so that interpretation would not be ambiguous. The VII scales showed internal consistency estimates ranging from .54 for Culture to .80 for Science. The LAB showed internal consistency estimates ranging from .76 Intellectual to .94 Adventure and Mechanics. The range of internal consistency estimates for the Leisure/Work Interest Inventory were from .76 to .93. It can be concluded that the Leisure/Work Interest Inventory also demonstrated internal consistency comparable to that of other inventories.

Validity

Selection of items according to the conceptual model and pre-defined categories was the first step in content validation. Judges verified initial item selection and those items not in agreement were thrown out to increase content validity. Having

judges determine labels for the 17 categories and unspecified items for the categories adds to construct validity, as does a demonstration that internally consistent scales can be established. Other than content validation, an estimate of concurrent validity was a main goal. To estimate concurrent validity subjects first were asked to list their choice of major and their confidence in their choice; their present job and degree of satisfaction with their job, and finally, their favorite leisure activity (the one they would least like to give up). Then, the top 3 scale scores on the inventory were checked against major, job, and leisure activity to see if they could be clearly classified in one of the 17 basic interest categories. For curriculum choice, only the responses of those subjects who indicated they were certain of their choice were tallied. Ninety-eight of 121 persons chose a curriculum consistent with their highest 3 of 17 scale scores, 52 of 121 persons had their highest scale score as the one where the major was classified. Only 23 of 121 subjects did not have one of their top three scale scores in accord with their choice of curriculum. Forty-eight subjects indicated satisfaction with their job as opposed to doing it as "just a job" or being dissatisfied. Of these 48, 35 jobs were consistent with a classification in one of the subjects' top 3 scales, only 13 were not. Ninety-two leisure activities were classified into one of the top three inventories scales, fifty-one of these 92 were in the top category; only 30 were not among the top three scales.

Because of three different categories of education, work, and leisure were to be utilized, any of the top 3 of the 17 scales was considered a hit if the scale corresponded to the subject's listing. For example if the subject's top scale score was in Technology and the subject reported satisfaction in majoring in Machine Shop, a hit was recorded. To determine what was a "good" hit rate other studies were reviewed. Holland, Magoon and Spokane (1981) concluded that the prediction of current aspiration or occupation entered appears to have reached a limit. In a six category system, for example Holland's system, most inventories have a hit rate of 40% plus or minus 5%. Using college major as a criterion for the six categories of the ACT Inventory, Laing, Lamb, and Prediger (1982) observed hit rates varying from 41% to 78% for 6 categories. Cairo (1979) did a long term follow-up of the validity of the Strong Vocational Interest Blank (SVIB) and found a hit rate of 21% for the chosen occupation and a hit rate of 18% for chosen leisure activity. The Cairo study was for data gathered over 20 years and for 22 SVIB basic interest scales. Using only the top score for each category, the present study obtained hit rates of 43% for occupational training, 23% for chosen job and 42% for leisure activity for the 17 basic interest scales. These hit rates are comparable to the data observed from other studies.

Internal consistency was discussed in a previous section. All the scales showed estimates ranging from .72 to .93, indicating

considerable internal homogeneity. Because it helps to characterize the behavior domain or trait sampled by the test, the degree of homogeneity of a test has some relevance to its construct validity (Anastasi, 1976). Obviously much more data need to be gathered in the future to enhance construct validity. Data so far, however, do support construct validity of the Leisure/Work Interest Inventory.

A sample of 35 persons who had taken both the SCII and the Leisure/Work Interest Inventory provided some additional support for construct validity. The sample ranged from a recent high school graduate to a counselor with a doctorate. Table 4 shows the correlation of the Leisure/Work Interest Inventory scales with similarly named SCII scales. Correlations range from .53 to .76, all substantial correlations.

Table 5 shows all the Leisure/Work Interest Inventory scales that had correlations with each other of .35 or greater. A choice of .35 represents a correlation accounting for more than 10% of the variance in the other scale. All scales had at least 2 correlations of .35 or greater.

Construct validity focuses on a broader, more enduring and more abstract kind of behavioral description than the previously discussed types of content and concurrent validity. Construct validation requires the accumulation of information from a variety of sources (Anastasi, 1976). Information sources used for this study and quoted as sources by Anastasi include age differentiation,

Table 4

CORRELATIONS WITH LIKE-NAMED SCALES

SPORTS	<u>ATHLETICS</u> .74	TECHNOLOGY	<u>MECHANICS</u> .72	NATURE	<u>AGRICULTURE</u> .58	PHYSICAL WORLD	<u>SCIENCE</u> .71
BIOLOGICAL WORLD	<u>MEDICAL SCIENCE</u> .74	ARTS & CRAFTS	<u>ART</u> .72	PERFORMING ARTS	<u>DRAMA</u> .65	LITERARY ARTS	<u>WRITING</u> .56
SOCIAL RELATIONS	<u>SERVICE</u> .53	INFLUENCING OTHERS	<u>SPEAKING/POLITICS</u> .76/.74	LEADERSHIP	<u>BUSINESS MANAGEMENT</u> .62		
FACTS	<u>OFFICE</u> .62	NUMERICAL CALCULATIONS	<u>MATHEMATICS</u> .63				

(SCII scale name on top, W-L scale name on side.)

sex differences, correlations with other tests, and internal consistency estimates. Age and sex differences will be discussed in a following section. Correlations with other tests include correlations of the Leisure/Work Interest Inventory scales with each other when considering each scale as a separate test, and correlations of the Leisure/Work Interest Inventory scales with the Strong/Campbell Interest Inventory (SCII). With two exceptions to be discussed later, the scales of the Leisure/Work Interest Inventory expected to correlate with each other do show the highest correlation with each other. For example, Table 5 shows that Arts and Crafts correlates highly with Performing Arts. The Physical and Biological World are highly correlated and Influencing Others, Psychological World and Social Relations are all highly correlated (see Appendix B for complete table of intercorrelations).

Scale Arrangement

In the circular, two dimensional conceptual model determined by Facts versus Ideas and People versus Things, scales were arranged according to theory and results of past studies. Data with regard to the intercorrelation of the scales helps confirm this arrangement. Table 5 shows the correlations between the scales that are .35 or above. The highest correlations were between Facts and Numbers (.77) and between Physical World and Biological World (.73).

Table 5

CORRELATIONS .35 AND GREATER AMONG SCALES

	SP	TC	NA	TR	PW	BW	AR	PA	LA	AN	PY	SO	IN	LD	FA	NM	PO
SPORTS (SP)		36															39
TECHNOLOGY (TC)	<u>35</u>				<u>48</u>												<u>44</u>
NATURE (NA)					39	<u>45</u>	43			<u>53</u>							39
TRAVEL (TR)							44	37				53			42		
PHYSICAL WORLD (PH)		<u>48</u>	39			<u>73</u>											38
BIOLOGICAL WORLD (BW)			<u>45</u>		<u>73</u>					35	37						
ARTS & CRAFTS (AR)			43	44				<u>59</u>	<u>65</u>		42	41	42				
PERFORMING ARTS (PA)							<u>59</u>		50			43	47				
LITERARY ARTS (LA)							<u>64</u>	<u>50</u>			<u>55</u>	46	52				
ANIMALS (AN)			<u>53</u>				35										
PSYCHOLOGICAL WORLD (PY)						37	41		<u>55</u>			<u>59</u>	41				
SOCIAL RELATIONS (SO)				<u>53</u>			41	43	46		<u>59</u>						
INFLUENCING OTHERS (IN)							42	47	51		41	<u>59</u>		<u>64</u>			
LEADERSHIP (LD)				39								<u>60</u>	<u>64</u>		39	38	<u>42</u>
ORGANIZING FACTS (FA)				42								42	35	38		<u>77</u>	
NUMERICAL CALCULATIONS (NM)														38	<u>77</u>		
PROTECTING OTHERS (PO)	<u>39</u>	<u>44</u>	39		38								40	<u>42</u>			

Table 6 helps to further clarify the relationship of the scales to each other by contrasting the scales correlating the most with those correlating the least. Using this new information and starting with the original structure it can be seen that for the most part scale arrangement is confirmed. For example, Sports is most related to Protecting Others and Technology, and least to the Arts. Travel, however, appears to be much more of a social endeavor than an interaction with the physical environment. Animal relations, contrary to Prediger's conception that the social environment includes relating to animals, appears more appropriately placed where Travel was located, relating more to Things.

An additional source of confirmation of specific scale location comes from subjects tested with both the Leisure/Work Interest Inventory and the SCII. Leisure/Work Interest Inventory scales were correlated with the Holland Typology scales on the SCII. It was noted previously that Prediger has shown that Holland's six basic types of Realistic, Investigative, Artistic, Social, Enterprising, and Conventional can be accounted for by the People/Things and Facts/Ideas dimensions. Therefore, Leisure/Work Interest Inventory scale correlations with the Holland categories provide further information with respect to scale location. Correlations of .35 and above with each of the Holland scales are shown in Table 7. There were no correlations

Table 6

SCALES CORRELATING THE MOST AND
THE LEAST WITH EACH SCALE

	<u>LEAST</u>	<u>MOST</u>
SPORTS:	Literary Arts/Performing Arts	Protecting Others/Technology
TECHNOLOGY:	Psychological World/Literary Arts Social Relations	Physical World/ Protecting Others
NATURE:	Numerical Calculations/Influencing Others/Leadership	Animals/Biological World/ Arts & Crafts
TRAVEL:	Technology/Physical World/ Protecting Others	Social Arts & Crafts/ Organizing Facts
PHYSICAL: WORLD	Travel/Sports/Social Relations	Biological World/Technology
BIOLOGICAL: WORLD	Sports/Travel	Physical World/Nature
ARTS & CRAFTS:	Sports/Technology	Performing Arts/Literary Arts
PERFORMING: ARTS	Sports/Technology	Arts & Crafts/Performing Arts
LITERARY: ARTS	Technology/Sports	Arts & Crafts/Psychological World/ Influencing Others
ANIMALS:	Influencing Others/Leadership	Nature/Arts & Crafts
PSYCHOLOGICAL: WORLD	Technology/Sports	Social Relations/Literary Arts
SOCIAL: RELATIONS	Technology/Physical World	Leadership/Influencing Others/ Psychological World
INFLUENCING: OTHERS	Technology/Nature	Leadership/Social Relations
LEADERSHIP:	Animals/Biological World	Influencing Others/Social Relations
ORGANIZING: FACTS	Technology/Sports	Numerical Calculations/ Social Relations
NUMERICAL: CALCULATIONS	Literary Arts/Animals	Organizing Facts/Leadership
PROTECTING: OTHERS	Arts & Crafts/Travel	Technology/Leadership

Table 7

CORRELATIONS OF BASIC INTEREST SCALES
WITH HOLLAND CATEGORIES

	SPORTS	TECHNOLOGY	NATURE	TRAVEL	PHYSICAL WORLD	BIOLOGICAL WORLD	ARTS & CRAFTS	PERFORMING ARTS	LITERARY ARTS	ANIMALS	PSYCHOLOGICAL WORLD	SOCIAL RELATIONS	INFLUENCING OTHERS	LEADERSHIP	ORGANIZING FACTS	NUMERICAL CALCULATIONS	PROTECTING OTHERS
REALISTIC	<u>48</u>	<u>69</u>	<u>46</u>		59		43							40			32
INVESTIGATIVE	47	38	<u>54</u>		<u>84</u>	<u>66</u>			35	<u>37</u>	36		42				
ARTISTIC							<u>65</u>	<u>63</u>	<u>63</u>		<u>56</u>	46					
SOCIAL	39				42	36		35				<u>49</u>					
ENTERPRISING	44			<u>39</u>								<u>52</u>	<u>45</u>	<u>62</u>		46	
CONVENTIONAL												42	<u>49</u>	50	<u>65</u>	<u>58</u>	

.35 or above of Protecting Others with any of the Holland scales so the highest correlation of .32 is shown.

Initial scale arrangement was determined by the considerable information concerning the four basic dimensions of Facts/Ideas and People/Things provided by Prediger (1978, 1981a, 1981b). Additional cues for scale arrangement were provided by location of the SCII basic interest scales within the Holland Typology (Campbell & Hansen, 1981). Finally, a study by Lunneborg (1977) provided additional evidence as to scale location and questioned the continued existence of SCII scales such as Public Speaking and Adventure.

The correlational evidence presented shows that overall scale arrangement was confirmed. Psychological World was a newly developed scale not commonly seen in other inventories. This scale was developed because of the widespread interest in self inquiry and self development. It is a scale found to be quite useful in counseling sessions. Psychology was confirmed in location as being located near Social Relations (People) but on the Ideas side. Protecting Others is another scale that has no real comparable scale in other inventories. This scale was meant to include all activities involved in maintaining order and protecting persons and property ranging from military service to police and fire protection to safety inspection. It's location between Things (the physical environment) and Facts (ordering the environment) was confirmed. Figure 7 is the conceptual model with scales rearranged according to the data obtained.

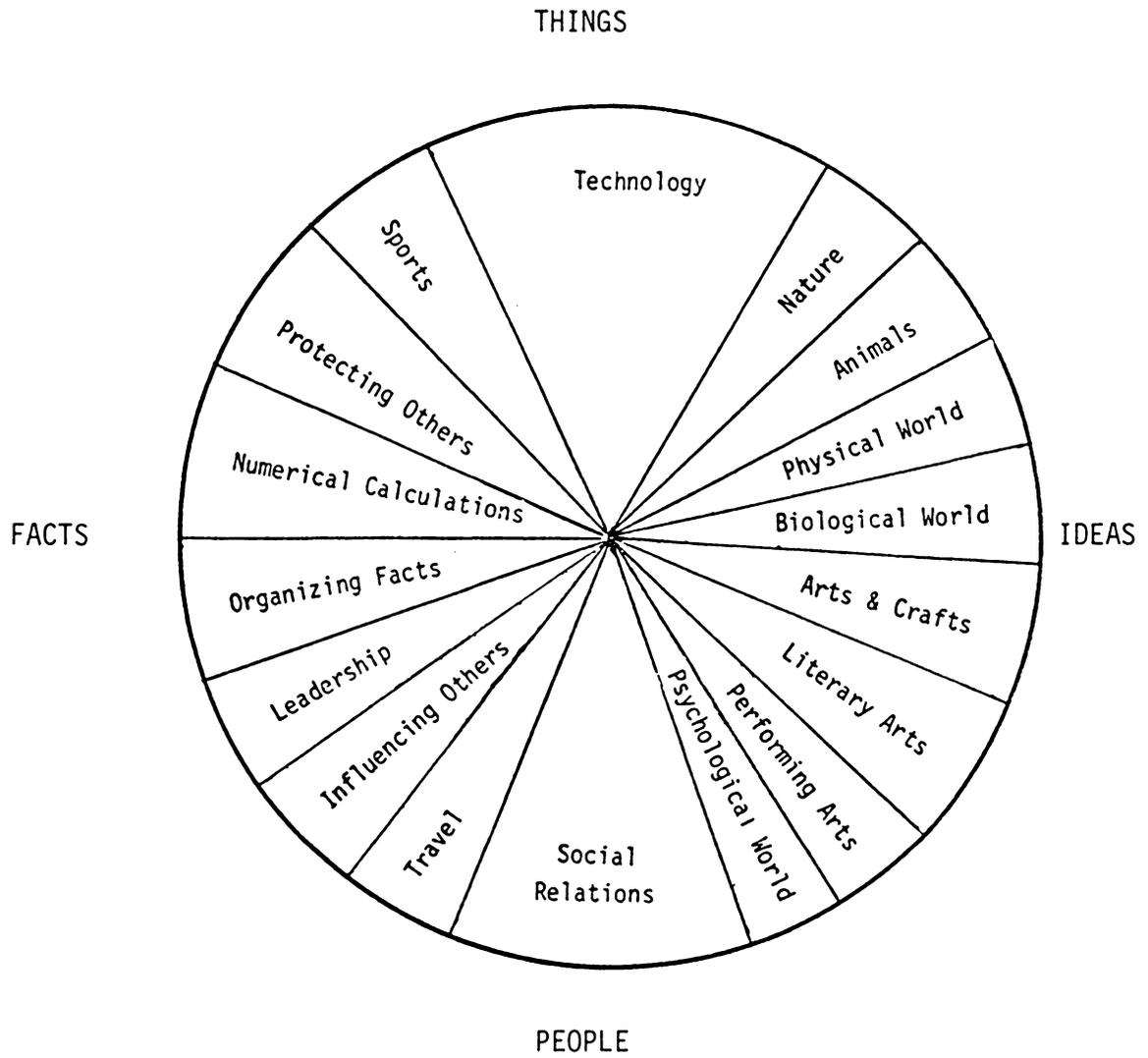


Figure 7 Revised Basic Interest Arrangement

Two scales needed to be relocated according to the evidence obtained. Travel was originally conceived to be a variable related to exploration of the physical environment. The data, however, indicate that, at least for the population tested, travel is mostly a social relations activity. Animal Relations was clearly stated to be a social activity by Prediger (1981). The data, however, indicated Animal Relations to be more things oriented. Therefore, in the present arrangement Animal Relations is located between Nature and the Physical World. Some confirmation of this location comes from the Career Assessment Inventory (CAI) (Johansson & Johansson, 1976), an inventory similar in structure to the SCII but less professionally oriented with respect to the occupations covered. The CAI located Animal Service between Nature/Outdoors (Things) and Science (Ideas).

Age and Sex Differences

For the purposes of this study the cutting point for the younger age group was 22 and younger while the older group was defined to be 23 and older. For a community college whose students in transfer programs go on to a four year college after two years, age 22 seemed to be a reasonable limit for younger subjects. Other studies have also used age 22, the typical age of graduation from college, as a cutting point.

There were no differences even as big as one-half standard deviation for any of the 17 categories when comparing these two

groups on age differences. The only category to even approach one-half standard deviation difference was psychology ($\bar{X}_{diff} = 2.5$, $SD = 5.6$). Persons in the older group showed higher scores on this scale. This increase in interest in self was noted by Hurlock (1980) and is noticeable when counseling adults versus students who have just completed high school. The adults at a community college seem much more eager to understand themselves. The older group also showed more interest in writing ($\bar{X}_{diff} = 2.0$, $SD = 6.2$). This increased interest in writing was also observed on the SCII scales (Campbell & Hansen, 1981). The only other age difference that approached two points was for Animal Relations ($\bar{X}_{diff} = 2.0$, $SD = 5.7$) in which the younger group scored higher.

Even though items were chosen deliberately to avoid sexual bias, sex differences appeared on a number of the scales. Table 8 shows the mean scores on each scale by sex. There was a statistical difference indicated by T-tests between the sexes on those scales identified with an asterisk below.

Scales showing statistical differences range from a difference of 1.1 on Travel to 5.7 on Technology. To adjust for sex differences on these scales, separate norms will be generated for men and for women.

There is much data in the research literature to show that sex differences on interest activities do exist. Differences between the sexes in item responses occur early in life and by the eighth grade

Table 8

AVERAGE SCORE BY SEX

	SP	TC	NA	TR	PW	BW	AR	PA	LA	AN	PY	SO	IN	LD	FA	NM	PO
FEMALE MEAN	14.3	9.6	15.5	17.7	8.4	10.8	13.9	13.6	12.2	14.4	16.8	17.2	9.9	13.0	11.3	11.2	9.2
STANDARD DEVIATION	5.2	5.3	3.8	2.7	5.7	6.2	5.0	5.0	6.0	5.8	4.1	3.0	4.9	5.2	5.3	5.8	4.9
MALE MEAN	17.6 *	15.3 *	14.5	16.6 *	9.0	8.3 *	10.4 *	12.2	8.0 *	11.2 *	12.6 *	15.8 *	10.3	14.3	8.9 *	10.9	10.8
STANDARD DEVIATION	3.9	4.9	4.1	3.5	5.6	5.5	5.8	5.8	5.9	5.8	5.8	3.6	4.9	5.1	4.9	5.0	4.9

are apparent (Johansson, 1975). Furthermore, Johansson concludes from an extensive survey of the literature that men and women in a general sample do have different patterns of responses to the same items and these differences are fairly common between the sexes even when occupational membership is held constant. With respect to both job and leisure activities sex differences were found for male and female accountants (Perkins, 1980). The literature on leisure research also confirms sex differences (McKechnie, 1974).

The results of this study of intrinsic interest activities finds essentially no differences between the sexes from those found in the literature. As opposed to the differences found between the ages where no difference exceeded the standard deviation of the scores the difference between the sexes on Technology ($\bar{X}_{diff} = 5.7$) clearly exceeded the standard deviations of the scores for the sexes. Psychology also showed a difference exceeding the standard deviation for the females ($\bar{X}_{diff} = 4.2$). Literary Arts also had a mean score difference of 4.2. Other differences exceeding 2.0 were: Arts & Crafts, 3.5; Sports, 3.3; Animal Relations, 3.2; Biological World, 2.5; and Facts, 2.4.

The biggest difference between the sexes was on Technology (Things). In light of previous studies, this comes as no surprise and is the biggest sex difference of all (Lunneborg, 1979). In spite of an attempt to first pick items for each scale that are equally preferred by the sexes, a "People" versus a "Things" orientation difference was found by Lunneborg. She concludes that "It is women who are

primarily responsible for the service versus technical gap between the sexes by their rejection of technical activities and over-endorsement of anything social" (p. 148). With respect to the difference in technical interests, McKechnie (1979) found the largest difference between the sexes on his Leisure Activities Blank to be on the Mechanical scale. Although no attempt was made to sex balance the items in the Leisure/Work Interest Inventory, examination of the items would indicate little to expect a sex bias: "Repairing things" could apply, for example, to fixing a toaster, if a woman is so inclined.

Other interest differences between the sexes found in research indicate that males are more interested in business, management, sports, the outdoors, and physical science while women show more interest in fine arts, music, literature, and detailed work (Johansson, 1975, Campbell, 1981, Holland, 1979). In this study, Sports was found to show a substantial difference in favor of the men. Leadership and Influencing Others favored the men but were not a significant difference, while Nature was slightly favored by the women. As expected, Arts & Crafts, Performing Arts, Literary Arts, and the Facts categories were favored by the women. In the Science area women favored the Biological World; men slightly favored the Physical World. Women clearly favored Psychology and Animals.

Summary

Data have been supplied in response to the basic research questions. Seventeen basic interest categories were developed. Concurrent validity for the scales was established. Data obtained resulted in rearrangement of two scales in the overall conceptual scheme. Subjects' scores on the scales indicated 10 of the 17 scales showed a statistical sex difference. Although some statistical differences were found on the scales with regard to age differences, the absolute differences were small. Norms will be developed to adjust for the sex difference. In Chapter 5 a discussion of the implication of these results will be presented.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Using items common to work and leisure, an inventory of basic interest scales that apply to both was constructed. The structure of the inventory was based on a conceptual model which visualizes both work and leisure intrinsic interest activities as originating from a People versus Things or a Facts versus an Ideas orientation.

The present inventory has undergone three phases of development. The first phase was an initial pilot study. During this phase the inventory was developed from a review of vocational interest inventories; interest activity items were selected that appeared to apply to both work and leisure. Basic interest categories which were used for this inventory were based principally on the Strong-Campbell Interest Inventory basic interest scales and the writer's own experience in career counseling, which included discussion of leisure options. The instrument was developed with and used on college students. The inventory was found to be a reliable, useful instrument that demonstrated some concurrent validity.

The next phase of development of the inventory consisted of a thorough review of the research literature plus a review of present and past leisure and vocational interest inventories. This review enabled an overview of all basic interest categories conceived of in work of leisure. Complete definitions for 17 basic interest scales

were developed. Then a pool of interest activity items from the inventories was generated to build the basic interest categories. The second inventory, therefore, was constructed from experience gained from the pilot study and assembled into basic interest categories based on a comprehensive review of past research and development. The basic interest scales were assembled using comparable scales found in other inventories as a guide. The scales for this inventory were subjected to verification by qualified judges and then to statistical analysis. The results of this analysis are reported in Chapter 4. The third phase of the inventory development is a revision of the inventory used in phase 2, the results of which are presented in Chapter 4.

Summary of Results

Research question number one asked whether items designed to be equally appropriate to work and leisure activities would resolve on analysis into the hypothesized categories. The categories were determined from a comprehensive review of existing career (work) inventories, leisure inventories, and factor analysis studies on work or leisure interests. The first step for this researcher, an experienced career counselor, was to sort items into the selected and defined categories. Following this process five qualified judges verified the categories and selection of items. The single item of 12 that was in least agreement among the judges was thrown out. Next, a test of internal consistency was run on the separate

scales with the item least consistent with the others being thrown out. Finally, intercorrelations between the scales were calculated and shown, with the exception of four scales, to be acceptably low. Qualified judges who verified the existence of the specific categories and the item placement affirm research question one. Then, high internal consistency estimates and low interscale correlations added to confirmation of the scales. The answer to research question number one is yes on all measures.

Research question number two asked whether the established categories would be separate and independent enough to justify their continued existence. High internal consistency estimates for all 17 scales indicated that the scales were measuring a single basic interest or very closely related interests. Then, intercorrelations between the scales, with the exception of four scales, were sufficiently low demonstrating scale independence. The Numerical Calculations scale was correlated relatively highly with the Organizing Facts scale. The Physical World and Biological World scales also were fairly highly correlated. For the present inventory, however, it was decided to retain the separate scales. There is a clear difference in the items in the scales. Nurses, for example, may well like biology and have little liking for physics. Likewise, a person could like organizing facts but not necessarily like mathematics. Therefore, for counseling purposes on at least this phase of the inventory development, it was decided to retain all 17 scales.

Research question number three asked whether high point scores on the scales would be consistent with the choices of individuals for specific work or leisure activities. Hits (agreement between the highest scale scores and type of work or leisure activity) were recorded for all classifiable responses on the inventory for choice of curriculum, present job and favorite leisure activity. Using the strictest of criteria (only the top scale score) as being the correct answer, percentages of hits were found comparable to results found in the research literature. If the top three scale scores were to be considered as hits, hits would then be in the 75-80% range. These results demonstrate considerable concurrent validity. Therefore, the answer to research question number three is yes, scores on the scales are consistent with work and leisure activities.

In conclusion, this study found that a panel of five judges did verify the experimenter's placement of items in the defined categories. Furthermore, construct validity of the scales was demonstrated by the judges identifying the unnamed scales and by subsequent statistical analysis. The scales were found to have demonstrated acceptable internal consistency and acceptable reliability over time. With the possible exception of 4 of the 17 scales, the scales demonstrated independence through lack of excessive correlation with each other. Scale arrangement within the adopted two dimensional configuration was confirmed with the

exception of two scales that were subsequently relocated. Concurrent validity comparable to that found in other studies was demonstrated for the scales. Sex differences in certain item responses were found. Therefore, separate norms will be developed to make adjustment for these differences.

Theoretical Implications

Prediger (1981) maintains that his basic two-dimensional scheme of Data versus Ideas and People versus Things is inclusive of the eight categories of Roe's theory and the six categories of Holland's Typology (See Figure 8). For development of the Leisure/Work Interest Inventory, heavy reliance was put on Prediger's work. In addition, research on Holland's Typology which was used in the Strong-Campbell Interest Inventory (SCII) plus research with regard to Roe's system which was used in organizing the Vocational Interest Inventory (VII) was utilized. With respect to a leisure emphasis, it has been noted that Holland indicated his theory to be useful for leisure counseling (Holland, 1973). Research by Taylor, Kelso, Cox, Alloway & Matthews (1979) confirmed the usefulness of Holland's approach for leisure counseling. Cairo's (1979) study also found relevance for leisure counseling in the SCII basic interest scales, and Mitchell (1980) found the SCII basic interest scales to be most valid for leisure counseling. Additionally, the Vocational Interest Inventory (VII) was constructed with half its items being leisure, and the VII manual mentions

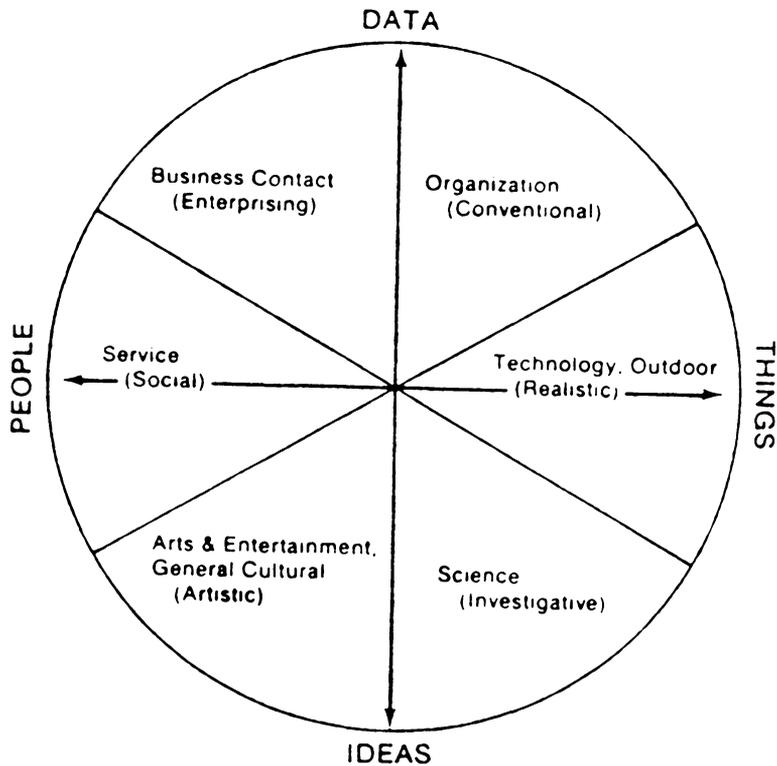


Figure 8 Relationship between data/ideas and things/people work task dimensions and the Roe-Holland occupational types. Holland's types are in parentheses.

Source: Prediger, D. J. Getting ideas out of the DOT and into vocational guidance. Vocational Guidance Quarterly, 1981, 29, p. 294.

leisure counseling as a goal. Finally, it was pointed out that a factor analysis of the Leisure Activities Blank (LAB) revealed principal factors related to Ideas, People and Things. Therefore, the final structure of the Leisure/Work Interest Inventory should show a consistency with those models. Figure 9 again shows the final model arrangement of the scales. The present arrangement of this model can be seen to be in accord with Prediger's figure which shows all three models in an integrated fashion. Sports, Technology, Nature and Animals correspond to Realistic or Outdoor, Technology of Holland & Roe along the Things dimension. The Physical and Biological World correspond to Investigative or Science along the Ideas dimension. Arts and Crafts, Literary Arts and Performing Arts correspond to Artistic or Arts & Entertainment, General Culture, also along the Ideas dimension. Travel, Social Relations and Psychology correspond to Social or Service along the People dimension. Influencing Others and Leadership correspond to Enterprising or Business Contact near the Data dimension. Finally, Facts, Numbers and Protecting Others correspond to Conventional or Organization along the Data dimension. Categories are not absolute and do blend with other categories. For instance, Protecting Others is concerned with organizing the world (Data) but also has elements of dealing with the Physical World (Things) as well as an element dealing with People. Psychology likewise has a large Ideas component aside from the People orientation. Furthermore,

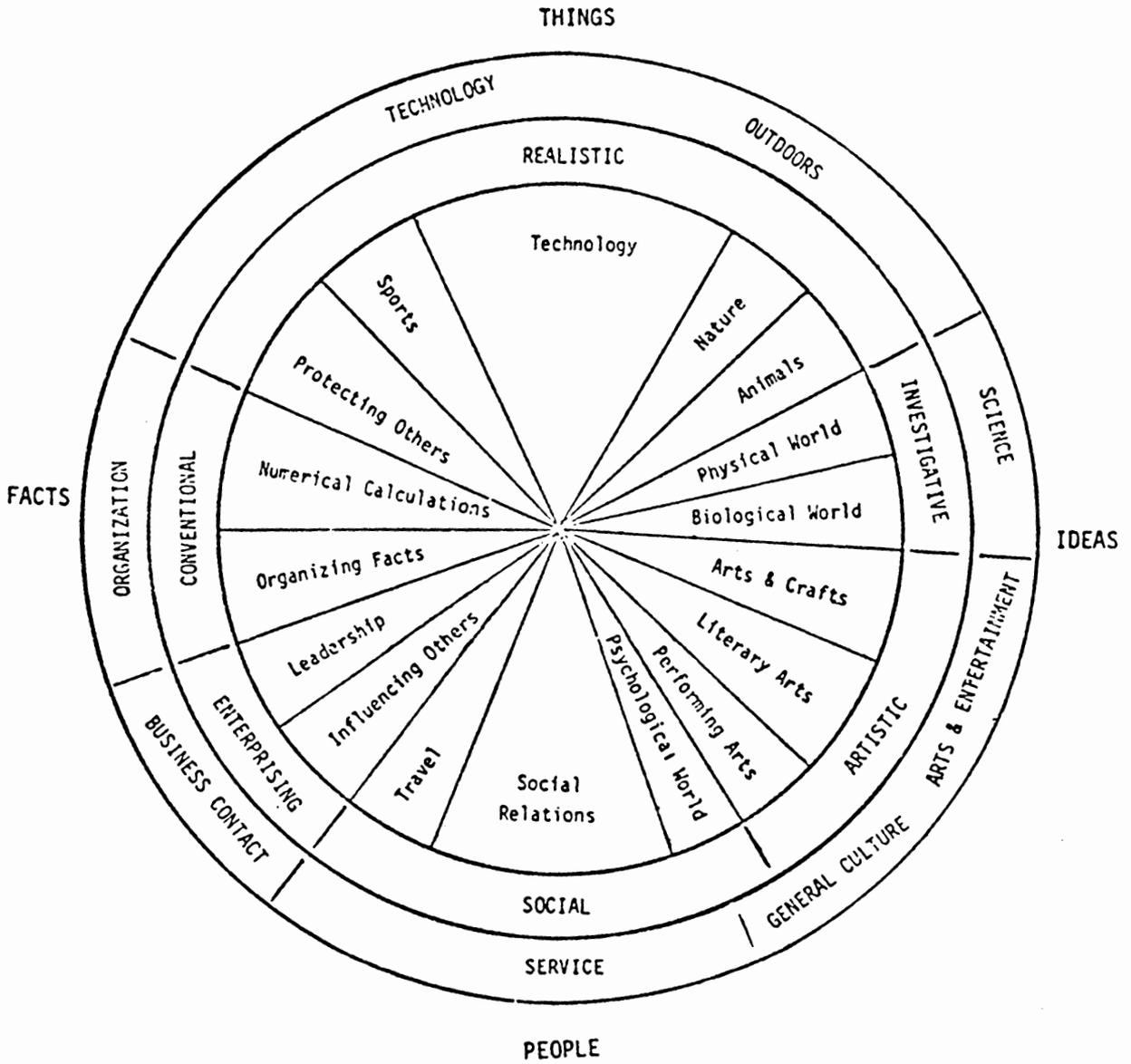


Figure 9 Relationship of Categories to Holland and Roe Typologies

specific interest activities are not seen to be made exclusively of one basic interest element. Sports, for example, may be mostly an interaction with the physical environment but also could be a social endeavor. The Sports scale, in particular, has varied in specific location within the models used by theorists. Holland discusses Sports in context with the Realistic category, yet the basic interest scale for Sports is located in the Social category on the SCII. Animal Relationships is another example which, although it is located in the Things/Realistic category, can certainly be conceived of as having its social component, as Prediger visualized. Locations of specific interest activities should be conceived of as a function of relationship to the other significant scales in the inventory. An example of this is Prediger's Map of College Majors and the World of Work Map (1976). Additionally, each specific activity would likely contain specific basic interest components. Thus, Protecting Others, Leadership and Social Relations would be principal components for police captains. Holland (1978) recognized this and assigned combination codes accordingly. The variation in components of an occupation were especially noticeable with respect to the Holland codes given the occupations in the SCII. Super (1940) also demonstrated that specific leisure activities have their characteristic interest patterns.

Lunneborg (1977,1978) insists that in order to adequately account for interests up to four dimensions need to be considered. Gati (1979) and Gati and Meier (1982) point out some inconsistencies

between the Holland & Roe models. In addition, especially from the literature on leisure research, it would appear that a reasonable third dimension other than an interest factor might be an active/adventure seeking versus a passive dimension. Regardless of some inconsistencies, and the fact that there are other dimensions involved in interest inventories, Prediger's basic two-dimensional model has enough research evidence to show it to be a viable model to arrange basic interest categories related to both work and leisure. For initial counseling purposes a less complicated, two-dimensional model is more than sufficient.

Practical Implications

Contrary to the objective of many dissertations whose goal is to contribute to research knowledge only, this dissertation had two overall objectives. One objective was to establish a theoretical rationale for combining work and leisure interests into one comprehensive theoretical framework to facilitate a broad approach to career counseling. The second overall objective was to develop a counseling instrument to assist in such a counseling approach.

The previous theoretical discussion relating Prediger's, Holland's and Roe's work to the Leisure/Work Interest Inventory was a first step in developing a practical instrument. Holland's Typology is used in the SCII and Roe's is used in California Occupational Preference System (Knapp, L. & Knapp, R., 1980). Both of these instruments are intended to be utilized as follow-up

in case an individual wants to go further in interest clarification. Therefore, a coordinated approach would be most meaningful. In addition, at Central Virginia Community College and at many other institutions the occupational information files are organized according to the Holland Typology. An instrument that can lead directly to an organized search of these files is useful.

Because the Leisure/Work Interest Inventory is also organized on the basic dimensions of Facts/Ideas and People/Things a conversion can be readily made to the Department of Labor's classification of Data, People and Things utilized in the Dictionary of Occupational Titles (DOT). Many other resources are cross referenced on the DOT.

As a special project, the Leisure/Work Interest Inventory has been specifically organized to coordinate with the Virginia VIEW materials which give a detailed description of the top 345 occupations in the state. Cross references to the computerized approach to the Virginia VIEW materials include indexing by Data, People, and Things. In addition, coding according to Holland's Typology is available for these 345 occupations. Also, a cross reference to the Worker Trait Group Guide (Winefordner, 1978) was established. This guide provides further details on specific occupation organized into basic interest categories. Of special note is a section in each category which lists cues for potential for jobs. These cues frequently refer to leisure activities which in turn can be used for leisure counseling.

Finally, the Leisure/Work Interest Inventory will provide work options organized into its 17 basic interest categories including, but not limited to, the 345 occupations listed by VIEW. A parallel category of leisure options will be supplied also. Cues for these options will come from the Appalachian Educational Laboratory Worker Trait Guide, lists of adult continuing education courses, volunteer activities lists; and items from the Leisure Activities Blank, the Miranda Interest Finder, and Edwards Constructive Leisure Activities Survey.

To summarize, a brief, quickly scored, interest survey, relating to both work and leisure, has been developed. This inventory is consistent theoretically with other frequently utilized inventories. This inventory also is consistent with a common method of filing occupational materials. In addition, the Leisure/Work Interest Inventory is keyed to the principal source of career information in Virginia. Finally, work and leisure options are provided to make this a practical instrument for initial counseling.

Suggestions for Future Research

Proper inventory development is a never-ending process. Theory and empirical data have resulted in establishment of 17 basic interest scales of 10 items each. These results were obtained basically from a sample of subjects from two locations. The following are suggestions to continue development of the Leisure/Work Interest Inventory:

1. Continue to sample a wide range of subjects in other geographical locations and at various educational levels.
2. Continue examination of the basic interest scales developed to determine whether new scales should be added or existing scales deleted to ensure a comprehensive coverage.
3. Consider development of an instrument with 15 scales and less than 10 items per scale to further the goal of a brief instrument for initial counseling purposes.
4. Reduce the average scores on the Travel and Social Relations scales by adding items which are less popular, but show substantial item-scale correlations.
Utilizing the inventory in other areas will help clarify this situation and test new items.
5. Consider development of empirically determined occupational and leisure activity keys for enhancement of the leisure and work options provided.

6. Conduct concurrent validity studies on specific occupational, educational and leisure groups.
7. Continue study on the relationship of the basic interest scales to other variables such as age, sex, race, and social class.

The development of an interest inventory should be a continuous effort over the years. The recommendations presented here are aimed toward this goal.

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APPENDIXES

Appendix A
Judge Responses

JUDGES RESPONSES

Key: X = Same classification as experimenter
 A = Classified in adjacent category
 C = Judge combined adjacent categories
 = Not classified in same or related category

SPORTS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Being physically active		X	X	X	X	X
2	Watching sporting events		X	X	X	X	X
3	Being athletic		X	X	X	X	X
4	Participating in sports activities		X	X	X	X	
5	Being in physical condition		X	X	X	X	X
6	Being around athletes		X	X	X	X	
7	Reading sports articles		X	X	X	X	X
8	Discussing sports		X	X	X	X	X
9	Volunteering to assist in an athletic event		X	X	X	X	X
10	Learning about a sport		X	X	X	X	X
11	Taking physical education courses		X	X	X	X	
12	Knowing the rules of a sport		X	X	X	X	X

TECHNOLOGY

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Being in a hardware store		X	X	X	X	
2	Having mechanical aptitude		X	X	X	X	X
3	Solving mechanical problems		X	X	X	X	X
4	Watching specials on building things		X	X	X	X	X
5	Lectures on building things		X	X	X	X	X
6	Repairing things		X	X	X	X	X
7	Building things		X	X	X	X	X
8	Operating equipment		X	X	X	X	X
9	Taking electronics courses		X	X	X	X	
10	Using hand tools		X	X	X	X	X
11	Making electrical repairs		X	X	X	X	X
12	Operating a power tool		X	X	X	X	X

NATURE

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Being outdoors		X	X	X	X	X
2	Watching nature shows		A	X	X	X	X
3	Reading nature magazines		A	X	X	X	X
4	Courses on nature		A	X	X	X	X
5	Being in the mountains		X	X	X	X	X
6	Being around lakes		X	X	X	X	X
7	Attending lectures on the outdoors		X	X	X	X	X
8	Being an expert on the outdoors		X	X	X	X	X
9	Volunteering for conservation activities		A	X	X	X	X
10	Doing activities outdoors		X	X	X	X	X
11	Growing flowers or trees		A	X	X	X	X
12	Caring for lawns, shrubs, and flowers		A	X	X	X	X

TRAVEL

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Seeing new city sights		X	X	X	X	X
2	Planning trips		X	X	X	X	X
3	Traveling		X	X	X	X	X
4	Visiting interesting places		X	X	X	X	X
5	Making travel arrangements		X	X	X	X	X
6	Being in airplanes		X	X	X	X	X
7	Discussing interesting places		X	X	X	X	X
8	Driving			X	X	X	
9	Boat trips		X	X	X	X	A
10	Reading about airplanes or ships		X	X	X	X	X
11	Having friends who like to travel		X	X	X	X	
12	Providing travel information		X	X	X	X	X

PHYSICAL WORLD

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Attending lectures on physics	C	X	X	X	X	C
2	Doing chemical experiments	C	X	A	X	X	C
3	Having chemists or physicists as friends	C	X	A	X	X	C
4	Discussing theories of the earth's structure	C	X	X	X	X	C
5	Studying the composition of the stars	A	X		X	X	A
6	Using advanced mathematics to solve physics problems					A	C
7	Demonstrating dramatic chemical or physical experiments	C	X	X	A		
8	Reading articles involving knowledge of chemistry or physics	C	X	X	X	X	C
9	Being in chemical laboratories	C	X	A	X	X	C
10	Watching shows that explain the physical world	C	X	X	X	X	C
11	Discovering new theories of physics	C	X	X	X	X	C
12	Understanding complex physical or chemical theories	C	X	X	X	X	C

BIOLOGICAL WORLD

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Being in biology laboratories		A	X	X	A	C
2	Taking biology courses		A	X	X	A	C
3	Dissecting plants or animals		A	X	X	A	
4	Researching cures for illnesses		X	X	X	X	C
5	Visiting a medical laboratory		X	X	X	X	C
6	Studying properties of a disease		X	X	X	X	C
7	Learning about blood chemistry		X	X	X	X	C
8	Examining plant or animal tissue under a microscope		X	X	X	A	C
9	Understanding the biological make-up of plants and animals		A	X	A	A	C
10	Doing nutritional research		X	X	X	X	C
11	Having biologists as friends		A	X	X	A	C
12	Developing new varieties of plants or flowers		A		X	A	C

ARTS & CRAFTS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Being artistically creative	C	X	A	X	X	
2	Reading photography articles	C	X	X	X	X	
3	Visiting art museums	C	X		X	X	
4	Attending lectures by famous artists	C	X	X	X		
5	Taking art courses	C	X	X	X		
6	Drawing or painting	C	X	X	X	X	
7	Being around artists	C	X	A	X	X	
8	Taking artistic photographs	C	X	X	X		
9	Being an expert on color photography	C	X	X	X	X	
10	Deciding which art work is most beautiful	C	X	A	X	X	
11	Comparing the work of artists	C	X	X	X		
12	Volunteering for art center activities	C	X	A	X	X	

PERFORMING ARTS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Being musically talented	C	X	X	X	X	X
2	Attending musical specials	C	X	X	X	X	A
3	Reading music articles	C	X	X	X	X	X
4	Taking drama courses	C	X	A	X		
5	Attending plays	C	X	X	X	X	A
6	Playing a musical instrument	C	X	X	X	X	X
7	Acting or singing	C	X	X	X	X	X
8	Playing in a band	C	X	X	X	X	X
9	Being around musicians or actors	C	X	X	X	X	A
10	Singing in public	C	X	X	X	X	X
11	Performing for others	C	X	X	X	X	X
12	Attending concerts	C	X	X	X		

LITERARY ARTS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Writing creatively		X	X	X	X	A
2	Taking journalism courses		X	X		X	
3	Attending lectures by famous writers		X	X	X	X	
4	Writing articles		X	X	X	X	A
5	Creating poetry		X	X	A	X	A
6	Being with writers		X	X	X	X	
7	Taking creative writing courses		X	X		X	
8	Reading literature		X	X	X	X	X
9	Thinking up plots for novels		X	X	X	X	A
10	Being an authority on literature		X	X	X	X	X
11	Having friends who are well read		X	X	X	X	
12	Translating languages		X			X	

ANIMALS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Taking care of animals		X	X	X	X	X
2	Exercising pets		X	X	X	X	X
3	Training animals		X	X	X	X	X
4	Understanding animal behavior		X	X		X	X
5	Bathing and grooming pets		X	X	X	X	X
6	Volunteering for zoo activities		X	X	X	X	X
7	Keeping pets for others		X	X	X	X	X
8	Raising animals		X	X	X	X	X
9	Watching the development of pets		X	X	X	X	X
10	Being around zoos		X	X	X	X	X
11	Watching animals play		X	X	X	X	X
12	Being around animals		X	X	X	X	X

PSYCHOLOGICAL WORLD

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Watching shows on understanding people		X	X	X	X	A
2	Reading psychology articles		X	X	X	X	X
3	Reading books on self improvement		X	X	A	X	X
4	Attending human behavior lectures		X	X	X	X	X
5	Taking self improvement courses		X	X	A	X	X
6	Attending self development seminars		X	X	X	X	X
7	Being with self examining persons		X	X	X	X	A
8	Taking psychology courses		X	X	X	X	X
9	Observing how others behave		X	X	X	X	A
10	Examining why you behave a certain way		X	X	X	X	X
11	Learning about how groups behave		X	X	X	X	A
12	Discussing why people behave the way they do		X	X	X	X	A

SOCIAL RELATIONS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Having others come to you for help	A	X	X	X		
2	Showing others around town	X	X				X
3	Being sociable	X	X		X	X	
4	Helping others	A	X	X	X		
5	Doing social committee activities	X	X		X	X	
6	Meeting new people	X	X	X			X
7	Developing personal relationships	X	X	X	X	X	
8	Acting as advisor to a newcomer	X	X	X	X	X	
9	Caring for others	A	X	X	X	X	
10	Comforting others	A	X	X	X	X	
11	Attending social events	X	X		X	X	
12	Volunteering for social activities	X	X		X	X	

INFLUENCING OTHERS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Assisting in political campaigns		X	X	A	X	A
2	Watching specials on influencing others			X		X	A
3	Attending political conventions		X	X	A	X	A
4	Making a speech		X	X		X	A
5	Discussing politics		X	X	A	X	A
6	Taking public speaking courses		X	X		X	
7	Being a persuasive speaker		X	X		X	A
8	Convincing others of your point of view		X	X		X	A
9	Influencing others opinions		X	X	A	X	A
10	Debating		X	X		X	
11	Promoting a product or idea		X	X		X	A
12	Learning how to sell a product or idea		X	X		X	

LEADERSHIP

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Attending management techniques lectures		X	X		X	A
2	Being a leader		X	X	A	X	X
3	Taking management courses		X	X		X	
4	Supervising others		X	X	X	X	A
5	Directing activities of others		X	X	X	X	X
6	Leading groups		X	X	X	X	X
7	Watching presentations on how to lead others		A	X		X	X
8	Having leadership ability		X	X	X	X	A
9	Being in charge of others		X	X	X	X	A
10	Chairing committees		X	X	X	X	A
11	Volunteering to lead activities		X	X	X	X	X
12	Having others ask for your leadership		X	X	A	X	X

ORGANIZING FACTS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Collecting and categorizing facts or objects		X	X		A	
2	Keeping detailed factual records		A	X	C	A	C
3	Following routine detailed procedures		X	X	C	X	C
4	Classifying data according to set procedures		X	X	C	X	C
5	Compiling a scrapbook		X	X		X	
6	Volunteering for clerical activities		X	X	C	X	
7	Developing a cataloging system		X	X	C	A	C
8	Arranging papers or files		X	X	C	X	C
9	Verifying facts using routine procedures		X	X	C	X	C
10	Filing papers		X	X	C	X	C
11	Spotting errors or differences in printed materials		X	X	C	X	
12	Taking a clerical procedures course		X	X	C	X	

NUMERICAL CALCULATION

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Using calculators to obtain numerical solutions		X	X	C	X	C
2	Making numerical charts		X	X	C	X	C
3	Looking up costs of items		X	X	C	A	C
4	Compiling numerical totals		X	X	C	A	C
5	Keeping track of expenses		X	X	C	X	C
6	Preparing a basic financial budget		X	X	C	X	C
7	Looking up numerical data		X	X	C	X	C
8	Analyzing financial accounts		X	X	C	X	C
9	Taking general mathematics courses		X	X	C	X	
10	Keeping simple statistics on events		X	X	C	X	C
11	Being good at general mathematics		X	X	C	X	
12	Having a good memory for numerical facts		X	X	C	X	C

PROTECTING OTHERS

<u>Item Number</u>	<u>Item</u>	<u>Judge:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Volunteering to fight fires		X	X	X	X	A
2	Enforcing laws		X	X	X	X	X
3	Being in a rescue/fire station		X	X	X	X	X
4	Protecting others		X	X	X	X	X
5	Learning about law enforcement		X	X	X	X	X
6	Planning public safety programs		X	X	X	X	A
7	Watching specials on law enforcement		X	X	X	X	X
8	Patrolling areas to spot law violations		X	X	X	X	X
9	Having friends who are police officers		X	X	X	X	
10	Majoring in police science		X	X	X	X	X
11	Majoring in fire science		X	X	X	X	X
12	Watching presentations about fire prevention		X	X	X	X	X

Appendix B
Intercorrelation Table

CORRELATION COEFFICIENTS

	SP	TC	NA	TR	PW	BW	AR	MU	WR
SP	1.00000	0.36493	0.30244	0.22662	0.18345	0.14109	0.08475	0.09918	-0.00880
TC	0.36493	1.00000	0.30234	0.02998	0.47943	0.24928	0.01458	0.05568	-0.04945
NA	0.30244	0.30234	1.00000	0.34739	0.39719	0.44631	0.42508	0.21182	0.28052
TR	0.22662	0.02498	0.34739	1.00000	0.16200	0.22183	0.43782	0.37947	0.53354
PW	0.18345	0.47943	0.39719	0.16200	1.00000	0.72963	0.30035	0.27187	0.34707
BW	0.14109	0.24928	0.44631	0.22183	0.72963	1.00000	0.31349	0.21941	0.32473
AR	0.08475	0.01458	0.42608	0.43782	0.30035	0.31349	1.00000	0.58932	0.64687
MU	0.09918	0.05568	0.21182	0.37947	0.27187	0.21941	0.58932	1.00000	0.49997
WR	-0.00880	-0.04945	0.28052	0.53354	0.34707	0.32473	0.64687	0.49997	1.00000
AN	0.10947	0.07398	0.53095	0.30729	0.20311	0.32423	0.35001	0.19913	0.19942
PY	0.03203	-0.14036	0.25248	0.28204	0.24047	0.35790	0.41539	0.29573	0.54933
SO	0.28139	-0.00301	0.24823	0.53057	0.19922	0.26292	0.41384	0.43349	0.45738
IN	0.23400	0.18183	0.21953	0.33197	0.32907	0.24240	0.42116	0.47193	0.51551
MN	0.31234	0.31374	0.21456	0.38648	0.33564	0.25806	0.28351	0.28866	0.27798
FA	0.20697	0.10978	0.25827	0.41791	0.22215	0.24108	0.34586	0.27134	0.22294
NM	0.32100	0.33065	0.20598	0.30534	0.31867	0.22809	0.21604	0.16219	0.08159
PO	0.39390	0.44321	0.39055	0.16436	0.38105	0.34334	0.15886	0.20278	0.20323

	AN	PY	SO	IN	MN	FA	NM	PO
SP	0.10947	0.03203	0.28139	0.23400	0.31234	0.20697	0.32100	0.39390
TC	0.07398	-0.14036	-0.00301	0.18183	0.31374	0.10978	0.33065	0.44321
NA	0.53095	0.25248	0.24823	0.21953	0.21456	0.25827	0.20598	0.39055
TR	0.30729	0.28204	0.53057	0.33197	0.38648	0.41791	0.30534	0.16436
PW	0.20311	0.24047	0.19922	0.32907	0.33564	0.22215	0.31867	0.38105
BW	0.32423	0.35790	0.26292	0.24240	0.25806	0.24108	0.22809	0.34334
AR	0.35001	0.41539	0.41384	0.42116	0.28351	0.34586	0.21604	0.15886
MU	0.19913	0.29573	0.43349	0.47193	0.28866	0.27134	0.16219	0.20278
WR	0.19942	0.54933	0.45738	0.51551	0.27798	0.22294	0.08159	0.20323
AN	1.00000	0.17595	0.22144	0.09087	0.08158	0.26244	0.15158	0.23405
PY	0.17595	1.00000	0.58831	0.40926	0.32622	0.33777	0.19359	0.26758
SO	0.22144	0.58831	1.00000	0.59342	0.60295	0.42456	0.33516	0.31543
IN	0.09087	0.40926	0.59342	1.00000	0.63873	0.35212	0.29857	0.40688
MN	0.08158	0.32622	0.60295	0.63873	1.00000	0.38845	0.38051	0.42693
FA	0.26244	0.33777	0.42456	0.35212	0.38845	1.00000	0.76880	0.32242
NM	0.15158	0.19359	0.33516	0.29857	0.38051	0.76880	1.00000	0.33971
PO	0.23405	0.26758	0.31543	0.40688	0.42693	0.32242	0.33971	1.00000

Appendix C
Leisure/Work Interest Inventory

Name _____

Sec. Sec. # _____

Sex: M F Age _____

Phone Number _____

Years of Education 9 10 11 12

Fr Soph Jr Sr Grad

Chosen Major (Curriculum) _____

Confidence in Your Choice: _____ Certain

_____ Could Not Think of Anything Else _____ Uncertain

Present Job _____ Years Employed _____

Degree of Satisfaction in Present Job:

_____ Satisfied _____ Just a Job _____ Dissatisfied

Favorite Leisure Activity _____
(The activity you would least like to give up)

WORK/LEISURE INTEREST INVENTORY

This inventory is a survey of your interests to help you decide on how you can best choose appropriate work and leisure activities. There are no "right" or "wrong" answers, only what feels right for you is the proper response.

DIRECTIONS

Please answer all 187 items listed on the following pages. If you are interested in a particular activity or think you might be interested, circle the "I". If you are uncertain about your interest in the activity circle the "U". If you know you would not like the activity circle "D". Do not spend a lot of time trying to decide upon a particular activity. Make your decision based upon your first feeling and move on.

- | | | | |
|--|--|--|----------|
| 1. L U D Being physically active | 18. L U D Watching sporting events | 35. L U D Being athletic | a. _____ |
| 2. L U D Having mechanical aptitude | 19. L U D Solving mechanical problems | 36. L U D Watching operas on birding things | b. _____ |
| 3. L U D Being outdoors | 20. L U D Watching nature shows | 37. L U D Reading nature magazines | c. _____ |
| 4. L U D Seeing new city sights | 21. L U D Planning trips | 38. L U D Traveling | d. _____ |
| 5. L U D Attending lectures on physics | 22. L U D Doing chemical experiments | 39. L U D Having chemists or physicists as friends | e. _____ |
| 6. L U D Being in biology laboratories | 23. L U D Taking biology courses | 40. L U D Dissecting plants or animals | f. _____ |
| 7. L U D Being artistically creative | 24. L U D Reading photography articles | 41. L U D Visiting art museums | g. _____ |
| 8. L U D Being musically talented | 25. L U D Attending musical specials | 42. L U D Reading music articles | h. _____ |
| 9. L U D Writing creatively | 26. L U D Taking journalism courses | 43. L U D Attending lectures by famous writers | i. _____ |
| 10. L U D Taking care of animals | 27. L U D Exercising pets | 44. L U D Training animals | j. _____ |
| 11. L U D Watching shows on understanding people | 28. L U D Reading psychology articles | 45. L U D Reading books on self improvement | k. _____ |
| 12. L U D Having others come to you for help | 29. L U D Being sociable | 46. L U D Helping others | l. _____ |
| 13. L U D Assisting in political campaigns | 30. L U D Attending political conventions | 47. L U D Making a speech | m. _____ |
| 14. L U D Attending management techniques lectures | 31. L U D Being a leader | 48. L U D Supervising others | n. _____ |
| 15. L U D Keeping detailed factual records | 32. L U D Following routine detailed procedures | 49. L U D Classifying data according to set procedures | o. _____ |
| 16. L U D Using calculators to obtain numerical solutions | 33. L U D Making numerical charts | 50. L U D Looking up costs of items | p. _____ |
| 17. L U D Volunteering to fight fires | 34. L U D Enforcing laws | 51. L U D Being in a rescue/ fire station | q. _____ |

X = item deleted

X = item deleted

52.	L U D	Participating in sports activities	69.	L U D	Being in physical condition	86.	L U D	Reading sports articles	a.	_____
53.	L U D	Lectures on building things	70.	L U D	Repairing things	87.	L U D	Building things	b.	_____
54.	L U D	Being in the mountains	71.	L U D	Being around lakes	88.	L U D	Attending lectures on the outdoors	c.	_____
55.	L U D	Visiting interesting places	72.	L U D	Making travel arrangements	89.	L U D	Being in airplanes	d.	_____
56.	L U D	Discussing theories of the earth's structure	73.	L U D	Studying the composition of the stars	90.	L U D	Demonstrating dramatic chemical or physical experiments	e.	_____
57.	L U D	Researching cures for illnesses	74.	L U D	Visiting a medical laboratory	91.	L U D	Studying properties of a disease	f.	_____
58.	L U D	Taking art courses	75.	L U D	Drawing or painting	92.	L U D	Being around artists	g.	_____
59.	L U D	Attending plays	76.	L U D	Playing a musical instrument	93.	L U D	Acting or singing	h.	_____
60.	L U D	Writing articles	77.	L U D	Creating poetry	94.	L U D	Being with writers	i.	_____
61.	L U D	Bathing & grooming pets	78.	L U D	Volunteering for zoo activities	95.	L U D	Keeping pets for others	j.	_____
62.	L U D	Attending human behavior lectures	79.	L U D	Attending self development seminars	96.	L U D	Being with self examining persons	k.	_____
63.	L U D	Doing social committee activities	80.	L U D	Meeting new people	97.	L U D	Developing personal relationships	l.	_____
64.	L U D	Discussing politics	81.	L U D	Taking public speaking courses	98.	L U D	Being a persuasive speaker	m.	_____
65.	L U D	Directing activities of others	82.	L U D	Leading groups	99.	L U D	Watching presentations on how to lead others	n.	_____
66.	L U D	Compiling a scrapbook	83.	L U D	Volunteering for clerical activities	100.	L U D	Developing a cataloging system	o.	_____
67.	L U D	Keeping track of expenses	84.	L U D	Preparing a basic financial budget	101.	L U D	Looking up numerical data	p.	_____
68.	L U D	Protecting others	85.	L U D	Learning about law enforcement	102.	L U D	Planning public safety programs	q.	_____

103. L U D	Discussing sports	120. L U D	Volunteering to assist in an athletic event	137. L U D	Learning about a sport	a. _____
104. L U D	Operating equipment	121. L U D	Taking electronics courses	138. L U D	Using hand tools	b. _____
105. L U D	Being an expert on the outdoors	122. L U D	Volunteering for conservation activities	139. L U D	Doing activities outdoors	c. _____
106. L U D	Discussing interesting places	123. L U D	Boat trips	140. L U D	Reading about airplanes or ships	d. _____
107. L U D	Reading articles involving knowledge of chemistry or physics	124. L U D	Being in chemical laboratories	141. L U D	Watching shows that explain the physical world	e. _____
108. L U D	Learning about blood chemistry	125. L U D	Examining plant or animal tissue under a microscope	142. L U D	Doing nutritional research	f. _____
109. L U D	Taking artistic photographs	126. L U D	Being an expert on color photography	143. L U D	Deciding which art work is most beautiful	g. _____
110. L U D	Playing in a band	127. L U D	Being around musicians or actors	144. L U D	Singing in public	h. _____
111. L U D	Taking creative writing courses	128. L U D	Reading literature	145. L U D	Thinking up plots for novels	i. _____
112. L U D	Raising animals	129. L U D	Watching the development of pets	146. L U D	Being around zoos	j. _____
113. L U D	Taking psychology courses	130. L U D	Observing how others behave	147. L U D	Examining why you behave a certain way	k. _____
114. L U D	Acting as advisor to a newcomer	131. L U D	Caring for others	148. L U D	Comforting others	l. _____
115. L U D	Convincing others of your point of view	132. L U D	Influencing others opinions	149. L U D	Debating	m. _____
116. L U D	Having leadership ability	133. L U D	Being in charge of others	150. L U D	Chairing committees	n. _____
117. L U D	Arranging papers or files	134. L U D	Verifying facts using routine procedures	151. L U D	Filing papers	o. _____
118. L U D	Analyzing financial accounts	135. L U D	Taking general mathematics courses	152. L U D	Keeping simple statistics on events	p. _____
119. L U D	Watching specials on law enforcement	136. L U D	Patrolling areas to spot law violations	153. L U D	Majoring in Police Science	q. _____

X = item deleted

154.	L U D	Taking physical education courses	171.	L U D	Knowing the rules of a sport	a	___	+	___	+	___	+	___	=	a.	_____
155.	L U D	Making electrical repairs	172.	L U D	Operating a power tool	b	___	+	___	+	___	+	___	=	b.	_____
156.	L U D	Growing flowers or trees	173.	L U D	Caring for lawns, shrubs, & flowers	c	___	+	___	+	___	+	___	=	c.	_____
157.	L U D	Having friends who like to travel	174.	L U D	Providing travel information	d	___	+	___	+	___	+	___	=	d.	_____
158.	L U D	Discovering new theories of physics	175.	L U D	Understanding complex physical or chemical theories	e	___	+	___	+	___	+	___	=	e.	_____
159.	L U D	Having biologists as friends	176.	L U D	Developing new varieties of plants or flowers	f	___	+	___	+	___	+	___	=	f.	_____
160.	L U D	Comparing the work of artists	177.	L U D	Volunteering for art center activities	g	___	+	___	+	___	+	___	=	g.	_____
161.	L U D	Performing for others	178.	L U D	Attending concerts	h	___	+	___	+	___	+	___	=	h.	_____
162.	L U D	Being an authority on literature	179.	L U D	Having friends who are well read	i	___	+	___	+	___	+	___	=	i.	_____
163.	L U D	Watching animals play	180.	L U D	Being around animals	j	___	+	___	+	___	+	___	=	j.	_____
164.	L U D	Learning about how groups behave	181.	L U D	Discussing why people behave the way they do	k	___	+	___	+	___	+	___	=	k.	_____
165.	L U D	Attending social events	182.	L U D	Volunteering for social activities	l	___	+	___	+	___	+	___	=	l.	_____
166.	L U D	Promoting a product or idea	183.	L U D	Learning how to sell a product or idea	m	___	+	___	+	___	+	___	=	m.	_____
167.	L U D	Volunteering to lead activities	184.	L U D	Having others ask for your leadership	n	___	+	___	+	___	+	___	=	n.	_____
168.	L U D	Spotting errors or differences in printed materials	185.	L U D	Taking a clerical procedures course	o	___	+	___	+	___	+	___	=	o.	_____
169.	L U D	Being good at general mathematics	186.	L U D	Having a good memory for numerical facts	p	___	+	___	+	___	+	___	=	p.	_____
170.	L U D	Majoring in Fire Science	187.	L U D	Watching presentations about fire prevention	q	___	+	___	+	___	+	___	=	q.	_____

X = item deleted

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DEVELOPMENT OF A LEISURE/WORK INTEREST INVENTORY

by

George R. Frisbie

(ABSTRACT)

The major purpose of this study was to develop an interest inventory that applies to both work and leisure activities.

Data were collected from a sample of community college students and community adults enrolled in basic psychology courses.

Development of the inventory was based on review of the literature concerning both career and leisure counseling. Specific scales on the inventory were selected deliberately to cover the range of basic interests included in both leisure and career inventories. Interest scales that were retained for the final form of the inventory were based on analysis by qualified judges and a subsequent statistical analysis.

Statistical techniques used in analyzing the data include internal consistency estimates, interscale correlation, test-retest reliability estimates and concurrent validity estimates.

The results of this study have implications for use of an inventory in career counseling settings that is consistent with contemporary career counseling which includes leisure as an important part.