

THE VOCATIONAL DECISION MAKING
PROBLEMS OF OLDER DISABLED WORKERS

by

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THE VOCATIONAL DECISION MAKING PROBLEMS OF OLDER DISABLED WORKERS

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ABSTRACT

Older disabled workers frequently obtain undifferentiated profiles on standardized occupational interest inventories. These undifferentiated profiles, which do not show the client to have distinct occupational interests, may reflect the presence of a number of problems which interfere with a person's decision making about careers. Although the literature describes such difficulties as occurring with old age and disability, no research appears to address specifically the vocational decision making problems of this group. Such information would be useful to counsellors involved in career counselling with older disabled clients.

This study attempted to specify the problems which interfere with the vocational decision making of older disabled workers. Problems in the areas of employment readiness, self-appraisal, and decision making were considered, in addition to the effects of depression. Employment readiness problems have as their focus the client's desire to obtain work and the influence of external pressures on decision making. Self-appraisal problems involve the client's knowledge and perception of his or her own needs, abilities, and decision making history. Decision making problems focus on the client's readiness to make decisions about careers based upon his or her occupational knowledge and decision making skills.

Twenty older disabled workers who had been referred for vocational assessment participated in the study. These workers, all of whom were males, were assigned to one of two groups based upon whether they produced differentiated or undifferentiated profiles on an occupational interest inventory. Both groups were given a vocational card sort task which involved indicating their degree of interest in various occupations by sorting cards with job titles printed on them into like, indifferent, and dislike categories. The second part of this task required the clients to give the reasons for their decisions with regard to each of the cards placed in the like and dislike categories. All clients were also given the Beck Depression Inventory.

The results indicated that these older disabled workers disliked far more jobs than they liked and that self-appraisal was the basis for most of their decisions about the occupations with which they were presented. The two groups did not differ in age, scores on the Beck Depression Inventory, or in any of the three problem categories. A limitation of the study was small sample size. Possible explanations and implications for these results were discussed.

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CHAPTER I

Statement of the Problem

The purpose of this study is to identify the vocational decision making problems of older, disabled workers who have had to leave their jobs, but have not yet reached retirement age. This chapter outlines how clients' vocational interests are identified and how certain client problems can interfere with decision making about careers. First, the use of vocational interest inventories in career counselling is reviewed. Second, the use of such inventories with disabled clients is discussed. Third, undifferentiated profiles on interest inventories are described and related to problems in vocational decision making. Finally, the problem of undifferentiated profiles with older disabled workers is discussed in terms of the problems which may be interfering with the vocational decision making process.

Vocational Interest Inventories

A career or vocational interest inventory is a standardized assessment instrument which identifies a client's career interests through comparing the client's pattern of answers to items on the inventory to those of a normative sample. Items on interest inventories usually include activities (e.g., fix a broken radio), school subjects (e.g., study history), and occupations (e.g., be a

truck driver). The client indicates his or her degree of liking. One such instrument, the Career Assessment Inventory (Johansson, 1984), generates a computer printout which visually represents the client's liking for each of 91 occupations as compared to the norm group.

This information on the client's career preferences, combined with predictive data about how well he or she is likely to perform at specific job tasks (obtained through tests of ability and aptitude), offers material useful in discriminating between occupations for which the person is suited or unsuited. Selecting suitable occupations, in turn, aids the counsellor in helping the client make career choices (Herr & Cramer, 1983).

Vocational Interest Inventories with the Disabled

Vocational interest inventories are often used with disabled people to identify the careers to which they are most suited, based on their interests (Berven, 1980). Bolton and Roessler (1985) note that interest inventories are particularly useful in identifying the career interests of disabled workers whose expressed vocational interests are not compatible with their residual abilities or their possibilities for training.

If people have spent many years working at specific occupations, then become disabled and must find new work, they may not be able to state what career interests they have other than the jobs they were doing at the time they became disabled. As Bolton and Roessler (1985)

note, the interest inventory may help identify other career interests for such clients and give the counsellor information which would be useful for counselling. However, this information will not be forthcoming if the inventory fails to provide any clear indication of the client's vocational interests.

The Problem of the Undifferentiated Profile

When clients complete a career interest inventory, there are usually several occupations in which their interests indicate they are suited (in terms of their likes and dislikes) to participate (Campbell, 1977). Client profiles which show distinct occupational interests are described as differentiated because they discriminate between jobs which are likely to be suitable for clients, and those which are likely to be unsuitable for clients, in light of the areas of interest they have demonstrated through their answers on the inventory (Herr & Cramer, 1983). As indicated previously, such results provide information for counsellors in their work with the client.

Undifferentiated profiles, of which there are three types, do not provide unambiguous data on the client's career interests and so do not assist the counselling process. In general, these profiles do not serve either to highlight or eliminate some occupations as possibilities for vocational choice. The first type of undifferentiated profile is called depressed, indicating that the

client has obtained mostly low scores (i.e., has selected few "like" responses) in terms of the occupations covered in the inventory. Low scores are interpreted to mean that the client has little interest in the vast majority of occupations listed on the inventory. The second type is called flat, indicating that mostly average scores have been obtained. In this case, the client expresses generally moderate liking of almost all of the occupations included in the inventory. The third is called elevated, indicating that almost all of the client's scores are high, reflecting a strong liking of the majority of occupations. The majority of clients completing an interest inventory will produce a differentiated profile. Although estimates vary, Pinkney (1985) states that 10% to 20% of interest inventory profiles will be undifferentiated.

Depressed profiles and flat profiles may reflect the presence of a number of problems which interfere with the client's decision making about careers. One problem may be that the client has narrow or well-defined interests (e.g., the client has spent the last 30 years operating a grader and selects only those items on the inventory that have to do with operating heavy equipment). Another problem may be indecisiveness, which indicates that the client is either not ready or is unwilling to make a change (i.e., move into a new career), and so rates the majority of items on the inventory unfavourably. A third problem may be that the client lacks broad or general knowledge about the world of work and, being unfamiliar with the tasks described on the inventory, gives them low or average ratings. The third and

fourth problems which may be present are that the client has no desire to work, or is in a poor mood while completing the inventory. It can be seen that, again, clients would be unlikely to indicate strong preferences for items under such circumstances (Campbell, 1977). A final problem which can lead to depressed or flat profiles is if the client is suffering from depression (as compared to a more transient and less pervasive poor mood described above), in which case the prospect of seeking and engaging in a new career might be overwhelming (Weinrach, 1984).

Elevated profiles occur when clients rate many of the inventory items positively. Such profiles may reflect a reluctance to rate items negatively, or may reflect a diversity of interests (i.e., the client is genuinely interested in many of the items on the inventory).

Older Disabled Clients and Undifferentiated Profiles

Disabled workers are at high risk for experiencing problems which lead to flat and depressed profiles on vocational interest inventories. Those who are in mid-career and have left their jobs involuntarily may not be interested in a new career, have never had any reason to obtain information about other careers, and may be experiencing psychological problems such as depression, which Herr and Cramer (1983) note often accompany job loss of a traumatic nature (e.g., as a result of becoming disabled). Strohmer, Czerlinsky, Menz, and Engelkes (1984) state that disabled clients are often indecisive and lack information about alternative careers. As discussed in the

previous section, such problems clearly have the potential to influence how clients respond to vocational interest inventories.

Older disabled workers appear more likely to obtain flat or depressed profiles than are younger disabled workers because they are more at risk to experience a number of problems which are less likely to affect their younger counterparts. Having worked at the same job, often with the same employer, for many years, these workers not only lack knowledge of other occupations, but are also frequently unwilling to consider changing type of work, wage demands, or work location (Dunn, 1981). These problems make it more difficult for the older disabled client to view the items on the interest inventory with an open mind. Their responses are likely to be negatively influenced, leading to flat or depressed profiles on the inventory.

If flat or depressed interest inventory profiles are reflective of so many possible problems affecting the older disabled worker, how can the difficulties of a particular client be specified? It is unfortunately the case, as noted by Williams (1978), that interest inventories provide little information about how the client made decisions with respect to the items covered in the inventory. This means the counsellor has no information about the reasons behind the client's choices, which in turn could provide some idea of what problems the client was experiencing. This information is necessary in order to plan appropriate counselling and/or further assessment.

It is necessary, as suggested by Berven (1980), to use other assessment methods to explore questions left unresolved by

psychometric assessment (in this case, a vocational interest inventory). Pinkney (1985) advocates the use of a vocational card sort technique as a way of clarifying the client's difficulties in career choice. As opposed to the vocational interest inventory, which clients complete on their own, the card sort task involves counsellor participation. The counsellor is able, therefore, to elicit information as to how and why the client made decisions about each item. Such information, in turn, is useful to the counsellor in identifying problem areas in the client's decision making about career. The vocational card sort technique will be used in this study to identify what problems are interfering with the career decision making of older disabled clients who have produced flat or depressed profiles on a vocational interest inventory.

In this chapter, interest inventories have been shown to be a useful assessment tool, as long as the client produces a differentiated profile. Interest inventories do not provide useful information in the case of clients who obtain undifferentiated profiles. It has been argued that older disabled workers are at high risk to obtain flat or depressed profiles as a result of a number of possible problems which may be interfering with their decision making. In the following chapter, the psychological problems of the older disabled worker are examined. As well, vocational decision making is discussed, and the vocational decision making problems of the older disabled worker reviewed.

CHAPTER II

Review of Relevant Literature

This chapter includes a review of literature relevant to the problems of the older disabled worker. In the first section, the psychological effects of disability are discussed. Next, the psychological effects of aging are reviewed. In the third section, the interactive effects of disability and aging are discussed. The fourth section includes a definition of vocational decision making and a review of the problems which can interfere with the decision making process. This is followed by a discussion of the particular vocational decision making problems of the older disabled worker, then by a statement of the questions to be addressed in this study and a description of the study itself.

The Psychological Effects of Disability

Vash (1981) reviews how personal and environmental factors affect individual responses to disability. Personal factors include time of onset of the disability, functions impaired, severity of the disability, visibility of the disability, stability of the disability, and pain. Time of onset of the disability influences self-concept in that those who sustain a disability later in life (i.e., are not disabled from birth) will not have experienced many of the limitations and attitudes (towards the disabled) of others through their early

development. At the same time they will also be confronted with the challenges of adapting to disability when they have already completed important developmental tasks such as establishing oneself vocationally. Type of onset is a factor in that self-blame may result from a disability that, from the individual's point of view, was a result of a foolish or careless personal act, whereas the same feelings would not necessarily accompany an illness-related disability. Severity of the disability is a determinant of the types of situations the individual will have to cope with (e.g., in requiring help from others and in participating in social and work activities) and so influences feelings of acceptance and capability. Visibility of the disability is a factor in how others react to the individual and so affects self-concept and sense of social competency. Stability of the disability affects individual responses in that progressive disabilities may engender fear of the future and force the individual to cope with fluctuating or increasing levels of impaired functioning. Finally, pain is a factor because it can produce unhappiness and irritability.

In addition to such factors which relate to the nature of the disability itself, Vash (1981) describes other personal determinants of how the individual will respond to disability. These include gender, activities affected, interests, values, goals, remaining resources, and other personality variables. Gender is a factor in that there is greater social acceptance of dependency in women than in men, thus making a severe disability potentially more disruptive to a

man's self-concept. The next five factors (activities affected, interests, values, goals, and remaining resources) will have varying effects, depending upon individual differences and cultural factors. Other personality variables such as flexibility, adaptability, and maturity are influential, according to Vash, in determining an individual's "style" of reaction to disability.

Environmental factors affecting response to disability include those in the immediate environment such as family support, income, community resources, and whether or not the person is institutionalized. It should be clear that a healthy adjustment to disability is facilitated by family, friends, and community who support the individual, while at the same time neither encouraging nor condoning unnecessary dependency. It is also clear that financial problems can create an added source of anxiety and uncertainty for disabled people. Being institutionalized affects reaction to disability, with the personnel, policy, and procedures of the particular institution playing a critical role. Freedom and privacy within different institutions will be maintained to varying degrees, and treatment of individuals may either encourage self-mastery (which might allow the disabled person to live outside the institution at some point), or usurp independence, thus maintaining a perhaps unnecessary dependency on the institution.

Cultural factors also affect reactions to disability. These include availability of funding for needed programs, the existence of

laws to protect the client's rights, and societal attitudes toward disability. The last of these three factors, societal attitudes toward disability, largely determines the extent to which the previous two will be forthcoming. Of particular importance is the extent to which a society accepts responsibility for providing support and protection for the disabled. The degree of societal responsibility may well be dependent upon the prevailing socioeconomic style and political philosophy (Vash, 1981).

In short, reactions to becoming disabled are not unidimensional but rather, as noted by Shontz (1984) "the understanding of psychological reactions to physical disability requires the understanding of individual human beings in all their complexity" (p. 130). Vash (1981) believes that existing psychological theories are as applicable to the disabled as to the non-disabled and that the psychology of disability is "the study of normative responses from [psychologically] normal organisms to abnormal stimuli" (p. xiii). Thus, physically disabled individuals' experience of loss of functional ability is comparable to the non-disabled persons' experience of significant losses in their lives, and these reactions are interpretable within existing psychological theory. There appears to be no need for a psychology of disability, but rather an appreciation that many individual factors must be considered in understanding how a given person responds to stressors (i.e., a disability or some other stressor).

How, then, do people respond to becoming disabled? One popular theory, as noted by Hughes (1984), identifies stages of grief similar to those experienced by people who have lost someone close to them, which people experiencing other kinds of loss (e.g., a loss of a function as a result of becoming disabled) will go through. These stages are (a) shock and denial, (b) anxiety, (c) anger and/or guilt, and (d) depression. As with the stages of grief following the death of a loved one, this theory suggests that it is necessary that the disabled person complete this recovery process in order to gain an acceptance of his or her loss (Hughes, 1984). Some people continue to experience depression long after the onset of disability.

In some cases the adjustment process is impeded by other people, or by the disabled person him or herself. One way in which this occurs is through devaluation, that is, being seen as inferior, not capable or useful, unattractive, and perhaps burdensome (Vash, 1981). Disabled people may be devalued by being assumed to be incapable of doing even tasks unrelated to the disability, or by being seen only in terms of their disability and, therefore, as inferior. Disabled people may devalue themselves by assuming that they are a burden to family, by thinking that they are useless if they cannot support themselves financially, or by feeling that others will not find them to be attractive, pleasant, or interesting to be with.

Depression is often assumed to be a consequence of becoming disabled (Livingston & Johnson, 1984). As described by Hughes (1984),

depression can be viewed as a stage in the adjustment process which the person may or may not complete. Also, as noted by Shontz (1984) and Wash (1981), there are many factors which influence how a particular person will react to becoming disabled. If, for example, an individual has a leg amputated, there are a number of ways in which he or she might react. A downhill skier would perhaps be more likely to suffer from depression as a result of such a disability, than would a computer terminal operator whose career would be little affected by the same disability. On the other hand if the skier had supportive family and friends, or if there was an easily accessible disabled skiers program, the depression might be much less severe or of shorter duration. Wash (1981) believes that the ability to resume activities which were rewarding previous to the disability, helps mitigate prolonged reactions of grief.

The Effects of Aging

No clear parameters exist for defining the age range of the older worker although there appears to be several good reasons for using 40 as the lower limit of this group. Myers (1983) notes that age discrimination legislation in the United States covers workers from 40 to 70 years of age and Dunn (1981) states that there are certain qualitative differences between those older than 40 and those younger than 40. Many physical qualities such as quickness, output, strength, and endurance tend to decline as the individual moves out of early

adulthood. Thus, for the purposes of the present discussion, older workers will be defined as being at least 40 years of age.

According to Salmon (1981), aging, like disability, involves personal loss. As people become older they are increasingly likely to experience losses such as loss of spouse, loss of social roles, children leaving home, decline of health, and a decrease in physical abilities. Negative attitudes toward the aged exist (Herr & Cramer, 1983; Myers, 1983) and can be expected to lead to a lowering of self-esteem in the recipient.

Unemployment and a reduction in income are increasingly more likely to occur with older workers than with young (U. S. Department of Labor, 1979). Parnes and King (1977) note that older workers will often experience a deterioration in their occupational status which is reflected in lower earnings. Boglietti (1974) further notes that, once out of work, the likelihood of long term or permanent unemployment increases with age.

As with disability, reactions to losses in older age are explainable in terms of the stages of grief described earlier. Myers (1983) notes that the way in which older people cope with loss does not differ significantly from the way in which younger people cope with loss. Also as with disability, individual reactions to aging will depend upon multiple personal and environmental factors such as lifestyle, personality characteristics (Salmon, 1981), family supports, and material wealth (Myers, 1983).

The Interactive Effects of Disability and Aging

Although aging and disability can produce formidable problems for those who experience one or the other of these circumstances, the problems can be even more serious for those confronted with both. What is immediately apparent is that there is potentially a greater number of problems which may affect this group. Being both older and disabled means that a person may be subjected to many of the stressors mentioned previously.

However, it is also possible that, rather than experiencing a number of mutually exclusive problems, the person may suffer new or markedly more serious problems as a result of the interaction between stressors associated with disability and those associated with aging. This is the case in terms of employment, where the older disabled worker will experience what may appear to be insurmountable difficulties. The younger disabled worker has time to pursue further education and retraining, whereas the older disabled worker may not. Furthermore, even if the older disabled worker does have marketable residual abilities, he or she must face both the biases against older people and those against the disabled. Thus, the older disabled worker is more likely to experience not only the stresses associated with disability and aging, but the added problems of unemployment. Herr and Cramer (1983) note a number of possible reactions to unemployment including disaffection, disillusionment, boredom, feelings of failure and uselessness, a sense of isolation, and/or

feelings of rejection. Amundson and Borgen (1982) describe stages through which they believe individuals progress following job loss. These stages are denial, anger, bargaining, and depression, which may be followed by stagnation, frustration, and apathy after repeated unsuccessful attempts at finding a new job.

Vocational Decision Making Problems

Herr and Cramer (1983), in a review of the literature on decision making paradigms, describe decision making as involving definition of the problem, generation of alternatives, gathering of information, processing of information, making of plans and selection of goals, and the implementation and evaluation of the choice made. It is clear from this description that vocational decision making is not one discrete act, but rather a process involving a number of different kinds of information and activities.

Some investigators have focused on how people use information in the decision making process. Biggers (1971) studied the information students use in making vocational decisions. The study involved 294 boys from grades 4, 6, 8, 10, and 12 completing an inventory, the Occupational Construct Inventory, which showed how they chose between different occupations. Three raters classified the participants' responses into categories based upon what information they used in making their decisions. The categories were education/ training, income, prestige-status, type of work, working conditions,

skills/aptitudes, interests, concrete, and unclassified. The results showed that students from all grades used a variety of types of information in their vocational decision making, but that type of work appeared to be most important. Comparisons between age groups showed no differences in the kinds of information that children of different ages used in making vocational decisions.

Pitz and Harren (1980) also researched the use of information in vocational decision making, but focused on how information is used as opposed to what information is used. In reviewing the literature on decision theory, they conclude that it is not necessarily how much knowledge a person has about alternatives that is important, but rather how existing knowledge is used. That is, despite limited knowledge of alternatives, it may still be possible for people to make sensible choices with the knowledge they have. The authors suggest that the rationality of the person's behaviour is the most important factor in the vocational decision making process. Thus, the best choice at a given time is that which is consistent with the known information and with the person's values and beliefs. Also, if there appear to be no relevant links between new information and previously acquired knowledge, the new information is likely to be difficult to understand. Finally, Pitz and Harren state that people tend to make judgements based upon simplifying rules, or heuristics, which may result in systematic errors. Although not irrational, these heuristics can produce inconsistencies and biases which in turn cause

problems in decision making.

Gelatt and Clarke (1967) also investigated how people interpret the objective data which they have available in making a given decision. They argue that adequate information must be available to the decision maker so that he or she can formulate what the authors call subjective probabilities (estimates about the probable outcomes of decisions). If, for example, perception of the performance of an appropriate reference group is incorrect, then subjective probability estimates may be unrealistic, thus affecting how decisions are made. Like Pitz and Harren (1980), Gelatt and Clarke support the notion that people tend to be reasonably rational when presented with objective data. However, they also note that several factors may bias subjective probability estimates. First, more desirable goals may be perceived as more likely to happen than are less desirable goals, even when the objective data are not supportive of such perceptions. Second, an estimate of high probability is often biased downwards. Third, personality factors may introduce bias insofar as those anxious about the possibility of failing tend to be pessimistic in their estimates, while those anxious about the possibility of succeeding tend to give optimistic estimates.

Other researchers have attempted to determine what factors are conducive to people making vocational decisions and what factors interfere with this process. One approach used in such studies has been to compare people who are undecided about career to people who

are decided about career. Osipow, Carney, and Barak (1976) used this approach in a study of 837 university students which was designed to identify antecedents of both educational and vocational indecision. A factor analysis of the scale administered to the students produced four problems: actual or perceived barriers to a preferred occupation, difficulty choosing between several attractive alternatives, personal conflict about how a decision should be made, and a factor which included both choice anxiety and lack of confidence and structure in approaching the decision making task.

Marr (1965) also compared vocationally decided and undecided people, but employed an older sample in her study than did Osipow et al. Using 129 males of about 25 years of age, a number of factors were rated with regard to variables which, it was hypothesized, might affect whether or not an individual was able to make a vocational choice. Four judges independently rated each variable and resolved any differences which arose. The results showed that making a choice was not related to intelligence, self-regard, or parents' occupational level. Marr also determined that, of those who had made vocational decisions, early deciders were more interested in staying in their chosen occupations.

In a study of 1,697 high school juniors and college juniors, Holland and Holland (1977) compared vocationally decided and undecided students on measures of interest, vocational attitude, personality, and decision making ability. Although alike on most of the measures,

the decided students differed from the undecided on the Vocational Attitude and Identity scales. The results suggested that undecided students have doubts about their perceptions of their own abilities, strengths and weaknesses, decision making ability, and lack of knowledge about occupations. The researchers speculated that there may be an "indecisive disposition" which results from a life history in which the person has not acquired the necessary self-confidence, tolerance for ambiguity, sense of identity, and knowledge of self and environment required for decision making.

Vocational Decision Making Problems of the Older Disabled Worker

Much of the research on vocational decision making has been done with non-disabled university students, high school students, and even children in grade four. Although this research may offer some useful insights into the problems which can potentially interfere with the vocational decision making of older disabled clients, it cannot be expected to reflect the influence of the psychological effects of aging and disability previously discussed. Dunn (1981) succinctly explains the difference in perspective for older disabled workers compared to younger students when he notes that "the older disabled person is looking for a means of avoiding real and perhaps immediate losses, while the adolescent is looking for a means of realizing aspirations" (p. 78). If it is also considered that people within the older age range may potentially have as much as 25 more years in the

work force, there would seem to be good reason to explore the problems which interfere with the vocational decision making of this group. Workers over 40, although often regarded as older, may well be interested in, and capable of, continuing in the work force. In fact, Dunn (1981) reviews literature which suggests that certain capacities such as judgement, endurance, and skill may actually improve with age. Thus, older workers might be more suitable for some jobs than would younger people if these attributes were important in the duties of the position. Despite such arguments in favour of supporting this group's participation in the work force, little has been written about the vocational decision making problems of older disabled workers or, in fact, about these same problems as they occur with disabled people of any age.

Strohmer (1979), in an exploratory study, developed and administered an instrument to investigate specifically the vocational decision making of rehabilitation (i.e., disabled) clients. He notes that they are a more heterogeneous group than the student populations which are traditionally used in studies of this problem. Rehabilitation clients differ from each other in age, mental and physical abilities, disability, and responsibility. Strohmer notes that disabled workers will view the necessity of choosing a career much differently than will high school or college students. They may have fewer occupational choices, need employment more immediately, have family responsibilities, and lack peer support.

Strohmer's study included three groups of participants. The first group was comprised of 30 vocational rehabilitation clients involved in vocational evaluation, ranging in age from 18 to 44 years (mean = 26.3) with an average of 11th grade education. The second group was similar to the first (30 vocational rehabilitation clients, age range from 19 to 39 years, mean = 25.4, average of 11th grade education), differing in that they were completing vocational training. The third group included 30 non-disabled high school students. All of the participants were administered the Decision Making Interview, which was designed by Strohmer to evaluate individual strengths and weaknesses on factors related to vocational decision making. Although the results showed significant differences between the variances of the three groups on employment readiness, decision making readiness, and on the total interview, there were no significant differences between the group means. Strohmer acknowledges that the instrument used in the study may require some modification, but also concludes that rehabilitation clients are likely to be a divergent group. As a result, their vocational decision making problems may be so diverse as to make it almost impossible to identify a particular decision making problem, or set of problems, which characterize the vocationally undecided rehabilitation client. A focus for future research, according to Strohmer, could be to seek the origin of vocational indecision for this population and to develop appropriate treatments.

In a follow-up to the earlier study, Strohmer, Czerlinsky, Menz, and Engelkes (1984) devised another interview technique to assess the vocational decision making problems of disabled clients. They note that there has been little research done on this problem as it applies to special groups such as the disabled, and that there is reason to expect that rehabilitation clients may differ from the students who traditionally are participants in decision making studies. They state that factors related to coping style, characteristics of the disability, and individual reactions to disability contribute to the decision making problems of rehabilitation clients. Therefore, generalizing from existing theory and research on vocational decision making may lack validity.

To assess the vocational decision making of disabled clients, Strohmer et al. (1984) constructed an interview based upon categories of decision making problems derived primarily from the work of Osipow, Carney, and Barak (1976). The first category was informational problems and included self-knowledge (e.g., abilities, needs, interests, and personality characteristics) and occupational knowledge (e.g., tasks, rewards, and opportunities). The second category was decision making problems and had to do with acquisition and processing of information, skill and success in making choices, and anxieties and fears surrounding decision making. The third category was environmental problems and included family and social (e.g., lack of reinforcement) and economic disincentives. This interview was

administered to two groups of disabled clients who, it was expected, would differ in vocational decision making ability. The vocationally undecided group was comprised of 30 clients involved in vocational evaluation, and the 30 vocationally decided participants were completing a job skills training program (i.e., had already made a career decision). The participants were from 17 to 44 years of age (mean = 25) and 70% had at least 12 years of education.

Three new problem areas were defined from the interview results. The first category, called Employment Readiness Problems, focused on the individual's desire to find work and on external pressures that potentially help or interfere with motivation and vocational decision making ability. The second category, called Self-Appraisal Problems, dealt with what individuals know and perceive about their abilities, needs, and decision making history. The third category, called Decision Making Readiness Problems, had to do with how prepared the individual is to make decisions about career based on the decision making skills and occupational knowledge possessed. The researchers found that, as expected, the vocationally decided clients achieved higher scores (i.e., had fewer vocational decision making problems) than did the undecided clients. The decided clients also scored higher in each of the three categories, although the difference between the two group means for self-appraisal was not significant.

Both of these studies examine the vocational decision making problems of disabled clients. However, although they include some

older clients, neither study looks specifically at the problems of the older disabled worker. Other authors (Bozarth, 1981; Dunn, 1981; Morrison, Magel & Brody, 1985; Myers, 1983; Salmon, 1981) suggest that older disabled workers will experience special difficulties in facing a return to the work force, but they offer no empirical evidence of the vocational decision making problems that will be experienced by this population.

Statement of Questions

Two major questions are addressed in this present study. First, what vocational decision making problems are experienced by older disabled workers? Although it has been suggested that disability (Hughes, 1984; Livingstone & Johnson, 1984; Vash, 1981) and aging (Herr & Cramer, 1983; Myers, 1983; Salmon, 1981) can lead to a variety of psychological problems, it has not been established what vocational decision making problems are characteristic of this group. Some research (Biggers, 1971; Gelatt & Clarke, 1967; Holland & Holland, 1977; Marr, 1965; Osipow, Carney & Barak, 1975; Pitz & Harren, 1980) has been directed specifically at vocational decision making problems, but has focused on young, non-disabled populations. Two studies (Strohmer, 1979; Strohmer, Czerlinsky, Menz & Engelkes, 1984) were done with disabled clients but included only a few older people, and did not attempt to specify their particular problems.

Second, and closely related to the first question, is depression

a component in any or all vocational decision making problems of older disabled workers? Hughes (1984) has described stages of grief associated with a loss such as disability, and notes that individuals may have difficulty progressing through any of the stages, of which depression is one. Salmon (1981) suggests that aging also involves personal losses which may lead to depression. Although Weinrach (1984) states that depressed people often produce undifferentiated profiles on interest inventories, he gives no empirical evidence to support this, nor does he discuss what, if any, decision making problems are associated with depression.

The Present Study

This chapter has presented the psychological effects of disability and aging, and has reviewed research on vocational decision making problems. The questions to be addressed in this study have also been discussed. The instruments and procedures applied to these questions are described in Chapter III, and the results are presented and analyzed in Chapter IV. The results are discussed in Chapter V.

CHAPTER III

Method

Participants

The participants in this study were 20 disabled individuals who had been referred by a union sponsored long term disability plan to Vocational Rehabilitation Consultants Inc., a Vancouver firm specializing in the assessment and counselling of disabled clients. All the clients had an injury or illness which precluded their returning to their previous jobs. Each of them had been referred to the consulting firm for vocational assessment in order to determine what, if any, work they would be capable of, and interested in, doing.

The participants were selected from 125 clients referred by the disability plan between January 1985 and December 1986, and included both active (still being assessed) and inactive (closed) cases. The selection process first involved compiling a list of all cases and then eliminating clients who were under 40 years of age or who resided outside the lower mainland region of British Columbia (making it difficult for them to be interviewed). Next, the remaining names were reviewed by the consultant in charge of the referrals from the disability plan, to eliminate those clients who were known to have died since the initial referral or who had expressed feelings of animosity toward the disability plan. This latter group was rejected because the consultant felt that they would resent being contacted and

would be uncooperative with the researcher.

A total of 34 names remained at this point. All were sent letters (see Appendix A), signed by the consultant, briefly describing the purpose of the study, introducing the researcher, and requesting their participation. They were then contacted by telephone and, if willing to participate, were given an appointment for an interview. Only 15 clients from this final list were available to be interviewed. One individual refused to be involved in the study, others had either moved or simply could not be reached.

Because the design of the study required a minimum of 20 clients, it was necessary to locate at least five more individuals. Rather than wait for new referrals of clients who were the appropriate age, resided in the Lower Mainland, and who were willing to participate in the study, it was decided that two of the consultants would interview some of the out-of-town clients. These were clients who fit the profile for participating in the study, and who were to be interviewed by the consultants in any case. These clients were given the same instructions and procedures as were the clients interviewed by the researcher.

All clients were advised that participation was voluntary and would have no influence on their assessment and counselling with the consulting firm, nor would their eligibility for pension or disability benefits be affected. All participants read and signed a consent form (see Appendix B) which explained that the general purpose of the study

was to better understand how people make vocational decisions.

All participants in the study were male, which was reflective of the predominantly male membership of the Operating Engineers, the union to which they belonged. The range in age for all participants was from 42 to 64 years with a mean of 54.15 years. Eleven of the participants had differentiated profiles and were assigned to Group 1, which had a range in age from 42 to 59 years with a mean of 53.82 years. Nine of the participants had undifferentiated profiles and were assigned to Group 2 which had a range in age from 44 to 64 years with a mean of 54.56 years. Only one client had completed high school with all others having completed grade eight or less, which was reflective of the level of educational achievement characteristic of the members of this union. Because of the small sample size, it was not possible to match clients between groups with regard to such factors as age and severity or type of injury.

Measures

All participants were administered the Career Assessment Inventory (Johansson, 1984), a vocational card sort task, and the Beck Depression Inventory (Beck, 1979).

Career Assessment Inventory

This vocational interest inventory was used to identify those clients with differentiated and undifferentiated profiles. Clients

were assigned to either Group 1 (differentiated profiles) or Group 2 (undifferentiated profiles) on the basis of their results on the Career Assessment Inventory. Pinkney (1985) suggests that a profile can be considered flat if 15% or less "like" responses are obtained. Campbell (1977) recommends a slightly higher figure of 20%, and it is the latter criterion which is used in this study. This operational definition of an undifferentiated profile is based on the participants' responses to all 305 items on the Career Assessment Inventory.

The Career Assessment Inventory is a standardized vocational interest inventory intended for use with non-professional clients having four years or less of post-secondary education (Johansson, 1982). Johansson indicates that this criterion defines a group which includes 80% of the work force. This inventory was particularly appropriate for the present study because it uses a reading level (sixth-grade) with which the participants, most of whom had little formal education, would be able to cope.

The 305 items on the Career Assessment Inventory are divided into three sections: 151 items related to types of activities; 43 items related to school subjects; and 111 related to job titles. Individuals must choose one of five response categories for each item. These categories are: Like Very Much - Like Somewhat - Indifferent - Dislike Somewhat - Dislike Very Much. The author of the test used five groups of individuals to determine the test-retest reliability of

the scales on the Career Assessment Inventory. One group, a sample of employed adults (32 males, 45 females), was given the inventory twice with an interval of one week between the administrations. A second group of employed adults (31 males, 37 females) was also given the inventory twice, but with a two week interval between administrations. The third group was comprised of vocational-technical school students (9 males, 16 females) who were tested, and then retested after 30 days. A fourth sample of employed adults (32 males, 22 females) completed the test twice with 4 or 5 years between administrations. A final sample of employed adults (21 males, 18 females) was tested twice with 6 or 7 years between administrations. Product-moment correlations ranged from .56 to .97 with the lowest correlations occurring in the 6 and 7 year data. Johansson (1984) notes that this is not surprising, as the test was designed to reflect the individual's present interests and not to predict future interests. Reliabilities for males and females were similar. Construct validity showed correlations in the .70s and .80s between similar scales on the Career Assessment Inventory and those on two other commonly used inventories, the Strong-Campbell Interest Inventory and the Vocational Preference Inventory.

The Career Assessment Inventory is scored by computer and produces a printout with four major fields of information. The first is Administrative Indices from which were derived the three percentages (Activities, School Subjects, and Occupations), the mean

of which was used to determine group assignment in this study. These three percentages were calculated by the computer, from the numbers of like responses selected in each of the three major categories on the scoring form. The second field is General Themes, in which the computer calculates a score for each of six theme areas (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) based upon the rating of the test items relevant to each. This field was not used in this study. The third field is Basic Interest Area Scales and includes 22 areas of occupational interest for which the computer calculates a score, as with the second field, based upon the rating of the relevant test items. This field was also not used in the study. The fourth field is Occupational Scales and includes 91 occupations. The computer, once again, selects the appropriate items from the scoring form to calculate a score for the client on each occupation, which is shown on the printout compared to the norms for both those employed in the particular job, and those not in the occupation. Again, this field was not used in the study.

Vocational Card Sort Task

The card sort task was used to elicit clients' reasons for interest or disinterest in various occupations. Many articles and studies support the usefulness of this technique as a way of obtaining information about clients' decision making (Cooper, 1976; Dolliver, 1967; Goldman, 1983; Pinkney, 1985; Slaney & Slaney, 1981; Williams,

1978). Although not a standardized assessment instrument, the vocational card sort task does elicit what are called expressed interests -- what the individual expresses interests in (Herr & Cramer, 1983). According to Dolliver and Will (1977), expressed interests have predictive validity comparable to that of inventoried interests (obtained from a standardized interest inventory).

The card sort task involves presenting the client a set of cards, each containing an occupational title, which must be sorted into categories according to the individual's level of interest in each job. For the purposes of this study, the 111 occupations from the "Occupations" (Part III) section of the Career Assessment Inventory scoring form were used (see Appendix C). This was to ensure that clients made decisions with regard to the same occupations as they had seen on the Career Assessment Inventory. A different set of occupations could potentially introduce a new set of variables which had not been operative in the client's decision making with regard to the items on the interest inventory. In the format used for this study, clients sorted the cards into "Like", "Indifferent", and "Dislike" categories. For the purposes of comparing answers between the inventory and the card sort, the five categories used in the Career Assessment Inventory could be collapsed into three categories as follows: Like Very Much and Like Somewhat combined into Like; Indifferent; and Dislike Somewhat and Dislike Very Much combined into Dislike.

The actual coding of the recorded client responses involved classifying each response into one of three categories developed by Strohmer et al. (1984). This classification procedure will be described later in this chapter. Once the response for a given card had been heard, it was coded into just one category or, if not suitable for any of the categories, was coded as "could not classify". This procedure was followed for the responses to both the cards placed in the "Like" pile and those placed in the "Dislike" pile. To make it possible for the coders to identify which pile the client had put the card in, the interviewers would preface their questioning with the statement, "I see you put hairdresser in the like pile." This made it possible to do all the categorization of responses from the audio tape alone. The response categories, descriptions, and examples of each type of response are described in Appendix D.

Beck Depression Inventory

This instrument was included in the assessment battery in order to establish whether clients were depressed. It is a 21-item, multiple-choice questionnaire, designed to be completed, unassisted, by the client. Each item contains four self-evaluative statements weighted 0 - 3, with increasing values indicating more severe depression. A total score is obtained by adding together the individual item scores and a level of depression is identified as follows: 0 - 9, non-depressed state; 10 - 15, mild depression; 16 -

23, moderate depression; and 24 - 63, severe depression (Shaw, Vallis & McCabe, 1985).

The Beck Depression Inventory is not a standardized instrument, but has been extensively studied and used in clinical practice. Bumberry and McClure (1978) compared scores on the inventory to psychiatrists' ratings of depression in 56 university students and obtained a correlation coefficient of .77. Reynolds and Gould (1981) studied 163 participants in a methadone maintenance program and found the internal consistency reliability of the Beck Inventory to be .85, correlation with the Zung Self-Rating Depression Scale to be .57, and correlation with the University of California-Los Angeles Loneliness Scale to be .42. Gallagher, Nies, and Thompson (1982) administered the inventory to 159 elderly people and obtained a test-retest reliability of .90 after six to 21 days, and a split-half reliability of .84. Shaw et al. (1985) note that one criticism of the scale is that it may measure anxiety and depression to the same extent.

Design and Procedures

This study employed a causal-comparative design with two groups of clients who differed on the basis of having obtained different types of profiles on the Career Assessment Inventory.

The participants in the study were volunteers, and their participation and consent were obtained as reviewed previously. All were interviewed in their homes. Fifteen were interviewed by the

researcher and five by two of the consultants from Vocational Rehabilitation Consultants Inc. The consultants both had masters degrees in counselling psychology and extensive experience in assessing and counselling rehabilitation clients.

Before administering the assessment instruments, the interviewer explained that three tests would be used and that, if the client did not mind, his answers to the vocational card sort task would be recorded so that the interviewer could code them later. The client was then asked if he had any questions or objections with regard to the procedures, following which he was given the consent form (see Appendix B) to read and sign.

The instruments were administered in the following order: the Career Assessment Inventory, the vocational card sort task, and the Beck Depression Inventory. The Career Assessment Inventory was given first because, although not scored prior to administration of the card sort in the present study, it was the screening device used to sort the clients into the two groups. In normal clinical practice, the undifferentiated profile would signal the counsellor to do further assessment (perhaps with such devices as the card sort task). Thus, administering the interest inventory, then the card sort, approximated clinical practice. The Beck Depression Inventory was administered last because, by that point in the interview, rapport was more likely to have been established, the client would be more at ease, and it would be more likely that the highly personal questions on this test

(e.g., regarding the client's level of interest in sexual activities) would be answered honestly.

The Career Assessment Inventory was administered according to the instructions supplied with the test (Johansson, 1984). As this inventory must be sent by mail for computer scoring, the client was assigned a code number (between 01 and 20) which was entered in the appropriate section of the form.

Next, clients were given the vocational card sort task. Following a brief explanation of the steps involved in this task, they were handed the deck of occupation cards and asked to read each one and then sort them according to whether they would like to do that job, were indifferent about doing that job, or would dislike doing that job. Three, five-by-eight cards labelled "Like", "Indifferent", and "Dislike" were provided for this sorting process.

Once the cards were sorted, clients were presented, one at a time, the cards from the "Dislike" pile and asked to explain the reasons for their decisions to place occupations in that category. Participants were asked to respond to the "Dislike" category first because the undifferentiated group had rejected an unusually large number of items on the inventory, making it likely that the information most relevant to the study would be in this category. Such adaptations of the card sort task are not only possible, but encouraged, as one of the strengths of the technique is its informality which allows modification for clinical or research

purposes (Williams, 1978).

Prompts were used, where necessary, to encourage more detailed responses, but were limited to two per card. For example, if an answer was unclear, the client was asked "Could you tell me more about that?", and if claiming not to know the reason was told, "Take your time and try to think what was behind your putting the card in this pile." If the client simply said he would not be interested in the particular job, he was prompted "Tell me what you would not like about doing that job." Once a classifiable answer or two prompts had been given, the client was told to proceed to the next card.

The same procedure was repeated with the cards the client had put in the "Like" category, but not with the cards in the "Indifferent" category. The "Indifferent" cards were not discussed with the client because what was of interest in this study was the high number of "Dislike" decisions and the low number of "Like" decisions made by clients with undifferentiated profiles on the Career Assessment Inventory. The discussion with the client about the cards was tape recorded.

The Beck Depression Inventory was administered next. Clients were told that the inventory was a measure of mood and were again given assurances that confidentiality would be ensured. This latter step was felt to be necessary because of the personal nature of some of the items.

All of the material related to each client, including the

tape recordings, were coded with the same identification number as was used to identify the Career Assessment Inventory scoring form. This made it possible, once the interviews were completed, to safeguard client confidentiality by eliminating the use of personal names.

Each interview took from 1 1/4 to 2 1/2 hours, depending upon the amount of time spent establishing rapport with the client and the amount of time required by the client to complete the required tasks. The average length of the interviews was approximately 1 3/4 hours.

After each interview was completed, the Career Assessment Inventory answer sheet was returned to Vocational Rehabilitation Consultants to be submitted for scoring, the Beck Depression Inventory was scored by the researcher, and the tape recorded card sort responses were independently coded by the researcher and an associate. The associate, a psychiatric social worker, knew little about the study and was naive to any hypotheses about outcomes. She had no knowledge of the clients' personal characteristics and was not aware of their scores on the Career Assessment Inventory or the Beck Depression Inventory.

The tape recorded interviews were reviewed and the reasons given by clients for categorizing each card as they did were classified according to the format developed by Strohmer et al. (1984). The associate was easily trained in this task during a one hour training session which involved learning the response categories and becoming familiar with examples of each.

CHAPTER IV

Results

In this chapter descriptive statistics (means and standard deviations) for both groups on all of the dependent variables are summarized. The first section describes the results of the Beck Depression Inventory, the card sort task (number of like and dislike responses), and the age variable, including a summary of t-test results, comparing the two groups on the dependent variables. In the second section, the categorization of the responses to the card sort task is presented. Interrater agreement is reviewed first, followed by descriptive statistics and tests of between and within group differences. Finally, some exploratory analyses are reviewed.

It must be noted that time, resource constraints, and the availability of participants prohibited further data collection. This has necessarily reduced the power of all inferential statistical tests used in the analyses.

Performance on Dependent Measures

Table 1 presents the means and standard deviations for the differentiated group, undifferentiated group, and the two groups combined on the Beck Depression Inventory, the number of card sort like responses, the number of card sort dislike responses, and on the age variable. An examination of the table suggests the following

pattern. First, both groups gave more dislike than like responses on the card sort task. Second, the two groups showed little difference between their means or standard deviations on the age variable.

Table 1

Means, Standard Deviations and t Tests on the Dependent Measures

Measures	Group	\bar{x}	S.D.	t (df = 18)	p
Beck ^a Score	Differentiated (n = 11)	11.18	6.05	1.09	ns
	Undifferentiated (n = 9)	8.33	5.48		
	Combined (n = 20)	9.90	5.83		
Card Sort ^b Like (number of cards)	Differentiated	30.82	14.12	1.75	ns
	Undifferentiated	20.00	13.30		
	Combined	25.95	14.49		
Card Sort ^b Dislike (number of cards)	Differentiated	49.45	21.53	- 1.76	ns
	Undifferentiated	65.11	17.29		
	Combined	56.50	20.83		
Age (in years)	Differentiated	53.82	5.88	< 1.00	ns
	Undifferentiated	54.56	6.98		
	Combined	54.15	6.23		

^aPossible range, 0-63

^b111 cards were sorted, the number of cards rated as indifferent is not reported

A two-tailed t test was used to compare the sample means of the two groups on each of the main dependent variables. These results are summarized in Table 1 and indicate that there were no statistically

significant differences between the groups on the Beck Depression Inventory scores, the number of like responses to the card sort task, the number of dislike responses to the card sort task, or the mean age of the clients.

One final analysis was done on the scores obtained from the Beck Depression Inventory. In clinical practice, scores of 9 and below are regarded as showing that the client is not in a depressed state, while scores of 10 and above as indicating the client is depressed. Figure 1 graphically displays the distribution of scores obtained by the clients in each of the two groups, with those on or above the dotted line falling within the depressed category. A comparison of the proportions of clients classified as depressed in each group showed no statistically significant difference ($Z = 1.848, p < .05$).

Responses to the Card Sort Task

Estimates of interrater agreement were established for the classification of client responses into the employment readiness, self appraisal, and decision making categories. Borg and Gall (1979) recommend calculating these estimates by establishing the percentage agreement between observers. Table 2 summarizes the percentage agreement between the two raters on classifying the responses of all of the clients in the study. It can be seen from the table that estimates of agreement between the raters ranged from 79 to 100%.

Figure 1:
A Table of Raw Scores for the
Differentiated and Undifferentiated Groups
on the Beck Depression Inventory

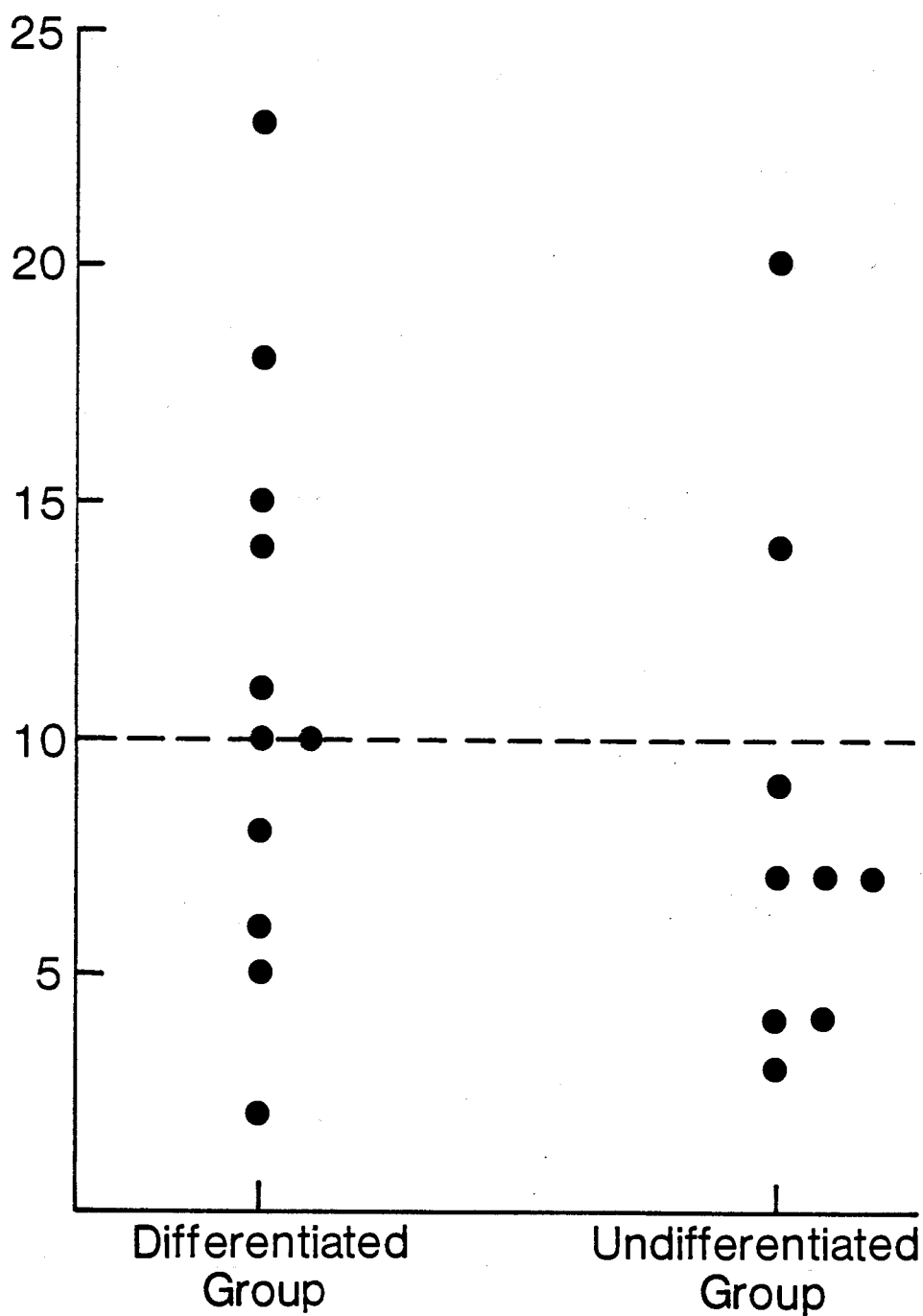


Table 2

Estimates of Interrater Agreement on the Responses to the Card Sort Task (N = 20)

Response	Number of Cards	Range	Mean Percentage Agreement
Like	422	79 - 100	88
Dislike	1132	83 - 96	90

Figure 2 graphically illustrates the total distribution of like and dislike responses, aggregated across the groups, for the three problem categories. The data with regard to the problem categories were compiled in three tables and subjected to three sets of analyses. It will be noted that there were very few responses in two of these categories (employment readiness and decision making) with the standard deviations exceeding the means in several cases. Analysis of variance is reported in all cases, but must be interpreted with caution.

Table 3 presents the means and standard deviations of the client responses to the like and dislike items on the card sort task that were classified into the employment readiness category. An examination of this table shows, firstly, that there were very few like or dislike responses from either group that were classified within this category. Secondly, clients in the study gave, on average, more than twice as many dislike as like responses.

Figure 2:
Mean Number of Cards Sorted into
Each Category

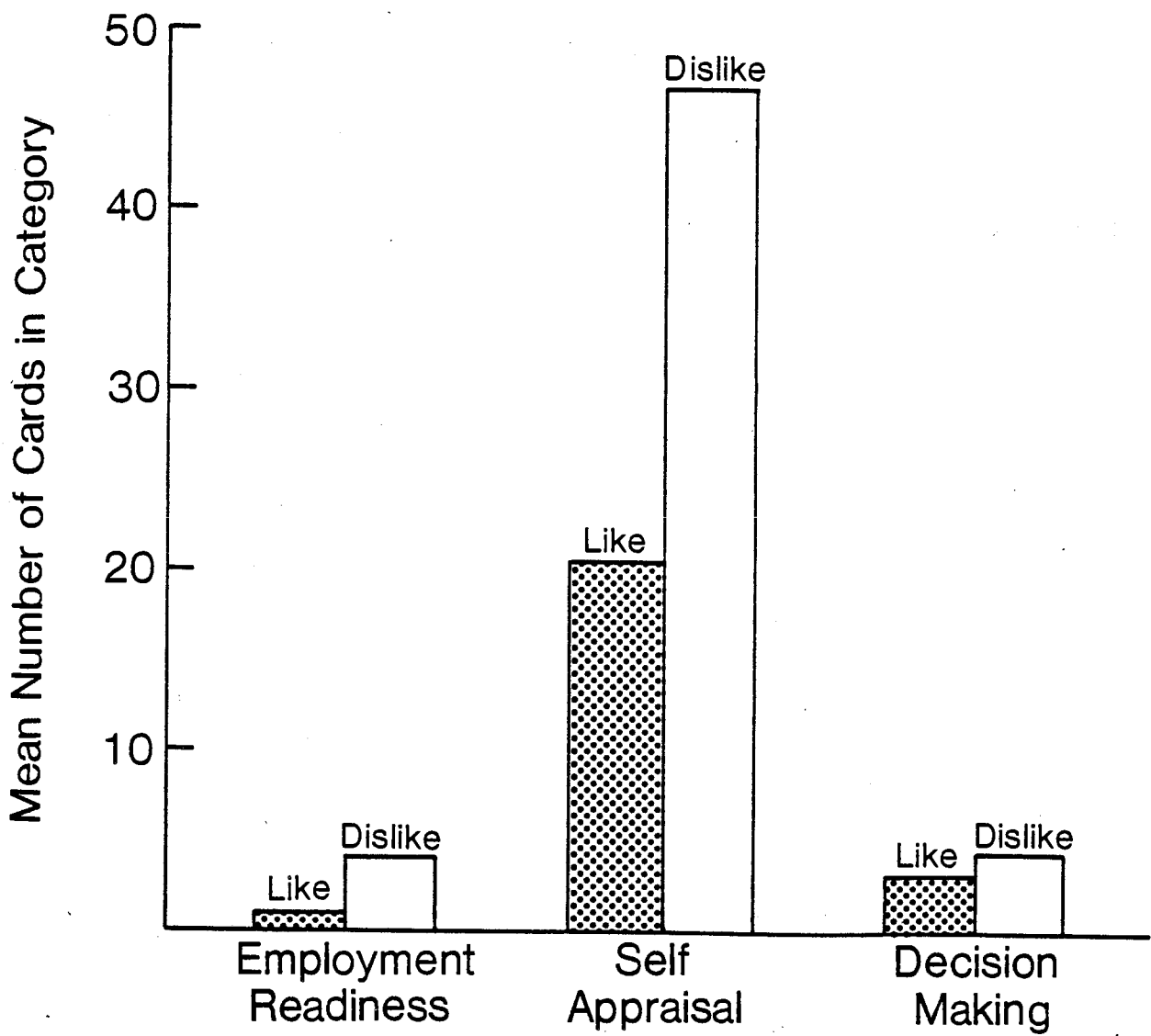


Table 3

Means and Standard Deviations on Employment Readiness

Response Category		Differentiated Group (n = 11)	Undifferentiated Group (n = 9)	Total (n = 20)
Like	\bar{x}	1.82	.33	1.15
	S.D.	2.44	.71	1.98
Dislike	\bar{x}	3.91	5.44	4.60
	S.D.	3.78	7.13	5.43
Total	\bar{x}	2.87	2.89	2.88
	S.D.	3.28	5.57	4.40

The data for employment readiness were subjected to univariate 2x2 analysis of variance (group x response category). The group variable is between subjects and the response category variable is within subjects. These analyses are presented in Table 4 and show a statistically significant effect for response category but no statistically reliable effect for the group main effect or the group x category interaction.

Table 4

Analysis of Variance on Employment Readiness

Source	SS	df	MS	F	p
Between Subjects					
Group	.006	1	.006	< 1.00	--
Error	304.869	18	16.937		
Within Subjects					
Response Category	128.376	1	128.376	7.504	.013
Category x Group	22.576	1	22.576	1.319	.266
Error	307.899	18	17.106		

Table 5 presents the means and standard deviations of the client responses to the like and dislike items classified into the self-appraisal category. First, the majority of both like and dislike responses given by clients in both groups were classified into this category. Second, as with the employment readiness category, there were far more dislike than like responses.

Table 5

Means and Standard Deviations on Self-Appraisal

Response Category		Differentiated Group (n = 11)	Undifferentiated Group (n = 9)	Total (n = 20)
Like	\bar{x}	24.09	15.78	20.35
	S.D.	12.75	10.16	12.12
Dislike	\bar{x}	41.00	53.67	46.70
	S.D.	19.31	15.36	18.37
Total	\bar{x}	32.55	34.73	33.53
	S.D.	18.16	23.23	20.35

Once again the data were subjected to univariate 2x2 analysis of variance (group by response category). These analyses, summarized in Table 6, suggest a statistically reliable effect for the mean number of like responses compared to the mean number of dislike responses, but not for group main effect or the group x category interaction.

Table 6

Analysis of Variance on Self-Appraisal

Source	SS	df	MS	F	p
Between Subjects					
Group	46.909	1	46.909	< 1.00	--
Error	1017.566	18	56.531		
Within Subjects					
Response Category	7431.976	1	7431.976	18.972	.01
Category x Group	1089.376	1	1089.376	2.781	.113
Error	7050.899	18	391.717		

Table 7 presents the means and standard deviations for the third category, decision making. Unlike the other two categories, there did not appear to be a large discrepancy between the mean number of like and dislike responses in the decision making category. As with employment readiness, however, there were only very few responses classified in this category.

Table 7

Means and Standard Deviations on Decision Making

Response Category		Differentiated Group (n = 11)	Undifferentiated Group (n = 9)	Total (n = 20)
Like	\bar{x}	3.36	2.33	2.90
	S.D.	2.58	2.18	2.40
Dislike	\bar{x}	3.91	4.56	4.20
	S.D.	3.21	5.94	4.51
Total	\bar{x}	3.64	3.45	3.55
	S.D.	2.86	4.49	3.63

The univariate 2x2 analysis of variance (group by response category), summarized in Table 8, showed no effects for mean response category (i.e., number of like as compared to dislike responses), nor for the group main effect or the group x category interaction.

Table 8

Analysis of Variance on Decision Making

Source	SS	df	MS	F	p
Between Subjects					
Group	.365	1	.365	< 1.00	--
Error	191.535	18	10.641		
Within Subjects					
Response Category	18.959	1	18.959	1.144	.29
Category x Group	6.959	1	6.959	< 1.00	--
Error	298.141	18	16.563		

Exploratory Analyses

Because there were no statistically significant differences on any of the variables for the differentiated and undifferentiated groups, the data were subjected to further analysis. Recall that the operational definition of differentiated and undifferentiated profiles was based on all 305 responses aggregated across the Activities, School Subjects, and Occupations sections of the Career Assessment Inventory. The exploratory analyses here involve reclassification of the 20 participants into differentiated and undifferentiated groups on the basis of the disaggregated responses to the three sections. Appendix E shows the percentage of like responses for each participant to the vocational card sort task and the three sections of the Career Assessment Inventory.

All of the like scores were compared with one another to establish the extent to which clients were classified similarly, based on the results of the card sort task, aggregate Career Assessment Inventory score, and the three sections of the Career Assessment Inventory. Table 9 describes these results, which show the Career Assessment Inventory scores to be more similar to one another, than to the card sort scores in assigning clients to the two groups. The percentage of clients who were classified similarly to the card sort task was highest for the Occupations section of the Career Assessment Inventory.

Table 9

Percentage Agreement of the Measures with One Another in
Classifying Subjects as Differentiated or Undifferentiated

	Aggregate	Activities	School Subjects	Occupations
Card Sort	55 (11)	40 (8)	60 (12)	65 (13)
Aggregate		80 (16)	95 (19)	90 (18)
Activities			70 (14)	70 (14)
School Subjects				85 (17)

Note: Number in parentheses is the number of clients out of 20 who were similarly classified.

Clients were first reassigned to either the differentiated or undifferentiated groups based on their percentage of like responses in just the Activities section of the Career Assessment Inventory. Next a two-tailed t test was used to compare the sample means of the two groups on each of the dependent variables. These results, summarized in Table 10, indicate there were no statistically significant differences between the groups on the Beck Depression Inventory scores, the number of like responses to the card sort task, the number of dislike responses to the card sort task, or the mean age of the clients.

Table 10

Means, Standard Deviations, and t Tests on the Dependent Measures
with Reassignment of the Data Based on the Responses to the CAI
Activities

Measures	Group	\bar{x}	S.D.	t (df = 18)	p
Beck ^a Score	Differentiated (n = 15)	9.73	5.82	<1.00	ns
	Undifferentiated (n = 5)	10.40	6.50		
Card Sort ^b Like (number of cards)	Differentiated	27.33	14.46	<1.00	ns
	Undifferentiated	22.60	15.92		
Card Sort ^b Dislike (number of cards)	Differentiated	54.66	20.99	<1.00	ns
	Undifferentiated	62.40	22.66		
Age (in years)	Differentiated	55.06	5.84	1.15	ns
	Undifferentiated	51.40	7.23		

^aPossible range, 0-63

^b111 cards were sorted, the number of cards rated as indifferent is not reported

Clients were again reassigned to one of the groups, this time based on their percentage of like responses in the School Subjects section of the Career Assessment Inventory. The data were analyzed as before (see Table 11) and indicate no significant differences between the groups on any of the dependent variables.

Table 11

Means, Standard Deviations, and t Tests on the Dependent Measures
with Reassignment of the Data Based on the Responses to the CAI
School Subjects

Measures	Group	\bar{x}	S.D.	t (df = 18)	p
Beck ^a Score	Differentiated (n = 10)	11.70	6.11	1.42	ns
	Undifferentiated (n = 10)	8.10	5.22		
Card Sort ^b Like (number of cards)	Differentiated	32.30	14.45	1.37	ns
	Undifferentiated	20.00	24.37		
Card Sort ^b Dislike (number of cards)	Differentiated	48.90	22.90	- 1.71	ns
	Undifferentiated	64.30	16.80		
Age (in years)	Differentiated	53.40	6.02	< 1.00	ns
	Undifferentiated	54.90	6.67		

^aPossible range, 0-63

^b 111 cards were sorted, the number of cards rated as indifferent is not reported

Lastly, clients were reassigned to the groups based on their percentage of like responses to the Occupations section of the Career Assessment Inventory. Analysis of the data, summarized in Table 12, shows significant differences between the groups on the card sort like variable and the card sort dislike variable.

Table 12

Means, Standard Deviations, and t Tests on the Dependent Measures
with Reassignment of the Data Based on the Responses to the CAI
Occupations

Measures	Group	\bar{x}	S.D.	t (df = 18)	p
Beck ^a Score	Differentiated (n = 9)	11.89	6.35	1.42	ns
	Undifferentiated (n = 11)	8.27	5.08		
Card Sort ^b Like (number of cards)	Differentiated	34.56	13.16	2.70	< .05
	Undifferentiated	19.27	12.17		
Card Sort ^b Dislike (number of cards)	Differentiated	46.44	21.96	- 3.16	< .01
	Undifferentiated	64.91	17.04		
Age (in years)	Differentiated	52.88	6.13	< 1.00	ns
	Undifferentiated	55.18	6.42		

^aPossible range, 0-63

^b111 cards were sorted, the number of cards rated as indifferent is not reported

No further analyses of these regrouped data were undertaken as it was not within the scope of this study to explore the relationship between responses to each of the sections of the Career Assessment Inventory scoring form and the three categories of vocational decision making problems. A caution must also be added with regard to the results of the t tests administered in these latter analyses.

Tables 10 through 12 report numerous inferential statistical tests which inflate the overall error rate for the study and, as a consequence, these analyses shall be treated as exploratory only (Howell, 1982).

Finally, using the original treatment groups, an attempt was made to identify theme categories which might prove characteristic of the dislike responses of one group or the other. These themes were as follows: client does not want a job where he must often deal with people, client does not want to work in an inside location, client thinks job only appropriate for women, client thinks he lacks education necessary to perform duties of job, client feels his disability precludes him performing the duties of the job, and client does not want to work in a hospital setting. Having coded the clients' responses, it was apparent that neither the differentiated nor the undifferentiated groups had a large number of answers which could be coded in any one of these theme categories. The largest numbers of answers were in the category "client does not want a job where he must often deal with people" (mean = 8.33 for the differentiated group, mean = 17.81 for the undifferentiated group). Next was "client thinks he lacks education necessary to perform duties of job: (mean = 8.66 for differentiated group, mean = 8.21 for undifferentiated group) and "client does not want to work in an inside location" (mean = 4.50 for differentiated group; mean = 11.84 for undifferentiated group).

CHAPTER V

Discussion

This chapter discusses the results of the study and the implications of these results with regard to the research questions established in Chapter II. Also, the theoretical and practical implications of the findings are discussed.

Summary of Results

The group of clients with differentiated profiles on the Career Assessment Inventory did not differ from the group of clients with undifferentiated profiles. The two groups did not differ significantly in their scores to the Beck Depression Inventory, the number of like responses to the card sort task, the number of dislike responses to the card sort task, or in mean age. When clients were reassigned to the groups based on the responses to each of the three sections of the Career Assessment Inventory, two significant differences were identified. The groups based on the responses to the Occupations section differed on the card sort like variable (differentiated > undifferentiated) and on the card sort dislike variable (undifferentiated > differentiated).

Analysis of the responses to the card sort task showed far more dislike than like responses from both groups of clients for the employment readiness and self-appraisal categories, but not for the

decision making category. The majority of like and dislike responses given by both groups were classified into the self-appraisal category. There were no statistically significant differences between the groups on any of the three categories. An attempt to identify themes which might be characteristic of the answers given by either of the groups did not show any trends.

Possible Explanation for Results

A number of observations are pertinent to the questions presented in Chapter Two. First, the results of this study would suggest that many older disabled workers feel they would dislike doing more jobs than they would like. This becomes a vocational decision making problem when the client has shown a liking for so few jobs that it becomes difficult or impossible to find a suitable occupation. That is, if the limited number of occupations selected are eliminated for practical reasons (e.g., are unavailable or incompatible with the client's abilities), he or she will be left with no jobs about which to make decisions. Almost half (nine out of twenty) of the clients sampled in this study obtained undifferentiated (in this case flat or depressed) profiles on the Career Assessment Inventory. Thus, with regard to the first research question, one of the vocational decision making problems characteristic of older disabled workers is that they demonstrate a liking for few occupations.

It might have been expected that the two groups would differ in

both the number of like and dislike responses given on the card sort task, as the job titles used for the card sort were identical to those in the Occupations section of the Career Assessment Inventory. A visual inspection of the data suggests that this might be the case with a larger sample. As well, when group assignment was based only on the percentage of like responses from the Occupations section of the Career Assessment Inventory, the groups did differ on the card sort like variable (differentiated > undifferentiated) and the card sort dislike variable (undifferentiated > differentiated). This was because there was more commonality in the responses to the Occupations section and the card sort task, than in the responses to the other two sections and the card sort task. Introducing the responses to the School Subjects and Occupations sections into the aggregate score reduced its degree of similarity to the card sort responses. The Occupations section had the highest percentage agreement with the card sort task in classifying clients to the two groups.

Age is apparently not a factor in the career decision making problems of this group, as defined by their having obtained undifferentiated profiles on the Career Assessment Inventory. This suggests that the factors that are responsible for some clients obtaining undifferentiated profiles are not affected by age differences within the range considered here. This may be seen as supportive of the notion, expressed by Dunn (1981), that those 40 years of age and older have certain qualitative differences from those

younger than 40. Thus, the clients in this study, all of whom were over 40, were equally as likely to obtain an undifferentiated profile. Had a group of younger clients (under 40 years of age) been included in the study, it would have been possible to determine whether there were differences between those older than 40 and those younger than 40. Another possible explanation for these results is that, as Strohmer (1979) concluded, rehabilitation clients are an extremely diverse group. It may be the case that this is a very heterogeneous population, wherein each individual's reactions to aging and disability are influenced by numerous environmental and personal factors. As reviewed in Chapter II, this point has been made by Shontz (1984) and Vash (1981) with regard to reactions to disability, and by Salmon (1981) and Myers (1983) with regard to reactions to aging. Thus, many factors affect how clients will respond to aging and, in and of itself, this variable is not a determinant of whether or not clients will obtain a differentiated profile on an occupational interest inventory.

A final observation with regard to the age variable is that a visual inspection of the data shows that all three of the clients older than 60 years of age had undifferentiated profiles and only two of the five clients under 50 years of age had undifferentiated profiles. Because of the small sample size, no conclusions can be drawn from this observation, but it does suggest that age might be a significant variable with a larger sample.

Also with regard to the first question, older disabled clients appear to have difficulties primarily in the area of self-appraisal when it comes to making decisions about occupational preferences. This would suggest that clients in the study decided how much they thought they would like doing a job, based upon the extent to which they saw their abilities and needs being suited to the duties of that particular job. There was little indication of occupations being accepted or rejected for employment readiness reasons which include external pressures (e.g., family and societal approval or disapproval) and desire to return to work. There were also very few occupations accepted or rejected for decision making readiness reasons which relate primarily to the amount clients know about the jobs.

Several possible explanations exist for the above results. First, the format of the card sort task requires clients to sort occupations according to their degree of liking for each job. This format may encourage them to give the most straightforward descriptions of how much they would like performing the duties of the jobs, rather than focusing on such issues as job benefits, salary, and the approval of others. The former strategy would lead to most responses being classified into the self-appraisal category. Second, these clients were, in some cases by their own admission, not very verbally skilled. Giving answers related to the duties of the jobs may have been simpler for them than trying to describe more abstract reasons related to motivation and values, some of which might have

been classified in the other two categories. Third, it is possible that some of these clients were uncomfortable speaking to a relative stranger about more personal reasons such as money concerns, fears of failure, and lack of education. Again, some of these reasons, had they been given, would have been classified into the other categories. Fourth, the protocol used in interviewing the clients required only one classifiable answer for each occupation, which meant that no further exploration was done beyond that point. Given the opportunity to elaborate, clients may have given other reasons that might have been counted in the employment readiness or decision making categories. Finally, it is probably the case that the preponderance of self-appraisal reasons given by older disabled clients actually reflects the basis of their decision making about careers. It appears that what they most often consider is how they would feel about performing the duties of the job. Furthermore, using this strategy, many clients in this group reject the majority of jobs they are asked to consider. This is not an unexpected outcome if consideration is given to the points made by Dunn (1981) in his review of the problems of older rehabilitation clients. He notes that the older disabled worker is discouraged, fears failure, and is reluctant to consider changing to a new type of work. Thus, the client reacts pessimistically to the prospect of entering a new occupation and hence expresses no interest in the duties of the jobs contained in both the Career Assessment Inventory and the card sort task.

This argument seems weakened, though, in light of the results relating to the second research question, which asks whether depression is a factor in the vocational decision making problems of older disabled workers. It would follow from the discussion thus far that those clients who rejected the most items in the Career Assessment Inventory and on the card sort task would be more discouraged and fearful of failure (i.e., more depressed) than would those clients who indicated a liking for comparatively more of the items. In terms of the two groups of clients used in this study, this would mean that the undifferentiated group would be more depressed than would the differentiated group. Although no statistically significant differences were obtained, a visual inspection of the data suggests that, with a larger sample, the differentiated group might prove to be more depressed.

Why would the data be showing this trend? One possibility is that the undifferentiated group gave flat or neutral responses to both the Career Assessment Inventory and the Beck Depression Inventory. If the clients in this group were experiencing depression as a result of their circumstances (i.e., being disabled, older, and unemployed) it may be that their cognitive processing was negatively affected. Billings and Moos (1985) note that cognitive appraisal is one of the mediators between life stressors and depression. They further note that both behavioral and cognitive adjustment may be affected by depression. Perhaps the clients in the undifferentiated group shared

a tendency to view the world in a flat, disinterested fashion, not making differentiations about themselves or their environment. This would lead to them showing little interest in the jobs included in the interest inventory, hence producing an undifferentiated profile. On the depression inventory, however, such a world view would lead the client to avoid the more extreme (i.e., negative) statements, thus producing a score indicative of less depressive symptomatology.

Another possible explanation for these results is that the differentiated participants were more accurate appraisers of their own situations and had become depressed about their negative prospects. That is, being older, disabled, unemployed, possessing limited occupational skills, and possibly facing financial hardship, depression becomes a realistic, albeit unpleasant, reaction. These clients may realize that the job market is not likely to be lucrative for them, and that they will be dependent upon meager pension or social welfare benefits. It follows, as well, that these clients are accurate perceivers of what occupations they would enjoy, and so produce differentiated profiles on the Career Assessment Inventory. The undifferentiated group, on the other hand, may not judge their circumstances to be as negative as they actually are, hence showing less depressive symptomatology on the depression inventory. They might also be poor at appraising their own occupational preferences, which could lead to them producing undifferentiated profiles on the Career Assessment Inventory.

If this latter explanation of the results from the Beck Depression Inventory is valid, it might also follow that the clients in the undifferentiated group would show more self-appraisal difficulties in their response to the card sort task than would the differentiated group. We know already that this was not the case, although a visual inspection of the data suggests such results might be obtained with a larger sample. It should be noted that sample size was limited in the study by the difficulties of obtaining clients who had the appropriate profile (i.e., were over 40 years of age, physically disabled, and unemployed at the time of the interview), were accessible for an interview within the time constraints of the study, and were willing to participate in the study.

Implications for Research and Practice

There is a need for further research on the problems which interfere with the vocational decision making of older disabled workers. Little has been done to identify the specific difficulties that this group experiences in career selection, or to specify effective interventions. Considering the formidable psychosocial stressors which accompany aging, disability, and mid-life career change, this would seem to be a most valuable area for research.

The present study was exploratory in nature and the results suggest several foci for more in-depth research. First, it appears that many older disabled clients do have problems in making decisions

about what jobs they are interested in doing. Unlike the results obtained with younger clients, who primarily used information about type of work to make vocational decisions (Biggers, 1971), these clients focused more on their own needs and abilities in making decisions about occupations. However, to make judgements about how well their needs and abilities were suited to a given job, they had to have perceptions (accurate or not) of their own needs and abilities and of the characteristics of the job. If Gelatt and Clarke (1967) and Pitz and Harren (1980) are correct in their notion that people tend to make rational decisions when presented with objective data, then it is important that clients have accurate information. Future research could examine the accuracy of the information about self and occupations possessed by this population of workers.

Second, the degree of interest that older disabled clients have in returning to work was not readily apparent in the present study. Answers relating to this variable, which would have been counted in the employment readiness category, were not forthcoming through the card sort procedure. As noted by Strohmer et al. (1984), ambivalence about returning to work is a prominent problem for disabled clients and so warrants consideration in future research. Ambivalence may be increased for older disabled workers because they have, in many cases, spent much or all of their working lives in the same occupation. Marr (1965) supports the idea that people are more interested in staying in their chosen occupations if they made the choice early in life.

Third, and related to the second point, have these workers spent so much of their lives without having to know the job market and make career decisions that they have developed what Holland and Holland (1977) describe as an "indecisive disposition"? Future research might address whether certain personality variables or problem-solving skills deficits are associated with having obtained an undifferentiated profile on a vocational interest inventory.

Fourth, the issue of depression in this group of clients remains unresolved. With almost half of the sample in this study meeting the criteria for depression, as assessed by the Beck Depression Inventory, it would be useful to know what, if any role it plays in the decision making of this population. One approach might be to assess how depressed and non-depressed clients perceive the impact of their disability and age on their opportunities in the job market. A caution with regard to using the Beck instrument with disabled clients is that 40 percent of the items pertain to physical symptomatology, some of which may be as a result of medical problems rather than depression. Although it would be unlikely that the medical and depressive symptomatology could be separated from one another entirely, researchers should be aware of this complication.

Finally, the use of the Career Assessment Inventory and the card sort technique warrants some discussion. In the present study the differentiated and undifferentiated clients did not differ, except when the clients were reassigned to the groups on the basis of the

disaggregated Career Assessment Inventory data. When group assignment was based on the responses to the Occupations section, analysis of the data showed the differentiated clients gave significantly more like responses to the card sort task than did the undifferentiated clients, while the undifferentiated clients gave significantly more dislike responses than did the differentiated clients. No significant results were obtained when data were analyzed following group reassignment based on the responses to the Activities and School Subjects sections.

It is perhaps not unexpected that the groups based on the responses to the Occupations section would differ in mean number of like and dislike responses to the card sort task as the occupational titles in the card sort were identical to those in the Occupations section. However, it is less clear why groups based on the responses to the other two sections would not differ on the mean number of like and dislike responses to the card sort task. Assuming that school subjects and activities relate to certain occupations, or types of occupations, why did not groups based on the School Subjects and Activities sections show a pattern of like-dislike responses similar to that of the groups based on the Occupations section?

A visual inspection of the agreement of the measures (Activities, Occupations, School Subjects, aggregate, and card sort) with one another in identifying differentiated and undifferentiated clients suggests at least a partial answer to this question. All of the measures from the Career Assessment Inventory (Activities,

Occupations, School Subjects, and aggregate) had higher agreements with one another than with the card sort task. Of the Career Assessment Inventory measures, Occupations had the highest agreement with the card sort measure and also produced the only significant differences between the differentiated and undifferentiated groups on the card sort like and dislike variables.

It would appear then, that, although sharing the same content as the Occupations section, the card sort task led to different client responses. It may be that the verbal, face-to-face nature of the card sort task leads to different responses from some clients than does the pencil-and-paper Career Assessment Inventory.

A final caution must be added with regard to the use of the term "undifferentiated" to describe interest inventory profiles with 20% or fewer like responses. It may be the case that such profiles, although on average flat or depressed, will have a small number of occupations which score in the similar range. If even one of these occupations fits with the client's aptitudes, satisfactory re-employment may be attained. Thus, an undifferentiated profile may still provide valuable information about the client's occupational interests.

Perhaps even more importantly, it has been shown that all of the measures used to establish whether or not clients were differentiated, selected different sets of clients for each of the two groups. It appears that a client who is undifferentiated on one measure may be differentiated on another, suggesting that the concept of

differentiation is fluid, depending on the measure used. A valuable area for future research would be the definition of differentiated and undifferentiated profiles on occupational interest inventories, and the relationships among these measures and other important variables.

In conclusion, it appears that the older disabled worker is likely to experience a number of problems that will challenge the skills of the counsellor. The practical limitations of disability, aging, and unemployment are often complicated by psychosocial problems which can interfere with the vocational counselling process. The helplessness and disillusionment that many of these clients experience appears to be so severe as to almost preclude a purposeful and energetic search for a new career. Perhaps research in the area of vocational decision making problems is best focused on developing a multi-faceted assessment method, directed toward the specification and measurement of a given client's difficulties. Instruments such as the Beck Depression Inventory and the vocational card sort technique might be used by counsellors to elicit useful client data, not obtainable from standardized tests. An added and potentially valuable corollary to the card sort task in particular, is that it provides the counsellor with the opportunity for a personal and supportive contact with the client. For the older disabled client, confronted with formidable barriers to meaningful re-employment, it may well be a highly supportive client-counsellor relationship that encourages perseverance in the search for a new occupation.

APPENDIX A

Letter Requesting Permission

June 4, 1986

Dear

We have been approached by a graduate student from Simon Fraser University, requesting our assistance in finding people to participate in a study he is doing. He is interested in finding out more about how individuals, who have left their jobs for medical reasons, make decisions related to doing other types of work.

He would like to meet with you at your convenience and in your own home if you wish. He will collect some information which will be confidential and used only for the purposes of his study. Hopefully, the analysis of the information obtained will provide material useful to counsellors working in this field.

Your participation in this study is strictly voluntary. The student, whose name is Lawrence Sheppard, will be contacting you during the week of June 16 to ask if you are interested in being involved. He will answer any questions you have at that time.

Again, please be assured that there is no obligation for you to participate. However, I believe that this study is worthwhile and I encourage you to consider becoming involved.

Sincerely,

THE VOCATIONAL CONSULTING GROUP INC.

Janet Finlayson, M.A.
Vocational Consultant

JF/lmk

INFORMED CONSENT AGREEMENT
VOCATIONAL DECISION MAKING STUDY

I, _____, have been asked by Lawrence Sheppard, a graduate student in the Faculty of Education, Simon Fraser University, to participate in a research project. I understand that the general purpose of this project is to better understand how people make vocational decisions. I understand the procedures to be used in this study, and I agree to participate.

I understand that the personal information collected either by the researcher, or by the staff of Vocational Rehabilitation Consultants Inc., which will be used in this study will be confidential and will not be released to anyone without my expressed consent. I further understand that I may withdraw my participation in this study at any time. In any research reports prepared subsequent to this study, I will not be identified by name, and any other identifying information will be changed so as to protect my identity.

I understand that I may register any complaint I might have about the study with the researcher indicated above or with Dr. R. Marx, Director of Graduate Programs, Faculty of Education, Simon Fraser University.

This consent agreement will expire December 31, 1986.

Signed _____

Date _____

Witness _____

I certify that I have read this document or had it read to me, prior to my signing it.

Signed _____

APPENDIX C

Occupations

Actor/Actress	Gas Station Attendant
Airline Steward/Stewardess	Hairstylist
Apartment Manager	Heavy Equipment Operator
Architect	High School Counsellor
Art Dealer	High School Teacher
Auto Racer	Hospital Orderly
Bank Cashier	Hospital Records Clerk
Bartender	Hotel Manager
Barber	House Painter
Bill Collector	Telephone Operator
Biologist	Interior Decorator
Bookkeeper	Janitor/Janitoress
Bricklayer	Jeweller
Bus Driver	Labour Union Leader
Butcher	Legal Secretary
Cabinet Maker	Library Clerk
Camp Counsellor	Life Insurance Salesperson
Carpenter	Logger
Cartoonist	Magician
Cattle Rancher	Mail Carrier
Cement Mason	Manager of a Pet Shop
Check-out Clerk	Marriage Counsellor
Director of Religious Choir	Mechanic
Circus Performer	Medical Technician
Comedian	Military Officer
Computer Operator	Minister, Priest, or Religious Leader
Constructor Worker	Missionary/Religious Ambassador
Cook	Movie Projector Operator
Courtroom Reporter	Musician
Delivery Truck Driver	Newspaper Reporter
Dog Trainer	Nurse
Driving Instructor	Nursery School Helper
Electrician	Nurse's Aide
Elementary School Teacher	Photographer
Farmer	Playground Director
Fashion Designer	Plumber
Fashion Model	Police Officer
Filing Clerk	Post Office Clerk
Firefighter	Printer
Fish and Game Warden	Private Detective
Florist	Private Secretary
Wildlife Manager	Radio/T.V. Announcer
Forest Ranger	Railroad Engineer
Funeral Director	

Real Estate Salesperson
Receptionist
Recreation Leader
Restaurant Cook
Scout Troop Leader
Sculptor
Security Guard
Sheet Metal Worker
Short Order Cook
Social Worker
Stage Manager
Stenographer

Stockroom Clerk
Supervisor
Taxi Cab Driver
Teacher's Aide
Ticket Agent
Tour Guide
Travel Bureau Agent
Truck Driver
Waiter/Waitress
Welder
Veterinarian Assistant
Zoo Attendant

Description of the Response Categories and Examples of Like and Dislike Answers for Each
 (Adapted from Strohmer, Czerlinsky, Menz and Engelkes, 1984)

Category	Description	Like Answers	Dislike Answers
Employment Readiness	Focus on desire to obtain work and on external pressure affecting motivation and ability to make career decisions	<ul style="list-style-type: none"> - friends, relatives approve - salary acceptable - "manly" work - have the necessary training, education 	<ul style="list-style-type: none"> - friends, relatives disapprove - salary unacceptable - "women's" work - lack necessary training, education
Self Appraisal	Focus on knowledge and perception of self (needs, abilities) and decision making history	<ul style="list-style-type: none"> - would enjoy that work - like working with people - like inside/outside work 	<ul style="list-style-type: none"> - would not enjoy that work - do not like working with people - do not like inside/outside work - medical condition precludes that job
Decision Making Readiness	Focus on readiness to make career decisions based on occupational knowledge and decision making skills	<ul style="list-style-type: none"> - know about that job 	<ul style="list-style-type: none"> - do not know, or know little, about that job

APPENDIX E

Percentage of Like Responses on the Vocational Card Sort Task
and on the Activities, School Subjects, Occupations, and
Aggregated Sections of the Career Assessment Inventory

Subject	Career Assessment Inventory				
	Card Sort	Aggregate	Activities	School Subjects	Occupations
01	35	45	54	49	33
02	17*	39	44	40	34
03	5*	7*	10*	9*	2*
04	11*	14*	24	7*	10*
05	7*	12*	22	9*	4*
06	15*	17*	25	7*	20*
07	18*	26	26	30	23
08	43	64	54	86	51
09	24	9*	19*	0*	7*
10	19*	29	42	30	14*
11	26	45	50	49	36
12	9*	21	26	21	14*
13	17*	31	46	16*	32
14	7*	9*	17*	7*	3*
15	44	44	50	44	38
16	27	11*	13*	16*	5*
17	39	11*	17*	5*	10*
18	45	68	71	91	41
19	28	14*	28	9*	6*
20	34	36	33	37	39

* 20 percent or less

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