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SOCIAL SUPPORT AND WELL-BEING IN MIDDLE-AGED
AND ELDERLY SPINAL CORD INJURED PERSONS:
A SOCIAL-PSYCHOLOGICAL ANALYSIS

by
SUSAN DEE DECKER

A dissertation submitted in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

URBAN STUDIES

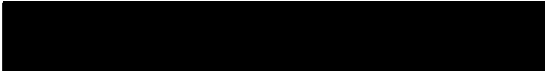
Portland State University

1982

AN ABSTRACT OF THE DISSERTATION OF Susan Dee Decker for the
Doctor of Philosophy in Urban Studies presented November 29,
1982.

Title: Social Support and Well-Being in Middle-Aged and
Elderly Spinal Cord Injured Persons:
A Social-Psychological Analysis.

APPROVED BY MEMBERS OF THE DISSERTATION COMMITTEE:


Richard Schulz, Chairperson


Leonard D Cain


Nancy J. Chapman


Philip S. King

Advances in health care science are enabling greater
numbers of spinal cord injured persons to live to old age.
As these persons grow older, there may be additional
problems in coping due to stressors such as decreasing
health and income and loss of significant others. The pur-
pose of this study was to determine those factors that
contribute to the well-being of middle-aged and elderly
community-residing spinal cord injured persons.

One hundred spinal cord injured persons ranging in age from 40 to 73 were interviewed. Extensive data were collected in order to investigate the relationship among social support, types of social comparisons made, perceived control, health status and psychological well-being and life satisfaction.

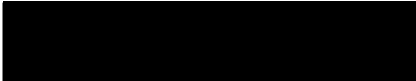
In general, respondents reported a degree of well-being that was slightly lower than that reported in studies of nondisabled populations on the same measures of psychological well-being, life satisfaction, and depression. Pearson correlations and multiple linear regressions showed that persons reporting high levels of well-being made favorable social comparisons, reported high levels of perceived control over their lives, had high levels of social support, and judged their health status to be good. They also viewed their disability more favorably and tended to have higher incomes, more education, to be employed, and to be more religious than those indicating lower levels of well-being. The severity of the spinal cord injury was not correlated highly with subjective well-being, although there was a tendency for persons with greater disabilities to report lower levels of well-being. Persons who were younger and who incurred their disability at a younger age also tended to report higher levels of well-being.

A model of well-being is proposed. This model suggests that social support fosters the perception of control and the making of favorable social comparisons

which, in turn, foster a sense of well-being and satisfaction with life. This model provides direction for future research and has valuable implications for clinical application.


TO THE OFFICE OF GRADUATE STUDIES AND RESEARCH:

The members of the Committee approve the dissertation
of Susan Dee Decker presented November 29, 1982.

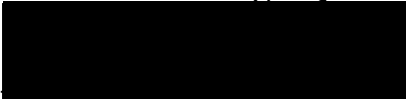

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CHAPTER I

STATEMENT OF THE PROBLEM AND PURPOSE

DEMOGRAPHIC CHARACTERISTICS OF SPINAL CORD INJURED PERSONS

Each year in the United States between 6,000 and 11,000 persons suffer traumatic spinal cord injuries which result in varying degrees of permanent paralysis (Bachman, 1978; Roessler & Bolton, 1978). It is estimated that the total number of persons in the United States disabled as a result of spinal cord injury varies between 125,000 and 250,000 (Bachman, 1978) or as estimated by DeVivo, Fine and Stover (1979), 30 per million persons. The majority of the injuries occur in males between the ages of 15 and 29, with the leading causes being vehicular accidents, followed by falls, sports injuries, and penetrating wounds (Trieschmann, 1980).

The population at highest risk for sustaining spinal cord injury is the teen/young adult male. However, the long-term survival rate of persons with this injury has greatly increased because of advances in antibiotic therapy and rehabilitation medicine. Before the widespread use of antibiotics, many people with spinal cord injury died from urinary tract or respiratory infections, or from septicemia generated from decubitus ulcers (Abramson, 1967). Fine

(1979-80, p. 237) points out that many of the advances responsible for the improved prognosis of the spinal cord injured person occurred during World War II:

The short and long term prognosis for the cord-injured patient did not improve until the Second World War when the British pioneered far-reaching medical achievements in the care of their patients. The efforts and achievements of Guttman and others have markedly increased life expectancy of the spinal cord injured patient and have enabled practitioners to consider sequelae of cord injuries much as their predecessors considered the progression of infections and non-chronic disorders.

Trieschmann (1980) states that with advances in medical science, some spinal cord injured persons may achieve a life-expectancy similar to that of the able-bodied person. The increased longevity of spinal cord injured persons is illustrated in Table I. The individual who incurs a spinal cord lesion at age 30 can expect to live from 16-45 years or more, depending on the level of the lesion, whether it was complete or incomplete, and the gender of the individual. Thus, a quadriplegic male with an incomplete lesion injured at age 30 can expect to live into his sixties, and a similar female into her seventies.

In addition to the increased long-term survival of cord injured persons, the incidence of cord injuries among the middle-aged and elderly has been substantial and may be on the increase. Data from the National Spinal Cord Injury Model Systems Conference Proceedings (1978) indicate that 18.87 percent were aged 40 or over at the onset of spinal cord injury. A study at a large spinal injury unit serving

TABLE I
LIFE EXPECTANCIES FOR SPINAL CORD INJURY VICTIMS BY AGE
AT TIME OF INJURY AND IMPAIRMENT CATEGORY

Age at Hospital Discharge	Gender	Life Expectancy (Remaining Years)				
		General Population	Paraplegia		Quadriplegia	
			Incomplete	Complete	Incomplete	Complete
10	Male	59.09	57.22	42.20	49.88	28.60
	Female	65.59	64.09	50.94	58.05	37.81
20	Male	49.65	47.85	33.73	40.88	21.57
	Female	55.85	54.41	41.75	48.75	29.56
30	Male	40.61	38.95	26.29	32.57	16.15
	Female	46.24	44.82	32.85	39.24	21.83
40	Male	31.53	29.98	18.55	24.13	10.49
	Female	36.80	35.47	24.40	30.27	14.77
50	Male	23.08	21.70	11.96	16.61	5.90
	Female	27.84	26.64	17.03	22.06	9.29
60	Male	15.75	24.65	7.08	10.61	2.97
	Female	19.50	18.52	10.94	14.86	5.37
70	Male	9.72	9.00	3.93	6.29	1.50
	Female	11.84	11.15	6.02	8.68	2.55

Source: DeViro, M. J., Fine, P. R., and Stover, S. L. The prevalence of SCI: A re-estimation based on life tables. Model Systems' SCI Digest, Vol. 1, Winter, 1979, p. 7.

central England revealed that between 1955 and 1974, about 11 percent of all admissions were aged 60 and over. When admissions were analyzed in five-year periods, the data showed that the percentage of elderly spinal cord injured patients steadily increased from 6 to 18 percent in a 19-year period (Watson, 1976). The author attributed this increase to a larger proportion of elderly persons in the population; the major cause of these injuries was accidents in the home.

These data suggest that we can expect both an increase in the number of newly acquired spinal cord injuries among the elderly and an increase in the number of young spinal cord injured persons living to old age. In view of the many coping problems associated with being old, along with the additional demands of being severely disabled, it becomes important to ask what factors contribute to the well-being of the elderly in general and to the well-being of the spinal cord injured elderly in particular. Issues such as health, independence, financial security and interpersonal relationships which may have been resolved at one point in life, may again require readjustment as life circumstances change with increasing age.

SUBJECTIVE WELL-BEING OF THE ELDERLY

Forty years of research on older Americans reveals that those who are ill or physically disabled are much less

likely than others to report contentment with their lives (Edwards & Klemmack, 1973; George, 1978; Palmore & Kivett, 1977; Palmore & Luikart, 1972; Spreitzer & Snyder, 1974; Thompson, 1973). In view of this, one would expect that elderly persons experiencing mobility-limiting disabilities such as spinal cord injury, amputation, or rheumatoid arthritis would express less contentment about their lives than would nondisabled persons. However, the question still remains as to what factors in addition to health status are associated with better coping and adjustment within the disabled elderly population. Why do some elderly disabled persons report more life satisfaction than others?

Based on a comprehensive review of the literature, Larson (1978) reported that aside from health status, socioeconomic factors and social interaction were the variables most strongly related to the life satisfaction, morale, and adjustment of the elderly. Adams (1971) also reviewed the literature on correlates of satisfaction in the elderly, and concluded that social relationships were probably the most important determinant of satisfaction and that health and socioeconomic status were also important. The role of health and socioeconomic status in facilitating life satisfaction is relatively well understood, but debate still exists regarding the relationship between social interaction and life satisfaction. Lohmann (1980) reports that although many studies demonstrate a positive

relationship between social interaction and life satisfaction (Graney, 1975; Lawton, 1972; Palmore & Luikart, 1972; Pihlblad & Adams, 1972; Seymour, 1972), others show that this relationship disappears when other variables are controlled (Bull & AuCoin, 1975; Edwards & Klemmack, 1973; Lemon, Bengtson, & Peterson, 1972) and still others report no relationship between social interaction and life satisfaction (Cumming & Henry, 1961; Thompson, 1973).

It seems likely that much of the confusion regarding the relationship between social interaction and life satisfaction is due to variations in measurement, a lack of conceptual clarity regarding the nature of social interaction, and an emphasis on correlational as opposed to experimental research. What is it about social interaction that facilitates coping with stress and promotes life satisfaction? One of the goals of this study is to answer this question by examining those mechanisms through which interpersonal relationships promote positive outcomes.

ADJUSTMENT TO SPINAL CORD INJURY

Persons sustaining a severe spinal cord injury face numerous adaptation demands. In addition to problems associated with loss of mobility and sensation, the spinal cord injured person undergoes tremendous psychological stresses. Spinal cord injury represents a threat to life, self-identity, social position, job, and love relation-

ships. Persons who become severely disabled frequently exhibit a grieving process similar to that of persons responding to the death of a loved one. Indeed, several authors (Milhouse, 1979; Weller & Miller, 1977) characterize the spinal cord injured person as passing through several stages identified as shock, denial, depression, anger, and reconstruction, although little systematically collected data exist to verify these stages. According to these authors, the individual ideally should move through the grieving process to acceptance of the disability and then re-establish a productive and meaningful life. However, problems associated with the psychological adjustment to a severe injury of this type may hinder the achievement of this desired outcome. For example, Tucker (1980) suggests that the mourning for lost physical capacity is never completed but is repeatedly reworked as the individual encounters situations which trigger awareness of the disability.

The spinal cord injured person faces difficult psychological tasks related to self-acceptance. In a society where disability is accorded a negative status, Vargo (1978) states that in order to truly adapt, individuals must combat misconceptions (Wright, 1960, p. 172) which devalue them as human beings. These include:

1. My disability is a punishment.
2. It is important to conform, not to be different.
3. Most people are physically normal.

4. Normal physique is one of the most important values.
5. Physique is important for personal evaluation.
6. A deformed body leads to a deformed mind.
7. No one will marry me.
8. I will be a burden on my family.
9. My deformity is revolting.
10. I am less valuable because I cannot get around as others do.

DeLoach and Greer (1981, p. 20) cite the conclusions of an extensive literature survey on psychological adjustment of the disabled conducted by Roessler and Bolton (1978); these are:

1. There are no specific personality traits associated with specific disabilities.
2. There is no proven relationship between severity of disability and psychological adjustment.
3. There is no uniform degree to which similarly disabled persons adjust.

These conclusions are consistent with the view that how a person interprets a disability, or any potentially "negative" event, influences adjustment to the disability or stressor.

Gunther (1969) suggests that spinal cord injured individuals experience fragmentation of the cohesive adult self. In order to adjust to the disability, they must undergo a painful reintegration process which includes

dealing with feelings of self-blame, self-hatred, depression, dependency, and an altered body image (Geis, 1972; Tucker, 1980). Such individuals must develop a value system that allows them to feel good about themselves.

DeLoach and Greer (1981) similarly describe the severely disabled person as having to incorporate the disability into his/her self-state, defined as "one's overall appraisal of oneself at a specified time and place" (p. 215). These authors feel that an essential element in coming to terms with a physical disability is confidence in one's ability to cope. In order to explain why severely disabled persons don't necessarily exhibit lower life satisfaction than able-bodied persons, they state that part of the answer lies in the individual's ability to redefine situations.

The literature on adjustment to spinal cord injury strongly suggests that in addition to the tangible sorts of life-changes one must make in order to live with a severe disability, there are cognitive adjustments one must make in order to maintain a sense of worth and effectiveness. As the spinal cord injured person grows older, there may be additional problems in coping as a result of stressors associated with old age, such as loss of friends and family. Particularly for the individual who has relied upon relatives (e.g., parents) for psychological and physical support, the loss of these support persons through death creates a new set of adaptation demands. The list of

potential stressors becomes even longer when we consider the increased probability of additional health problems and/or the aggravation of existing ones with increasing age.

PURPOSE

The purpose of this study is to determine those factors that contribute to the successful adjustment of middle-aged and elderly community-residing spinal cord injured persons. Adjustment will be determined by measures of mental health and subjective well-being described later in this report. Concepts of specific theoretical relevance to subjective well-being and to be investigated in this study include social support, learned helplessness (perceived control), and social comparison. It is hoped that an outcome of this study will be a greater understanding of the nature and function of social support in facilitating adjustment to a difficult life situation.

CHAPTER II

CONCEPTUAL FRAMEWORK

SOCIAL SUPPORT AS A FACILITATOR OF COPING WITH SPINAL CORD INJURY

For the past three decades, much of the research in social gerontology has been aimed at finding ways for maximizing levels of wellness in older persons. Frequently, researchers and practitioners have sought ways of facilitating the individual's ability to cope with major life stressors. Successful coping is typically characterized by (1) the absence of psychological distress and the presence of a self-perception of well-being and (2) the maintenance of functioning in interpersonal societal roles. Frequently, one of the important contributors to successful coping has been identified as the availability of social support to an individual.

Although numerous definitions of social support exist, Cohen and McKay (1980) state that the term has been widely used to refer to both psychological and nonpsychological mechanisms by which interpersonal relationships buffer one against a stressful environment. Cobb (1976) defines the concept of social support in terms of information available to an individual which leads him or her to believe that he or she is loved, valued, and belongs

to a network of communication and mutual obligations. Caplan (1974) uses the term social support to refer to interpersonal ties which people can rely on to provide emotional support and reassurance, tangible assistance, and information to assist in the handling of problems. Although social support is defined with varying degrees of comprehensiveness and specificity by different researchers, there is much overlap in their conceptualization of social support.

Literature from various sources supports the idea that social support is a facilitator of coping with stressful life events (Adams, 1971; Caplan, 1974, 1979; Cassel, 1975; Cobb, 1976; Heller, 1979; Litwak, 1979). For example, Aguilera and Messick (1974, p. 64) consider social supports (i.e., persons in the environment who can be depended upon to help solve a problem) as a crucial factor in determining whether or not an individual will experience a stressful event as a crisis. They suggest that the persons who provide social support facilitate coping by alleviating feelings of loss and reinforcing feelings of ego-integrity through their appraisals of the individuals. Similarly, Veroff, Douvan, and Kulka (1981) concluded that turning to others for support is one of the critical ways Americans deal with their life problems.

A recent longitudinal study by Berkman and Syme (1979) further illustrates the importance of social support in the general population. They assessed the relationship

between social and community ties and mortality in a random sample of 6,928 adults in Alameda County, California. An analysis of mortality rates within this population nine years later revealed that people who lacked social and community ties were more likely to die in the follow-up period than those with more extensive contacts. The association between social ties and mortality was found to be independent of self-reported physical health status, socio-economic status, and health practices at the time of the original survey. The most important sources of social contact seemed to be marriage and contact with close friends and relatives, followed by church membership and informal and formal group associations. In every age category, people who reported having few friends and relatives and/or who saw them infrequently had higher mortality rates than those with many friends and relatives whom they saw frequently. These differences in mortality rates were found for both men and women.

These are only a few of the many studies indicating a relationship between social support and coping. Indeed, there are studies identifying social support as a mediator of individual well-being when confronted with any one of a large number of life stressors, including rape (Burgess & Holmstrom, 1978), open heart surgery (Kimball, 1969), chronic kidney disease (MacElveen-Hoehn & Smith-DiJulio, 1978), cancer (Jamison, Wellisch, & Pasnau, 1978; Vachon et al., 1979; Weisman, 1976; Weisman & Worden, 1975), terminal

illness (Carey, 1974), job termination (Cobb & Kasl, 1977), and bereavement (Clayton, Halikas, & Maurice, 1972; Maddison & Walker, 1967; Walker, MacBride, & Vachon, 1977).

Of particular interest to this discussion are studies showing a relationship between family support and coping with physical disability. For example, Kemp and Vash (1971) compared productive and less productive spinal cord injured persons and identified interpersonal support as a decisive variable fostering a constructive orientation. Productivity was defined as including employment, avocational pursuits, group participation, and family responsibilities. Persons with quadriplegia were less productive than those with paraplegia in the absence of high emotional support. However, in the presence of high support, no difference in productivity between those with paraplegia and those with quadriplegia was noted. In a study of 145 spinal cord injured veterans (70 percent paraplegic and 30 percent quadriplegic), Frielich (1977) found that rehabilitation success as measured by vocational and avocational adjustment was significantly correlated with being married and maintaining interpersonal relationships. In another study of 35 quadriplegics, 1.5 to 4.5 years post-discharge from a rehabilitation program, Rogers and Figone (1979) concluded that the affiliative network was crucial in facilitating adaptation. These researchers asked subjects the primary ways in which subjects' support persons were influential in helping them

adapt to their disability. The greatest number of responses, 78 percent, indicated that others helped them adapt by giving psychological support and encouragement, both passive and active. Passive psychological support included such things as standing by, being available, listening and understanding; active support included behaviors such as giving encouragement, pushing subject to go on, telling subject not to give up, and "standing up for me."

Similarly, Harris, Patel, Greer, and Naughton (1973) found the family to be an important determinant of the individual's reaction to physical disability, Litman (1964) found that the amount of positive reinforcement from family members was related to better performance in rehabilitation, and Kerr and Thompson (1972) noted that most persons in their sample rated as having made an excellent adjustment to spinal cord injury came from very warm and loving backgrounds.

Finally, Peterson, King, and Davis (1978) studied a population of older (50 years +), noninstitutionalized amputees and concluded through field interviews that the existence of strong family support was a key factor in the older person's readjustment after amputation. Their study indicated that a strong family support network existed for most persons in this group and that interaction with family and friends increased markedly after the amputation. Friends were found to play an increasingly important role

as the older amputee aged. The importance of family support is demonstrated in numerous studies. Stable, supportive relationships between a disabled person and his or her family are repeatedly found to be important facilitators of adjustment (Guttman, 1976; Kerr & Thompson, 1972; Petrus & Balaban, 1953; Thorn, Von Salzer, & Fromme, 1946).

MECHANISMS OF SOCIAL SUPPORT

The literature described thus far is correlational, but suggestive of a causal relationship between social support and successful coping with life stressors in general and with severe physical disability in particular. The task remaining is to identify what processes operate, within the context of what we collectively call social support, that might account for the observed relationships. In the next sections, three types of explanations are examined. First, explanations that emphasize the possibility that the correlational data in fact do not reflect a causal relationship between social support and successful coping are examined. Second are explanations that assume causality and identify mechanisms through which social support may operate to improve well-being. Third, these same mechanisms are examined through the lenses of three social psychological theoretical perspectives.

Social Support as a Correlate or Consequence of Coping

Because of the correlational nature of most of the research in this area, several investigators have raised questions concerning the causal relationships between social support and better coping (Heller, 1979; Silver & Wortman, 1980a). A prospective longitudinal study in which different levels and types of social support at one time are shown to predict coping at a later time has not been carried out (Silver & Wortman, 1980a). In the absence of such a study, observed relationships between social support and coping are open to several alternative explanations.

Underestimation of Support. Individuals who are poor copers, badly adjusted, or ill may underestimate the amount of support available. This explanation suggests that persons who are coping poorly have a distorted view of their world. They may underestimate the availability of support because of factors such as low self-esteem or anxiety.

Coping as a Determinant. How well one copes may determine the level of social support one receives. Persons who do not cope well may alienate their support system because of social incompetencies. Poor copers may be more likely to behave in socially inappropriate ways, making others feel vulnerable, awkward, or inadequate (Coates, Wortman, & Abbey, 1979; Wortman & Dunkel-Schetter, 1979). An example of this phenomenon is provided in an experimental study by Coyne (1976), who found that

depressed individuals induced depression, anxiety, and hostility in nondepressed persons conversing with them by telephone. Through nonreciprocal high levels of disclosure of intimate problems, the depressed individuals seemed to arouse guilt in others while inhibiting any direct expression of annoyance or hostility.

Social Support as a Mediator of Coping

Notwithstanding the explanations discussed above, it is generally believed that social support plays an important ameliorative role by tempering the impact of stressful events on human beings. Based on a synthesis of work by numerous others (Brandt & Weinert, 1981; Caplan, 1974; Cobb, 1976; Coelho, Hamburg, & Adams, 1974; Cohen & McKay, 1980; Cronenwett & Kunst-Wilson, 1981; Gore, 1973; Hirsch, 1980; Lewinsohn, 1974; Norbeck, Lindsey & Carrieri, 1981; Pinneau, 1976; Silver & Wortman, 1980a; Vachon et al., 1979; Walker, MacBride, & Vachon, 1977; Wortman & Dunkel-Schetter, 1979), social support will be conceptualized as instrumental, affective and cognitive in nature. These three categories of support are viewed as conceptually encompassing the forms of support identified in the literature. These three categories of support are viewed as being distinct from one another but closely related; a given behavior may entail more than one kind of support. The mechanisms through which social support might operate through these three modes is the focus of discussion here.

Instrumental Support. An important role of support persons is frequently the provision of tangible aid whether it be financial assistance, transportation, or help in carrying out activities of daily living. Individuals providing social support may become extensions through which one is able to indirectly control outcomes which were previously under one's direct control. Heller (1979) suggests that the perception that a supportive group of individuals is behind you may be as important in some instances as the actual help provided.

Cognitive Support. Support persons may also provide a large variety of information that enhances the individual's capacity to negotiate her or his world. The information provided may range from the very specific "how to" variety to more subtle types concerning how the individual should feel as well as the appropriateness of certain feelings and goals. For example, support persons may help the individual to realistically appraise the threat of a situation and his or her ability to deal with the stressors involved. This may take the form of acknowledging the appropriateness of the individual's beliefs and feelings or of assisting him or her in modifying perceptions. Such information should be critical to the development of feelings of autonomy, the elimination of counterproductive defense mechanisms, and the establishment of realistic goals. Support persons may be very important in helping the disabled person to redefine

the disabled state in a way that facilitates acceptance and the attribution of positive meaning to the disability.

Affective Support. Finally, social support likely has an effect on the recipient by communicating direct positive affect. The individual is given feedback that he or she is loved and respected and "belongs." Such support is likely to foster positive self-esteem and a sense of self-efficacy.

Undoubtedly, these three types of support are highly interactive in mediating the effects of environmental stress. In addition, it is important to note that the perceived availability of these benefits may be as valuable as the actual receiving of them. Thus, the individual who feels that instrumental, cognitive or affective support is available should she or he need it may benefit as much as the individual who actually receives these benefits. The social psychological theoretical perspectives that follow should further clarify how these social support mechanisms facilitate coping and satisfaction with life.

Social Psychological Theoretical Perspectives

To the previous explanations of social support, we can add perspectives gained from three social psychological theories: learned helplessness (perceived control), social comparison, and exchange. By examining these perspectives jointly, it should be possible to identify with greater clarity and confidence the specific mechanisms involved.

Learned Helplessness Theory. Seligman (1975) first proposed learned helplessness theory as a model to explain depression in humans. According to this theory (Abramson, Seligman, & Teasdale, 1978; Seligman, 1975), when individuals are exposed to uncontrollable outcomes they develop expectations that future outcomes will also be uncontrollable. This in turn leads to the motivational, cognitive, and emotional deficits associated with helplessness and depression.

In a reformulation of the learned helplessness theory, Abramson et al. (1978) proposed that the degree of helplessness and depression will vary as a function of the type of attribution the individual makes about the cause of the noncontingency. Attributions about the cause can be classified along three orthogonal dimensions: (a) internal/external--internal causes stem from the individual and external causes from the environment; (b) stable/unstable--stable factors are long-lived and recurrent, whereas unstable factors are short-lived and intermittent; and (c) global/specific--global factors occur across situations, whereas specific factors are unique to a particular context. Each type of attribution has specific consequences for the individual: attributions to internal/external factors should affect self-esteem, attributions to stable/unstable factors should determine the long-term consequences of a particular experience, and attributions to global/specific factors should determine the extent to

which individuals will generalize a particular experience to other situations. In general, the most damaging effects are expected when an individual makes internal, stable, global attributions concerning the cause of an undesirable event. As an example, consider a man who loses his spouse, blames himself, and believes that the death was largely due to his uncaring and negligent nature (internal, global, stable attribution). Compared with another man who is convinced that he lost his wife because of a rare, incurable disease (external, unstable, specific attribution), the former it is hypothesized should suffer greater self-esteem deficits, the experience should generalize to a larger variety of events and situations, and the negative impact of the loss should be longer lasting. In trying to understand the elderly spinal cord injured individual's adjustment to his or her disability, this perspective suggests that one must examine not only the individual's perception of control over her or his present daily life, but also the degree to which the individual feels she or he had control over the situation which led to the disabling event.

Although this model has not been rigorously tested with an aged population, it has stimulated considerable research on aging in general and on the impact of institutionalization on aged individuals in particular. Several researchers (Langer & Rodin, 1976; Schulz, 1976, 1978) have suggested that aging is a process characterized

by large decreases in the individual's ability to control important outcomes as a result of shrinking financial resources, decreased physical ability, loss of work role, etc. According to this view of aging, then, the withdrawal and high rates of depression observed among the aged are attributable in part to the shrinking sphere of personal control over the environment. Several studies have been carried out to test derivations from this model. In particular, data are now available demonstrating the positive impact of control-enhancing interventions on the institutionalized aged (Langer & Rodin, 1976; Schulz, 1976), the long-term effects of these interventions (Rodin & Langer, 1977; Schulz & Hanusa, 1978), the relationship between these interventions and individual differences (Schulz & Hanusa, 1980), and the relationship between competence and control in promoting health-related outcomes among the institutionalized aged (Schulz & Hanusa, 1979).

Lending further support to the theoretical soundness of the learned helplessness perspective as applied to psychological adjustment of the elderly is an instrument designed by Reid and Ziegler (1980) to measure the desire for, and expectancy of, control over various aspects of daily life. When the contributions of expected and desired control subscores on the instrument were compared with various measures of adjustment, it was always the expectancy of control score that received the greater weight. Those results support the view that it is not so

much the desire for control over particular aspects of life that affects the sense of well-being among the elderly, but rather the expectancy of whether or not one can attain desired outcomes. Reid and Ziegler state that the results of their study support the proposition that perceived control is an important factor in psychological adjustment among the elderly.

With respect to spinal cord injured persons, Silver and Wortman (1980b) found that although most persons with newly acquired injuries had unrealistically positive expectations about their prognosis, they did differ in how they expected this improvement to occur. As learned helplessness theory would predict, those who believed their improvement depended on their own efforts were more likely to cope well than were those who felt improvement was out of their hands. However, this relationship between expectation of control and coping effectiveness has been demonstrated only in the immediate post-injury period and the stability of the relationship over time remains to be validated.

Viewed through the lens of learned helplessness theory, social support may facilitate coping with a severe physical disability because it fosters the perception of control and thereby promotes feelings of competency and an active, coping orientation toward life. The issue of control is likely to be a very important one for the person faced with paraplegia or quadriplegia, since this person

has lost so much control over his or her own body and physical environment. Accompanying these losses is the additional threat to control over the psychological and social environment in that this person's sense of self and role identity may be greatly disrupted. For example, Rogers and Figone (1979) found that less than one half of their sample of quadriplegics were committed to goal-directed activity, defined as the initiation of concrete activity to accomplish self-defined life goals in any number of life arenas, such as occupation, education, leisure, and self-maintenance. This lack of goal-directed activity could be interpreted as a learned helplessness response, i.e., a belief by the injured that they are incapable of effecting desired outcomes.

Significant others in the environment can help the individual regain or increase his or her perception of control over the psychosocial and physical environment. These support persons may do this simply by assuring the individual that they are available as a stable part of the environment that the individual can count on and, in a more active way, by fostering positive internal self-attributions and encouraging direct action through statements such as "I know you can do it," "You've never been a quitter," or "Keep on trying, you're doing a little more every day." Support may also operate by encouraging the individual to focus on more positive aspects of a difficult situation, thus leading the individual to

appraise the situation as less threatening and as one that he or she can cope with. Providing accurate information may also be viewed as increasing the actual and perceived control of the individual, since reality-based information provides the basis for a problem-solving approach to the many physical and emotional difficulties associated with paraplegia and quadriplegia.

Social Comparison Theory. Nearly three decades ago, Festinger (1954) proposed a theory of social comparison processes. The underlying assumption of the theory is that there exists in humans a basic drive to evaluate their own opinions and abilities. In the absence of objective evidence (e.g., physical reality), persons will compare themselves with others to assess the validity of their views. In Festinger's words, "An opinion, belief, and attitude is 'correct,' 'valid,' and 'proper' to the extent that it is anchored in a group of people with similar beliefs, opinions, and attitudes" (1950, p. 272). Sociological counterparts to social comparison theory can be found in the work of Cooley (1956) and Mead (1934).

The relevance of social comparison processes to an understanding of adjustment to late life is evident once we recognize that there is no physical reality that readily provides an answer to questions such as "How should I feel about my life?" and, "How happy am I?" With the possible exception of extreme cases, how we respond to or feel about a wide array of circumstances and outcomes depends on the

opinions, beliefs, abilities, and attributes of relevant others. Who are the relevant others for the aged or, more precisely, for the physically disabled aged? This is a recurrent and pivotal question for several theories such as learned helplessness and, indeed, for several sociological theories traditionally identified with social gerontology. Social comparison theory, and a recent derivation, temporal comparison theory (Albert, 1977), suggest two possible answers to this question. One option is to identify similar others in the environment and use them as reference persons. This is reflected in corollary III(A) of social comparison theory, which states that, given a range of possible persons for comparisons, one will choose someone close to one's own ability or opinion (Festinger, 1954).

A second option is to make historical, or temporal, comparisons. This is an intraindividual comparison in which present circumstances, outcomes, abilities, etc., are compared with past circumstances, outcomes, abilities, etc. (Albert, 1977; Schulz, 1982, a and b).

To the extent that any comparison yields personally unfavorable discrepancies, individuals are likely to feel bad about themselves or their situation. Thus, for example, old persons who perceive relevant others to be considerably better off than themselves or who find the past to be better than the present are likely to experience negative affect. Positive affect should result when comparisons yield personally favorable discrepancies or

perceived equality.

Which of the two processes dominates should have important consequences for adjustment to late life. Given the many real declines associated with old age (e.g., physical and cognitive ability, economic resources) in addition to those associated with a spinal cord injury, comparisons based on the past (particularly the preinjury period) are likely to yield personally unfavorable discrepancies and hence negative affective states. Alternatively, the aged spinal cord injured individual who uses her or his contemporaries as comparison others should be less likely to experience personally unfavorable discrepancies.

As an example, consider the spinal cord injured person and the types of events he or she is likely to encounter. Clearly, if such an individual compares preinjury leisure activities, physical mobility, and daily events in general with present conditions, he or she is likely to experience negative affect. However, if the same individual uses as a basis for comparison the circumstances and outcomes of similar individuals in the immediate environment (other spinal cord injured older persons), there is less likelihood of experiencing personally unfavorable discrepancies and hence negative affect. This analysis is supported by Rohrer, Adelman, Puckett, Toomey, Talbert and Johnson (1980) who report that group meetings for spinal cord injured individuals and their families are

beneficial in decreasing feelings of anxiety, helplessness, and isolation; in increasing knowledge and understanding of spinal cord injury; and in facilitating mutual support between family members. Mann, Godfrey, and Dowd (1973) also report the beneficial effect of peer group counseling in the psychological rehabilitation of spinal cord injured persons.

The type of comparison processes older persons engage in can be inferred from some recent data reported by Zemore and Eames (1979). In their study, residents of old-age homes reported no more symptoms of depression than either a group of waiting-list controls or a noninstitutionalized young group. This would be expected if individuals engage in contemporary rather than historical comparison processes. A similar inference can be derived from the large number of studies on morale and well-being in the aged (for a review of this literature, see Larson, 1978). Despite large differences in objective conditions of young, middle-age, and aged individuals, few studies report any age-related differences in self-report of well-being and morale. One interpretation of these data is that different age groups adjust their expectancies in line with the prevailing conditions for that group. Such strategies are adaptive in that they minimize disappointment, although they also tend to promote the status quo.

Further support for the view that persons may tend to make predominantly contemporary comparisons is found in

data reported by Rogers and Figone (1979) which show that quadriplegic clients desired more contact with peer models or successful rehabilitants who were similar to themselves. There are a number of reasons why severely disabled persons may desire interaction with other disabled individuals. Contact with similar others who are coping successfully with paralysis may foster the belief and hope that one will be able to do the same; this contact may enable the individual, in attributional terms, to make positive internal attributions about his or her ability to achieve similar goals. Contact with successful models may also assist the individual in accepting that he or she is different, but equal, by deemphasizing physique as a value and emphasizing other attributes, such as personality, intellect, and interpersonal skills, as focal points of comparison with others. Finally, contact with similar others may increase perceived control by providing information about future problems and possible solutions, thus enabling the individual to rehearse for coping with future potential problems. In general, a successful model can convey that one can feel good even though one is old and handicapped. This discussion illustrates the complementary nature of learned helplessness and social comparison theories. By engaging in comparisons with others that yield personally favorable discrepancies or perceived equality, the individual is able to make attributions about herself or himself that foster a sense

of personal control.

McKay (1980) states that despite a disproportionately high percentage of rehabilitation counselors who are themselves disabled, the effect of counselors' physical disability on similarly disabled clients' perceptions of the counselors' social influence (attractiveness, expertness, and trustworthiness) and empathy is not understood. McKay conducted an experiment in which 48 wheelchair-using persons (75 percent male, 87 percent spinal injured) viewed videotapes of two counselors, one disabled (wheelchaired) and one nondisabled, who had been coached to be alternately high and low in social influence and empathy. Each subject evaluated the counselors under the four experimental conditions and selected a preferred counselor from the disabled/nondisabled and high/low social influence counselors. High-influence/disabled counselors were rated significantly more desirable than high-influence/nondisabled counselors. No such preference, however, was shown for low-influence/disabled counselors, whose ineffectual behavior made them less desirable. These results are consistent with the view that contact with similar others who are coping successfully with paralysis is much desired, in that such contact facilitates positive internal attributions and an increased perception of control.

Family members and friends can also help the spinal cord injured person to make social comparisons that increase positive feelings about one's self and life

situation. These support persons may do this by reminding the injured person of things that are positive in his or her life and by helping the injured person to realign his or her values in accordance with remaining assets. For example, such a support person may remind the injured person that he or she still has a loving family, a nice home, and full use of mental abilities. This analysis is supported by two occupational therapists (Rogers & Figone, 1979) in their work with quadriplegic clients. These authors identify the family as crucial in providing an emotional climate conducive to adaptation and the formation of an acceptable self-image post-injury.

Exchange Theory. Exchange theory (Dowd, 1975) is a more recent entry into the social gerontology theory pool. Broadly speaking, it attempts to explain the decreased social interaction of the aged in terms of economic exchanges a' la Blau (1964), Emerson (1962, 1972), and Homans (1961). The basic assumption of all exchange theories is that interactions between individuals occur and are sustained because the rewards (e.g., money, esteem, compliance, novelty) are greater than the costs (e.g., time, boredom, anxiety). An interaction is imbalanced when one of the partners in a social exchange is unable to reciprocate the rewarding behavior of the other. According to Dowd, the aged become increasingly unable to enter into balanced exchange relationships with other groups because of the decline in power resources associated with old age.

The imbalanced exchange ratio ultimately forces the aged to exchange compliance--a costly generalized reinforcer--for their continued sustenance. Disengagement occurs when the costs of compliance and self-respect reach a point "beyond which additional costs become prohibitive" (Dowd, 1975).

Dowd cautiously describes the aging exchange model as a "preface" to theory. This seems wise since many questions are left unanswered (Schulz, 1982a). However, the basic idea of exchange theory, that social exchange must be reasonably reciprocal in order to be maintained, is relevant to an understanding of the workings of a social support system.

Froland's (1978 a and b) research suggests that an important, necessary characteristic of the support system for the severely disabled is that the exchanges be mutual. Without some form of reciprocity, the door is left open for maladaptive relationships in which the quadriplegic or paraplegic fears alienating anyone on whom he or she must depend for the simplest functions (Mann et al., 1973). Working with cancer patients, Weisman and Worden (1975, p. 74) also noted that survival was better among patients who maintained active and "mutually responsive relationships, provided that the intensity of demands was not so extreme as to alienate people responsible for the patient's care." As exchange theory would predict, these studies illustrate the need of the disabled person to contribute something to an interaction despite her or his reduced capacity to do

so.

SUMMARY

A study of the type proposed is felt to be important in developing the theoretical understanding basic to the formulation of policy decisions and interventions aimed at elderly spinal cord injured persons, a population likely to grow larger in coming decades. Although studies have been conducted on persons sustaining spinal cord injury, the focus has predominantly been on younger individuals. In addition, many of these studies provide descriptions of the problems of spinal cord injured persons, but do not provide a systematic theoretical base explaining why some persons adapt better than others. This research will attempt to do so.

Elderly spinal cord injured persons may be thought of as a prototype of a severely disabled group; it is hoped that knowledge gained from a study of this group can be applied to other elderly disabled groups. Elderly spinal cord injured persons undoubtedly experience many of the same problems as do younger persons; however, differences may exist in the stability of the support system of the older person due to death or health problems of friends and family. As discussed, evidence exists to support the importance of social support in facilitating coping with stressors. Thus, identification of the nature of the social support existing for the elderly disabled person is

a focus of this research. In addition, this study will attempt to further explain what it is about "social support" that is helpful, through the use of several complementary social-psychological theories. It is hoped that this exploration will add significantly to our understanding of the processes involved in social support as a facilitator of coping with severe disability.

CHAPTER III

METHODS

THE SAMPLE

The sample is composed of 100 spinal cord injured persons living in non-institutional community settings. Criteria for inclusion in the sample were the presence of paraplegia or quadriplegia, an age of 40 or over, the absence of a progressively deteriorating disease state, and agreement to participate in the study. Subjects were located through agencies and institutions working with spinal cord injured persons; namely, the Portland Veterans Administration Medical Center, the Oregon Paralyzed Veterans Association, and the Oregon Trail Chapter of the National Spinal Cord Injury Association. All subjects in the sample were Caucasian and predominantly (90%) male. The age of subjects ranged from 40-73 with the mean age being 56 and the median age, 56.5 years. The age at time of injury ranges from 12-68, thus this sample is composed of persons who have lived with a physical disability for varying lengths of time. The mean age of injury was 35 years and the median age of injury 33 years.

The causes of spinal cord injury in this sample cover a wide range with the leading cause being vehicular

accidents, followed by polio, other accidents including those caused by falls and participation in sports, medical problems other than polio, and penetrating wounds. Although a large proportion of the sample were veterans (75%), the majority (83%) of the injuries were non-service connected. The injuries sustained by this sample resulted in paraplegia (40 incomplete and 27 complete) and quadriplegia (29 incomplete and 4 complete).

The process of locating subjects for this study was time-consuming and the resulting sample of 100 persons represented considerable effort. Once persons were located and contacted for inclusion in the study, the refusal rate was very low. Four persons refused to participate, primarily for the stated reason of not being interested. All eligible persons agreeing to participate in the study were included in the sample. Two potential spinal cord injured subjects of the appropriate age group were excluded from the sample due to the existence of multiple sclerosis, a progressively deteriorating disease.

DATA COLLECTION AND HUMAN SUBJECTS PROTECTION

Data collection occurred over a nine month period from July, 1981 through March, 1982. Structured interviews of approximately one hour in duration were conducted in subjects' homes in 41 cases, in other locations such as workplace in 5 cases, and by telephone in 54 cases. Interviews were conducted by telephone when the subject

lived outside of the greater Portland metropolitan area.

A letter explaining the nature of the research study was sent to prospective subjects requesting their participation. At the time of the interview, interviewers again explained the nature and purpose of the study and offered to answer any questions. When face to face interviews were conducted, an informed consent form was completed prior to the interview. When interviews were conducted by telephone, an informed consent form enclosed in a stamped envelope addressed to the Portland State University Institute on Aging was sent to subjects.

Subjects were assured that persons other than the interviewers would have access to data only in aggregate form, thus preserving the anonymity of respondents. Questionnaires were coded by number rather than by the name of the individual to further safeguard the identity of the respondent.

Sensitivity was shown to the possibility that asking people to discuss problematic situations may evoke a certain amount of anxiety. Hence, care was taken to avoid questions that would generate high levels of anxiety in the average subject. This was accomplished by carefully pretesting the research instrument to identify questions which appeared to generate respondent discomfort. In all, risk to subjects was judged to be very low. The interviews did not appear to generate anxiety in subjects and most persons expressed interest and enjoyment in participation.

Ninety-seven subjects said they would participate again in a similar study if asked. Care was taken throughout the study to treat subjects with respect and to show appreciation for their participation in the study.

In sum, the investigator is in agreement with the National Institute on Aging's conclusions regarding the protection of elderly subjects (Protection of Elderly Research Subjects, U.S.D.H.E.W., 1977). Most salient to the current study of these conclusions is the distinction between research that benefits the elderly subject and that which does not, the problems of vulnerability of elderly subjects, and the potential for paternalism and stigmatization. The physical and psychological risks of participation in this study were deemed minimal and benefits to participants and society as a whole substantial. This research study was approved by the Portland Veterans Administration Medical Center and the Portland State University Committee on Human Research which are responsible for protecting the rights and welfare of human subjects.

RESEARCH QUESTIONS

Extensive data were collected in order to answer a wide range of questions regarding the characteristics of community-residing, middle-aged and elderly spinal cord injured persons. In broad terms, the questions to be addressed in this study are:

- 1) What are the demographic characteristics of the sample?
- 2) What is the extent and nature of subjects' participation in recreational, group and community activities and services?
- 3) What are the health status characteristics of respondents?
- 4) What is the degree and nature of social support perceived by respondents?
- 5) What is the nature of social comparisons made by respondents?
- 6) What is the degree and nature of respondents' perception of control over various life situations?
- 7) What is the degree and nature of respondents' subjective well-being?
- 8) What are the correlates of subjective well-being in this sample? (Based on the review of the literature and the conceptual framework of this study, it is predicted that the variables most highly correlated with the measures of subjective well-being will be health, income, and the social-psychological variables of social support, social comparison, and perceived control.)
- 9) To what extent can subjective well-being be predicted by measures of perceived social support, social comparison, control and other

social-psychological and demographic variables?

OPERATIONAL DEFINITIONS

Subjective Well-Being

The frequently studied constructs of life satisfaction, morale, and adjustment are highly interrelated and may be considered a single construct (Larson, 1978; Lohmann, 1980). Given this interpretation, these and similar constructs will be used interchangeably to denote an overall state of self-reported psychological well-being which will be called subjective well-being. Subjective well-being will be measured by the Index of Psychological Well-Being, the Life Satisfaction Index-A, and the Center for Epidemiologic Studies Depression Scale.

Social Support

Social support is defined as a construct comprised of those mechanisms by which interpersonal relationships promote positive outcomes, such as assisting an individual to cope with stressful life events. Social support is conceptualized in this study as instrumental, affective, and cognitive in nature.

Instrumental Support. Instrumental support is defined as the provision of tangible aid, whether it be financial assistance, transportation, or assistance with activities of daily living.

Affective Support. Affective support is defined as

the communication of direct positive affect; for example, feedback that one is loved, respected and "belongs."

Cognitive Support. Cognitive support is defined as the communication of information that helps the individual to negotiate her or his world. The information provided may range from the very specific "how to" variety to more subtle types enabling individuals to appraise the appropriateness of their feelings, beliefs, attitudes, and goals.

Level of Spinal Cord Injury

"Level" refers to the site of the spinal cord injury. In general, the higher the injury, the greater the loss of function. Spinal cord injuries are generally categorized into two major levels: paraplegia and quadriplegia. Quadriplegia is an injury at the cervical (neck) level; paraplegia is an injury below this level in the thoracic, lumbar and sacral regions of the spinal cord. Although variations in functional ability depend on the exact nature and level of the injury, the term paraplegia is generally used to refer to the paralysis of both lower limbs. The term quadriplegia refers to the paralysis of both arms and both legs. Injuries are also categorized as complete or incomplete. Complete lesions end sensation and voluntary movement below the injury level; whereas, incomplete lesions allow some sensation and/or voluntary movement.

INSTRUMENTS

Data were collected through use of the Elderly Spinal Cord Injury Questionnaire designed for this study and three established measures of subjective well-being. The questionnaire was administered as a structured interview by skilled interviewers and took subjects approximately one hour to complete. The questionnaire was pre-tested on ten subjects by the two interviewers, both of whom were female mental health professionals.

Elderly Spinal Cord Injury Questionnaire

The following are major categories of data collected in this instrument:

Demographic. Information regarding age, sex, race, marital status, children, education, religion, employment, income, and residential characteristics was obtained.

Recreational/Group Activities/Community Services. Information regarding types and numbers of recreational activities engaged in by respondents was obtained as well as data on whether these activities were individual or group-oriented. Subjects were asked to describe group memberships, use of community services, and the frequency of involvement with these groups and community services.

Health Status. Subjects were asked to rate their health status on a Likert-type scale; compare their health now to a year ago; and indicate the level of the spinal cord injury, age at injury, cause of injury and whether the

injury was service-connected, i.e., incurred during service in armed forces. Questions were also asked regarding the existence of chronic health problems, hospitalization, projected physical condition, and assistance needed with activities of daily living (ADL), i.e., dressing, bathing, eating, cooking, toilet, driving a vehicle, shopping, laundry and house cleaning. A scale consisting of the nine items indicating the degree of assistance required with various activities of daily living was constructed. An SPSS Reliability Analysis Program was used to determine the internal consistency of the items. The reliability coefficient for this scale was high, Cronbach's alpha = 0.94. An attempt was made to construct an index of health status from multiple items but the alpha level of 0.56 obtained was not considered high enough to combine these items into a single scale. Thus, remaining health items were treated individually in the data analysis.

Social Network/Support. Descriptive information was obtained regarding the number of support persons and the age, sex, disability status, residence location, and relationship of each person to the subject. Questions were also asked regarding reciprocity, duration of the relationship, frequency of contact, importance of and satisfaction with each relationship, and loss of important persons in the last several years.

In order to measure perceived social support, each subject was asked to name up to five persons who were

important sources of help, support, and guidance. After identifying these persons, subjects were asked to indicate on a Likert-type scale how much each person helped them in a variety of ways. A social support scale was constructed of 11 items measuring instrumental, affective, and cognitive support. A total social support score was obtained by adding the ratings on the 11 items resulting in a potential range in total support scores from 0 (no support) to 275 (five persons giving very frequent support on all 11 items). Reliability analysis of the social support scale indicated a Cronbach's alpha coefficient of 0.90, indicating a high degree of internal consistency of items. The internal consistency of items lends support to the conceptual soundness of utilizing a total social support score based on the three subscales of instrumental, affective, and cognitive support. The Cronbach's alpha coefficient for each of the three subscales was as follows: instrumental support, 0.81; affective support, 0.96; and cognitive support, 0.95. These reliability coefficients may be interpreted as indicating a relative homogeneity of items within each subscale. The high reliability coefficient of the total social support scale again may be interpreted as the items measuring a relatively homogeneous construct of social support or, as an alternate explanation, the possibility that subjects did not differentiate closely between forms of social support and tended to view the support given by another person in a

global fashion.

In addition to obtaining a total social support scale for each subject, two items measuring satisfaction with the amount and quality or closeness of social contact with others were combined to form an index of overall satisfaction with social contact with others. The Pearson correlation coefficient between these two items was 0.68, $p < 0.001$.

Social Comparison. In order to obtain a measure of favorable/unfavorable social comparisons, a scale consisting of five items was constructed. The five items were Likert-type scales on which the individual indicated how good his/her life situation was compared to most people, others the same age, others with a similar disability, his/her life before the disability, and how good his/her life would be without the disability. The Cronbach's alpha indicating the internal consistency of items was 0.80.

Subjects were also asked with whom they compared themselves and on what characteristics. They were also asked what things or values came to mind when they were thinking about their life situations as compared to those of others.

Control/Attributions. A scale consisting of five Likert-type items was constructed to measure perceived control. Subjects indicated to what extent they felt able to achieve or obtain what was important to them, make their

interactions with people end up the way they expected, count on themselves to cope successfully when stressed, solve problems in their lives and to what degree they perceived the good things that happened to them as a result of their own actions. The Cronbach's alpha for this scale was 0.81, again indicating a relatively high degree of internal consistency.

Subjects were also asked questions regarding what factors they blamed for causing their disability, the extent to which they felt they could have avoided the circumstances which caused the disability, major difficulties in their current life, the extent to which these difficulties are due to their own actions or inactions, the extent to which they perceived their disability as the worst to the best thing that could happen to them in their lifetime, and a description of any purpose or positive meaning their disability has had.

Happiness/Depression/Hope/Fears. Several questions regarding subjective well-being were asked to complement the three outcome measures to be described next. Subjects were asked to indicate on Likert-type scales how happy they were at this stage of their life, how often they felt depressed, and how hopeful they felt about their future. Subjects were also asked to describe how they coped with feelings of depression and what their greatest fears about the future were.

Index of Psychological Well-Being (IPWB) (Berkman, 1971)

This is an eight-item, self-report scale designed to measure mental health in a general population. Composed of both positive and negative feeling-state items, the index describes the relative strength of an individual's positive and negative feelings, rather than an absolute amount of one or the other. Negative and positive feelings scores are computed separately and combined on a matrix to form a total score of psychological well-being. For example, an individual with a negative feelings score of three and a positive feelings score of eight receives a total score of two on the scale.

MATRIX				
Negative Feelings Score	Positive Feelings Score			
	7-9	4-6	3	0-2
0-1	1	2	3	4
2-3	2	3	4	5
4-5	3	4	5	6
6-15	4	5	6	7

This method of measuring psychological well-being helps to explain why some people who seem to have a very high number of negative forces acting on them are still able to maintain a sense of well-being, while others who appear to be exposed to only a small number of negative experiences become extremely depressed.

The items in this scale come from those used by Bradburn and Caplovitz (1965) to measure psychological well-being in their studies of happiness. For the purpose of this study, one item on the Index, "so restless you couldn't sit long in a chair," was changed to "so restless you had to move about," since persons in this study cannot get up and walk. Berkman (1971) cites a parallel association between scores on the Index of Psychological Well-Being and mental health/life stress ratings by psychiatrists in the Midtown Study (Langner & Michael, 1963) as an indication of criterion-oriented concurrent validity.

The Life Satisfaction Index-A (LSIA-A) (Adams, 1969)

This is an 18 item self-report scale designed to measure subjective psychological well-being. The LSIA-A is multidimensional, composed of four factors interpreted as mood tone, zest for life, congruence between desired and achieved goals, and a fourth unnamed dimension. Adams suggests this fourth dimension represents a combination of resolution/fortitude and congruence between desired and achieved goals. The LSIA-A is identical to the LSIA developed by Neugarten, Havighurst and Tobin (1961) except for the deletion of two items from the LSIA which Adams rejected due to poor item reliability and minimal contribution to the total life satisfaction score. Inter-correlations have been demonstrated between the

LSIA-A and other measures of life satisfaction, e.g., LSIA, .989; LSIZ, .952; Philadelphia Geriatric Center Morale Scale, .779; and Cavan, .799 (Lohmann, 1977). No reliability estimates are reported for the LSIA-A. However, the LSIA-A and LSIZ are highly correlated and the LSIZ has a split half reliability coefficient of .79 (Wood, Wylie, & Sheaffer, 1969). Adams concludes that the LSIA-A is composed of one major factor which he calls life satisfaction. Analysis of the data in the present study resulted in a Cronbach's alpha of 0.76, indicating reasonable internal consistency of items.

Center for Epidemiologic Studies--Depression Scale (CES-D)
(Radloff, 1977)

This is a 20-item self-report scale designed to measure depression symptoms in the general population. The items were selected from previously validated longer scales (Beck Depression Inventory, 1961; Zung's Self-Rating Scale, 1965; MMPI-Depression Scale). The CES-D is composed of four factors interpreted as depressed affect, positive affect, somatic and retarded activity, and an interpersonal factor. The CES-D Scale was designed to avoid the problem characteristic of some depression scales of placing too much emphasis on somatic items which frequently characterize non-depressed older or disabled persons. Radloff (1977) reports that the internal consistency, test-retest reliability, and validity of the scale are high and correlations between the CES-D and age, social class,

and gender are minimal. Content validity was established based on the clinical relevance of symptoms which comprise the items of the scale. Criterion-oriented validity was also established by correlations with other valid self-report depression scales (Bradburn, 1969, $r = .61$; Langner, 1962, $r = .54$; and Lubin, 1967, $r = .51$) and with clinical ratings of severity of depression ($r = .56$). Construct validity was established by demonstrating a pattern of relationships with other variables. Reliability of the scale was established through test-retest procedures ($r = .54$) and analysis of internal consistency (Cronbach's $\alpha = .85$; split halves $r = .77$). The CES-D is not designed to be used as a clinical diagnostic tool, but is perhaps most useful in identifying "groups at risk of depression." Reliability analysis of the scale resulted in a Cronbach's α of 0.83, indicating high internal consistency of items. Based on analysis of data in this study of spinal cord injured persons, the Pearson correlation coefficient between the CES-D and the LSIA-A was $-.69$, $p < 0.001$, between the CES-D and the IPWB, $-.62$, $p < 0.001$, and between the IPWB and the LSIA-A, $.73$, $p < 0.001$.

DATA ANALYSIS PROCEDURES

The initial steps in data analysis entailed the development of a codebook, the coding of raw data onto a Fortran Coding Form, keypunching of data onto cards, and

the storing of data on a permanent computer tape.

An extensive qualitative and quantitative analysis of the data collected in this study was carried out. The first stage of data analysis entailed obtaining frequencies and descriptive statistics on the sample. This was followed by the computation of numerous Pearson correlation coefficients to obtain a broad picture of which variables correlated significantly with each of the outcome measures of life satisfaction, psychological well-being and depression and with each other.

The next stage of analysis entailed the conducting of reliability analyses of indexes constructed to measure activities of daily living, social support, social comparison, and perceived control. Reliability analyses were also completed on the outcome measures of well-being, life satisfaction and depression. All of these reliability analyses revealed a Cronbach's alpha of 0.70 or higher indicating the internal consistency was high enough to interpret the items as measuring the same general construct.

Variables of particular interest because of their theoretical value to this study or for their contribution to past studies of subjective well-being were then analyzed by t-tests or one-way analysis of variance to look for differences in measures of subjective well-being based on group membership and to detect possible curvilinear relationships (ANOVA) likely to be obscured by Pearson

correlation coefficients.

The final stage of data analysis involved the use of hierarchical multiple linear regression analysis to determine to what degree subjective well-being could be predicted from the social-psychological variables of particular theoretical interest (social support, social comparison, perceived control, perception of disability) and demographic variables generally considered to influence subjective well-being (health, income). The variables of health and income were entered first into the regression equation followed by the social-psychological variables to determine the additional impact of these social-psychological variables in predicting subjective well-being.

The moderate size of the sample also made it possible to conduct extensive qualitative analysis of the data; for example, a description of the highest and lowest scoring subjects on the measures of subjective well-being.

All computer-assisted data analysis was conducted through use of the Statistical Package for the Social Sciences, 2nd edition (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975), and SPSS Update (Hull & Nie, 1979).

Keeping in mind that random sampling was not possible in this study, that all variables are not necessarily normally distributed, and that some variables represent ordinal level data treated as interval level data, the analysis of these data with parametric statistics is

nonetheless viewed as appropriate, in line with statistical procedures currently used in social science research, and as meeting the assumptions of parametric tests to a degree compatible with the purposes of this study. In support of this approach to statistical analysis, Kerlinger (1973, p. 287) states that

Unless there is good evidence to believe that populations are rather seriously non-normal and that variances are heterogeneous, it is usually unwise to use a nonparametric statistical test in place of a parametric one. The reason for this is that parametric tests are almost always more powerful than nonparametric tests.

Kerlinger also quotes Anderson (1961, p. 315) as stating, "It was concluded that parametric procedures are the standard tools of psychological statistics, although nonparametric procedures are useful minor techniques."

CHAPTER IV

FINDINGS

The data are analyzed by the nine research questions identified previously.

QUESTION 1: WHAT ARE THE DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE?

A typical demographic profile of a subject in this sample is a 56 year old Caucasian male, married with two children. He is a Veteran, has a high school diploma, is currently unemployed, perceives himself as moderately religious and claims a Protestant affiliation. His income is approximately \$10,000 a year, drawn primarily from Social Security and other disability insurance. He is moderately satisfied with his income and lives in his own well-maintained home in an urban setting with his spouse. His monthly mortgage payment is relatively low, approximately \$150 per month and he lives in relative comfort.

Demographic Characteristics of Respondents

Race, Gender and Age. All subjects in the sample were Caucasian and predominantly (90%) male. The current age of subjects ranged from 40 to 73 with the mean age being 56 and the median age, 56.5 years. The largest

percentage of respondents (45%) were 50-59 years of age.

Marital Status. The majority (72%) of subjects were currently married or living as married (1%). Eight percent were never married, 17 percent were divorced, and 2 percent were widowed. Among those widowed or divorced, 11 incurred this status over seven years ago, four within the last 4-7 years and four within the last 1-3 years. Thus, most of those widowed or divorced were not adjusting to a recent loss of marital partner.

Children. A majority (84%) of the subjects had at least one child. The mean number of children was 2.5. Approximately two-thirds of those subjects had their children before the occurrence of the spinal cord injury.

Household Composition. The most prevalent living situation for subjects was with a spouse. Almost a third (27%) of the respondents also had a child still living in the home. The incidence of other persons such as parents, siblings, friends and paid care givers in the home was small. Fourteen percent of the respondents lived alone.

Employment Status. The majority of the respondents (74%) were currently unemployed. Of the 26 percent employed, 22 persons were employed full-time and four part-time. Those employed identified a variety of occupations, but it was interesting that half of those employed were professional persons. This may indicate a high degree of career commitment among professional persons and/or that professional-type jobs frequently do not

require a large degree of physical mobility. Other jobs identified by respondents were sales, management, clerical, craftsman, and laborer. Of those persons working, all but two rated job satisfaction 4-5 on a 1-5 Likert-type scale with 5 being very satisfied. The remaining two persons rated their job satisfaction as moderate.

Income. The yearly income of respondents ranged from less than \$2500 to over \$20,000. The median income fell within the \$10,000 to \$15,000 bracket. Twenty-five percent of the respondents reported yearly incomes of over \$20,000. The major sources of income identified by subjects were Social Security, disability insurance, employment of respondent or spouse, pension/retirement funds and investments. Thirty percent of the respondents were moderately satisfied with their income, 27 percent were somewhat or very dissatisfied, and 43 percent were somewhat or very satisfied with their income.

Education. The educational level of respondents ranged from less than high school (17%) to the possession of graduate degrees (7%). The greatest percentage (31%) of respondents possessed a high school diploma as their highest educational achievement.

Religiosity. The highest percentage (35%) of respondents described themselves as moderately religious, while 33 percent viewed themselves as not very/not at all religious and 32 percent as somewhat/very religious. Forty-nine percent of the respondents identified themselves

as Protestant, followed by 21 percent claiming no religious affiliation, 16 percent Catholic, 9 percent other, and 5 percent Mormon.

Residence Type and Location. Fifty-one percent of the subjects lived in an urban area, 31 percent in a suburban area or small town, and 18 percent in a rural area. Most of the subjects (85%) lived in their own homes; 10 percent lived in apartments, 4 percent in mobile homes, and 1 percent in condominiums. Eighty-eight percent of the respondents owned or were purchasing their residences. Monthly mortgage or rent payments varied widely, ranging from nothing (21%) to over \$300 (21%).

QUESTION 2: WHAT IS THE EXTENT AND NATURE OF SUBJECTS'
PARTICIPATION IN RECREATIONAL, GROUP, AND COMMUNITY
ACTIVITIES AND SERVICES?

Subjects identified a wide variety of recreational activities and hobbies they engaged in. These activities ranged from quiet individual activities such as reading and watching TV to outdoors activities with others such as fishing and traveling. Fifty-two percent of the subjects indicated they usually engaged in individual types of recreation, 8 percent in group activities and 40 percent in a combination of individual and group activities.

On the whole, subjects in this study were not active members of groups. Those who were active in groups mentioned a number of organizations such as the Elks, Kiwanis, Paralyzed Veterans' Association, Amateur Radio

Club, church groups, Lions, American Legion, and the National Spinal Cord Injury Foundation. Thirty-nine percent of the subjects stated they belonged to no groups, 27 percent to one group, 23 percent to two groups, and 11 percent to three or more groups. In regard to participation in these groups, 50 percent stated they never participated in a group, 12 percent participated less than once a month, 28 percent once or twice a month, and 10 percent once a week or more.

Persons in this study were even less involved with community agencies and services. Eighty-five percent said they didn't use any community services or agencies at any time, 13 percent used one agency, 1 percent used two agencies, and 1 percent used three agencies. Of the 15 percent using community agencies, 5 percent used them less than once a month, 4 percent once or twice a month, 2 percent once a week, and 4 percent several times a week. Examples of community agencies or services used were senior centers, Meals on Wheels, The Lift, Upjohn Nursing Service, Visiting Nurses' Association, Loaves and Fishes, and Home Health Care.

The relatively low degree of participation by these subjects in organized groups and community programs has implications for those persons planning services for elderly spinal cord injured persons. A thorough assessment of the needs of this population and the factors which may influence utilization of services (such as transportation,

cost, and types of services provided) is indicated before investing resources in programs.

QUESTION 3: WHAT ARE THE HEALTH STATUS CHARACTERISTICS OF RESPONDENTS?

Subjects' responses to the question, "All things considered, how would you rate your health status right now?", ranged from poor to excellent. The greatest percentage (34%) of subjects rated their health status as moderate (3 on a 1 to 5 Likert-type scale). Seven percent of the subjects perceived their health as poor, 18 percent as fair, 30 percent as good, and 11 percent as excellent.

Fifty-five percent of the subjects felt their health status now was the same as it was one year ago, 18 percent felt their health was better now, and 27 percent thought it was worse now. In regard to projected health status, 60 percent of the subjects felt their health would be the same in the next year, 16 percent felt it would improve, and 24 percent felt it would get worse.

In regard to the level of injury, 40 percent of the subjects were classified as paraplegia, incomplete; 27 percent paraplegia, complete; 29 percent quadriplegia, incomplete; and 4 percent quadriplegia, complete. The age at injury ranged from 12 to 68 with the mean age at injury being 35.4 years; the mode was 20.0 and the median age was 33.2 years. The age at injury in this sample tended to be older than that cited in the literature; Trieschmann (1980)

cites the mean age of injury at 28.5 years, the mode at 20.0 and the median age of injury 23.0 using a large data base from the National Spinal Cord Injury Model Systems Conference Proceedings (1978). The older age at injury in this study is most likely explained by the exclusion of persons under the age of 40 in this sample.

The major cause of injury (32%) was vehicular accidents involving both automobiles and motorcycles, followed by polio (27%), other assorted accidents (15%), falls (8%), penetrating wounds (6%), other disease processes (6%), tumors (4%), and sports injuries (2%). Eighty-three percent of these injuries were non-service connected, meaning that most persons in this sample were not receiving additional benefits associated with a service-connected disability.

Fifty-seven percent of the subjects indicated they had no chronic health problems other than their spinal cord injury. Among the chronic health problems identified by the remaining 43 percent of the sample were the following: hypertension, kidney infection and disease, hypotension, diabetes, arthritis, emphysema and a variety of cardiovascular problems. Many of the chronic health problems mentioned are among those associated with spinal cord injury, particularly renal disease and related hypertension (Gunby, 1981). Thirty-five percent of the respondents had been hospitalized in the last year. Of those hospitalized, ten were hospitalized for less than one

week, five for one to two weeks, ten for three to four weeks and ten for over one month.

QUESTION 4: WHAT IS THE DEGREE AND NATURE OF SOCIAL
SUPPORT PERCEIVED BY RESPONDENTS?

Number of Support Persons

Subjects in this study were asked to name persons who were important sources of help or support to them. The relatively few subjects (14%) who named more than five persons who were important sources of help or support were asked to list the five persons who were the most important to them. The mean number of support persons identified was 2.3, the mode 1.0 and the median, 1.9. It was interesting that the largest number of subjects (41%) named only one support person. The small number of support persons identified by many respondents makes them vulnerable to the potential loss of these persons through illness or death.

Who Provides Support

Individuals identified as support persons typically lived with respondents or within a tri-county area. Subjects named very few support persons who lived outside the tri-county area. Almost all of the support persons named were people the subjects had known for over five years. Subjects viewed these interpersonal relationships as long-term and stable. In almost all cases, individuals who were identified as support persons knew each other.

Spouses and children were the most important sources

of help and support for subjects. Seventy-two percent of the respondents named spouses and 38 percent named children as important support persons. Other sources of support in descending order of frequency were friends, siblings, parents, other relatives, neighbors, professional helpers, and co-workers.

It was interesting that out of all the support persons named (231) by the 100 subjects in this study, only 11 of the total number of support persons were disabled. It was expected that severely disabled persons would have a desire or need for support from others with similar disabilities. The verbal responses of subjects seemed to indicate, however, that this was not particularly important at this time in their lives. Perhaps it is important to have contact with similarly disabled persons at a point soon after injury in order to redefine one's personal and social identity, but less important as time goes by. Most persons in this study did have access to organizations such as the Paralyzed Veterans Association and the National Spinal Cord Injury Foundation, thus the availability of similarly disabled persons did not appear to be a major factor in subjects' responses.

Frequency of Contact

Subjects in this sample see the support persons frequently; eighty-four percent of respondents' contacts with support persons were "several times a week or daily,"

14 percent were several times a month, and 2 percent were less than once a month.

Importance of Support Persons

The support persons are very important to respondents. Ninety-two percent of the respondents viewed their relationships with support persons as being very important, 7 percent as moderately important, and 1 percent as not important.

Satisfaction With Social Support

Respondents were satisfied with their relationships with support persons for the most part. Ninety percent of the respondents were very satisfied with these relationships, 8 percent were moderately satisfied and 2 percent were not satisfied. Subjects were also asked, "In general, how satisfied are you with the amount of social contact you have with others?" and "with the quality or closeness of the social contact you have with others?" Sixty-eight percent of the subjects indicated high satisfaction, 22 percent moderate satisfaction, and 10 percent low satisfaction with the amount of social contact with others. Following a similar pattern, 70 percent indicated high satisfaction, 20 percent moderate satisfaction, and 10 percent low satisfaction with the quality of social contact with others. The Pearson correlation coefficient between satisfaction with the amount and satisfaction with the quality of social contact

was $r = 0.68$, $p < .001$, indicating a relatively strong positive relationship. These data suggest that one component of the perceived quality of a relationship is the frequency or amount of contact between the parties.

The Pearson correlation coefficients between "satisfaction with the amount and quality of the social contact with others" and the actual social support scale score, although in the expected direction, were surprisingly low. The correlation coefficient between satisfaction with the amount of social contact and the social support scale score was $r = 0.22$, $p < .014$ and between satisfaction with the quality of social contact and the social support scale score, $r = 0.25$, $p < .006$. In interpreting these correlations it must be remembered, though, that the social support scale score is based on support persons named, whereas, the measures of satisfaction with the overall amount and quality of social contact are based on a broader range of relationships. It is certainly possible for someone to have a strong personal support system, be satisfied with that system, and still not be satisfied with the amount and quality of social contact with others in general.

Reciprocity

It was thought that subjects in this study might be somewhat vulnerable to unbalanced exchanges with those in their support network due to the needs their physical

disability might impose. In actuality, relationships were viewed by the respondents as reciprocal the majority of the time. For the first support person named, usually the spouse, respondents viewed the relationship as reciprocal (helping each other about the same) in 58 instances, as the other person helping them more in 38 instances, and the respondent helping the other person more in three instances. The remaining subject had no support person. For subsequent persons named as supports, the same pattern emerged but with relationships being even more frequently identified as reciprocal; for example, for the second person named as a support, 22 were viewed as reciprocal relationships, eight as the other helping the subject more, and eight as the subject helping the other more. Statistical analysis of relationship reciprocity by relationship satisfaction revealed no significant results. Reciprocity was likewise not correlated highly with either satisfaction with the amount ($r = 0.21$, $p < .02$) or quality ($r = 0.13$, $p < .09$) of social contact. There are undoubtedly many factors which influence the expectation of reciprocity in a relationship including the relative ages, role positions, and health status of the participants. Most persons in this study did not express difficulty regarding the issue of reciprocity and as noted previously reported high satisfaction and high stability in their relationships with significant others. It would be interesting in future study to investigate the issue of

reciprocity from the viewpoint of the spouses of spinal cord injured persons.

Conceptualization of Support

As described previously, social support was conceptualized as being instrumental, affective, and cognitive in nature. For the most part, subjects did not seem to differentiate strongly between these types of support; i.e., on a 1-5 Likert-type scale they tended to classify a given support person as a 3, 4, or 5 "across the board." The degree to which persons differentiated between particular types of support given of course varied, but it appeared that many persons tended to view someone else in a more global fashion as being supportive or not. It is, of course, also quite possible that many persons in fact do give support in a "global" fashion, i.e., they provide material assistance, affection and love, and information and advice. The Pearson correlation coefficients between the three types of social support were thus high; between instrumental and affective support ($r = 0.81$, $p < .001$), between instrumental and cognitive support ($r = .86$, $p < .001$), and between affective and cognitive support ($r = 0.95$, $p < .001$).

Reliability analyses of each of these subscales of the social support scale revealed a Cronbach's alpha of 0.81 for the instrumental support scale, 0.96 for the affective support scale, and 0.95 for the cognitive support

scale. All of these coefficients indicate a high degree of internal consistency of items within each of the subscales. Looking at these three subscales together, a reliability analysis of the total social support scale resulted in a Cronbach's alpha of 0.90, again indicating high internal consistency. The high internal consistency of items in the social support scale and high Pearson r coefficients between the three subscales lend support to the conceptualization of instrumental, affective and cognitive support as comprising one basic construct, social support.

Social Support Scores

Social support was viewed in this study as being both qualitative and quantitative in nature; thus scores on the social support scale reflect a combination of the number of support persons named and the quality of support received from those persons. Thus, a subject who names two support persons and perceives them as providing very frequent support in many categories may receive the same total social support score as another subject who names four persons and perceives them as providing a moderate amount of support. For each of the 11 items on the social support scale, the subject indicates to what degree each support person named helps them. Subjects rate the degree of help received on a 1-5 Likert-type scale with 1 being "not at all," 2 "rarely," 3 "on some occasions," 4 "often," and 5 "very frequently." Thus, the potential score on the scale

may range from zero if no support persons are named to 275 if the subject names 5 persons who help him very frequently on all 11 items. The social support scale scores ranged in this sample from zero to 247. The mean social support score was 92.94, the mode 49.00, and the median 83.50.

QUESTION 5: WHAT IS THE NATURE OF THE SOCIAL COMPARISONS
MADE BY RESPONDENTS?

In order to create a set for asking questions about social comparison, subjects were asked to think about their overall life situation and rate their life situation on a 1-10 Likert-type scale with 10 being "the greatest." Responses to this question ranged from 1 to 10; the mean score was 6.6, the mode 7.0, and the median 7.0.

Subjects were then asked to describe with whom they compared themselves to decide how good their life situation was. Subjects had difficulty relating to this question and many stated they didn't compare themselves with other people. This response was not surprising to the interviewers in view of a prevalent cultural norm which says something to the effect of "If you're secure in yourself you shouldn't need to compare yourself with other people." With some explanation by interviewers that we all compare ourselves with others even though we're not always aware of it, subjects were able to relate somewhat better to this question. It was expected that many respondents would compare themselves to other disabled persons, since

social comparison theory (Festinger, 1954) would predict a need to evaluate the self in relationship to similar others. Only 25 percent of the subjects said that they compared themselves with other disabled persons. Sixteen percent said that they compared themselves with nondisabled persons and 59 percent said they didn't compare themselves with any particular group of persons, "just people in general." It was expected that persons who compared their life situation to those of other disabled persons would have a greater sense of subjective well-being than those comparing their life situation to nondisabled persons. One way analysis of variance, however, showed no significant differences in measures of subjective well-being based on comparison groups. Contrasts between each of the three comparison groups (disabled, nondisabled, no particular group) likewise showed no significant differences in subjective well-being. It is difficult to interpret these findings in view of the difficulty subjects had in recognizing or being aware of the comparison processes they probably used.

Subjects were also asked to describe what characteristics, things, or values came to their mind when thinking about their life situation and how good it was. The most frequently mentioned things or values were family and friends, followed by mobility and independence, health, finances, work/productivity, and several persons mentioning personality, intellect and pain. The importance of family

and friends shown here and previously in the discussion of social support may perhaps be most accurately interpreted as a reflection of the particular needs and values of a severely disabled population and also as a reflection of the general cultural value placed on family by persons of the age group represented in this sample.

A scale consisting of 5 Likert-type items was constructed to obtain a measure of the favorable/unfavorable nature of the inter- and intra-personal comparisons made by this group. The 5 items ask subjects to rate how good their current life situation is in relationship to "most people," "others the same age," "others with a similar disability," "their life before the disability," and a projection of their current life "if they didn't have the disability." It is interesting that in all comparisons with other people, the mean response is on the favorable side; whereas, in regard to intrapersonal comparisons the mean response is on the unfavorable side. It seems that many persons in this sample are able to see their own life situations favorably as compared to others, but still acknowledge that their own life situation could be better now without the disability and was perhaps better before the disability. It is also interesting that in comparisons with other people, subjects rate their own life situations most favorably when the other has a similar disability.

Considering the social comparison scale as a whole,

possible scores range from 5 to 25, the higher the score the more favorable the comparison. The mean score on the scale was 14.9, the mode 12.0, and the median 14.7. Reliability analysis of the scale resulted in a Cronbach's alpha of 0.80, indicating a high degree of internal consistency among scale items.

To summarize, then, a "typical person" in this sample tends to view his or her own life situation as about the same or a little better than that of other persons in general, others his own age, and others with a similar disability. This "typical person" views his current life situation as somewhat worse than before the disability and believes his current life situation would be somewhat or much better if he didn't have a disability. In thinking about his life situation, family and friends were mentioned as foremost in his mind.

QUESTION 6: WHAT IS THE DEGREE AND NATURE OF RESPONDENTS' PERCEPTION OF CONTROL OVER VARIOUS LIFE SITUATIONS?

Subjects were asked to what extent they felt their lives were controlled by themselves or other factors. Subjects on the whole reported a high sense of control over their lives.

A scale consisting of 5 Likert-type items was constructed to measure the extent of perceived control over various life situations. Scores on the scale ranged from 5 (indicating no perception of control) to 25 (indicating a

perception of complete control). The mean score was 19.0, the mode 20.0, and the median score 19.7. Reliability analysis of the scale resulted in a Cronbach's alpha of 0.81, indicating a relatively high degree of internal consistency among items. Scores on this scale indicate that 72 percent of the subjects perceive a relatively high degree of control over their ability to "achieve or obtain what is important to them," to "make their interactions with others end up the way they expect," to "cope successfully when stressed," to "solve problems," and to "view the good things that happen to them as a result of their own actions." Another 17 percent of the sample perceived themselves as having a moderate perception of control over these things and only 11 percent of the subjects perceived themselves as having a low perception of control.

Subjects were also asked whether they felt they could have avoided incurring the disability and what factor(s) they blamed for causing the disability. These questions are particularly interesting in view of research by Bulman and Wortman (1977) regarding attribution of blame by victims of severe accidents. These researchers concluded from their data that those who coped the best blamed themselves but felt the injury was unavoidable; whereas, individuals who coped the worst blamed others, showed more regret, and felt they could have avoided the injury. The majority of persons in this current study did not blame

themselves for causing their disability; fifty-seven percent of the subjects did not blame themselves at all, 4 percent only slightly, 9 percent moderately, 9 percent somewhat, and 21 percent blamed themselves very much. Those who did blame themselves tended to give examples such as carelessness resulting in a vehicular accident or failure to take polio vaccine resulting in paralysis.

The majority of persons in this sample did not feel they could have avoided the disability; fifty-six percent felt there was nothing they could have done and only 19 percent felt they could have completely avoided the disability. As would be expected, those who blamed themselves tended to be those who felt they could have avoided the disability, Pearson's $r = 0.72$, $p < .001$.

In summary, the "typical person" in this sample has a relatively high perception of control over various life situations, does not tend to blame himself for causing the disability, and does not believe that he could have avoided incurring the disability.

QUESTION 7: WHAT IS THE DEGREE AND NATURE OF RESPONDENTS' SUBJECTIVE WELL-BEING?

In addition to the three scales measuring psychological well-being, life satisfaction, and depression, a number of individual questions relevant to subjective well-being were asked. The most frequent response to the question, "What are the major difficulties

in your life at this time?" was dependency and immobility (38% of subjects), followed by health, finances, relationships with others, and pain. Approximately one-quarter of the sample said they had no major difficulties, while others mentioned multiple difficulties.

Subjects were asked several questions regarding their perception of and attitude toward their disability. Responses to the question, "Considering the best and worst things that could happen to you in your lifetime, where does your disability fit into the scale?" showed that 41 percent of the subjects viewed their disability as neither the worst nor the best thing that could happen to them. Fifty-four percent of the subjects viewed their disability as the worst or almost the worst thing that could happen to them and 5 percent of the subjects viewed their disability as the best or almost the best thing that could happen to them. It is relatively easy to imagine how one would perceive paralysis as the "worst thing that could happen," but what about those persons who say it is "the best thing that could happen?" Perhaps the response of one such person gives some insight into this question: "Before, I was drifting; since then I have gone to school and my outlook on life is changed drastically toward the positive."

Subjects were also asked whether their disability had any purpose or positive meaning in their life. A majority of subjects (64%) said that there had been some purpose or

positive meaning. The most frequently mentioned types of meaning were those related to personal growth such as an "increased awareness of self," "becoming a better person," and "value change" and those related to seeing other people as more important. Less frequently mentioned responses were more "patience and tolerance," "being more careful now," "using my head-vs-brawn," "increased importance of God," and "acquiring new skills and hobbies." It appears that over time many spinal cord injured persons go through a process of recognizing their values and perceptions of themselves in order to cope with their new status as a disabled person. This reorganization process most likely entails for many such persons a search for positive meaning or purpose in their disability in order to fully accept and integrate this new element into their lives. The ability to attribute positive meaning or purpose to the disability most probably enhances a perception of control over how one feels about one's self and life situation; i.e., one is not doomed to feel miserable because of the disability; one has a choice of how to feel. The incurring of a severe injury may also be perceived by many as a close brush with death, accompanied by a clear realization of human vulnerability. In other words, a severe trauma such as paraplegia or quadriplegia may make one "stop and think what life is really about," and thus lead to dramatic value and attitude changes.

Many physically able persons may have a hard time

imagining that they could be happy if paralyzed from the waist down. In response to the question, "How happy are you now (not at this moment, but at this stage of your life)?", subjects in this study appeared relatively happy. Sixty-one percent of the subjects indicated a high level of happiness, 31 percent a moderate level, and only 8 percent a low level of happiness. Again, this suggests an ability to develop a view of life and self that is positive despite the existence of potentially devastating life stressors (Lazarus 1977).

Although some subjects in this study (15%) indicated that they were frequently depressed, a majority of subjects indicated a low (48%) to moderate (37%) frequency of depression in response to the question, "How often do you feel depressed?" In describing how they coped with the feeling of depression, subjects most frequently mentioned thinking positively and engaging in some activity followed by reading, TV, music, and talking to someone. Less frequently mentioned ways of coping were sleeping, crying, screaming, arguing, complaining, praying and drinking or drug-taking.

Responses to the question, "In general, how hopeful do you feel about your future?", indicated that 47 percent of the subjects had a high degree of hope, 30 percent a moderate degree, and 23 percent a low degree of hope about the future. Variables that were correlated with hope at a significance level of .001 or better and with a Pearson r

of .3 or higher are shown in Table II. These correlations suggest that persons who are younger, employed, require little assistance with activities of daily living, and who make favorable social comparisons, perceive that they have control over various life situations, view their relationships with others as reciprocal, and who view their disability in a somewhat positive light have more hope about their future than do persons not exhibiting these characteristics. As would be expected, the perception of hope was positively correlated with psychological well-being, life satisfaction, and the absence of depression.

Subjects identified a variety of fears about the future. The fear of having an inadequate income was the most frequently mentioned fear (32% of subjects), followed by fears of deteriorating health (25%), dependency on others (21%), losing others and loneliness (12%), death (8%), going to a nursing home (4%) and pain (2%).

The last part of the questionnaire consisted of the outcome measures of subjective well-being. The Index of Psychological Well-Being (IPWB) is scored from 1 to 7 representing a balance of positive and negative feelings. A score of one represents a high level of psychological well-being. Utilizing a probability sample of 6,928 adults from a general population, Berkman's (1971) study resulted in a distribution of scores resembling that in this study (see Table III). The persons in Berkman's study scored

TABLE II
PEARSON CORRELATIONS BETWEEN HOPE^a AND
SELECTED PREDICTOR VARIABLES

Variable	Pearson r^*
Age	-.35
Employed	.40
Assistance with ADL	-.35
Social Comparison	.52
Perceived Control	.44
Reciprocity	.35
Life Satisfaction (LSIA-A)	.57
Psychological Well-Being (IPWB)	.46
Depression (CES-D)	-.54
Disability Perception	.31
Positive Meaning of Disability	.31

^a"In general, how hopeful do you feel about your future?" 1 (not at all hopeful) to 5 (very hopeful).

* $p < .001$ for all correlations.

TABLE III
COMPARATIVE DISTRIBUTION OF SCORES ON THE
INDEX OF PSYCHOLOGICAL WELL-BEING

Scale Score	Berkman (1971)	Spinal Cord Injury Study
	Percentage of Sample	Percentage of Sample
1 High Well-Being	6.9	3
2	14.9	7
3	22.5	23
4	22.3	31
5	20.5	25
6	9.4	8
7 Low Well-Being	<u>3.5</u>	<u>3</u>
	Total 100	100
	Mean 3.77	Mean 4.04
	Mode 3.00	Mode 4.00
		Median 4.05

slightly lower on the scale, thus indicating slightly higher psychological well-being than the spinal cord injured persons in this study. One might have expected the spinal cord injured sample to exhibit a much lower level of psychological well-being than the general population but this was not the case.

The Life Satisfaction Index-A (LSIA-A) yields a score ranging from 0 to 18 with 18 being the most positive response. Scores on this scale ranged from 0 to 18 with a mean score of 10.76, a mode of 9.0, and a median score of 10.88. These scores were compared with those of Adams (1969) utilizing the LSIA (a 20 item scale from which the LSIA-A was derived) and those of Harris and Associates (1975) using the 18 item version as in this study (see Table IV). The study by Adams (1969) was based on a sample of 508 persons, aged 65 and over, and residing in small towns. The study by Harris and Associates (1975) was based on an in-depth survey of a cross-section of the American public aged 18 and over. The Harris sample was composed of 4,254 persons; 3,624 of whom were 40 and over and 2,797 of whom were 65 and older.

The scores of spinal cord injured persons in this study do reflect lower levels of life satisfaction than older persons in general and the general adult public as reported by Adams (1969) and Harris and Associates (1975). Over 50 percent of the spinal cord injured persons in this study gave responses indicating dissatisfaction on 5 of the

TABLE IV
MEAN SCORES ON THE LSIA AND LSIA-A OF SELECTED SAMPLES

	LSIA (Adams, 1969) ^a	LSIA-A (Harris, 1975) ^b		LSIA-A (Spinal Cord Injury Study)
Age of Subjects	65+ yrs.	18-64 yrs.	65+ yrs.	Total Public
Mean Score	12.5	13.35	12.2	13.2
Median Score	-	14.15	13.0	14.0
Mode	-	-	-	-

^aScores can range from 0 to 20.

^bScores can range from 0 to 18. High scores indicate high levels of life satisfaction.

18 items on the LSIA-A. Sixty-six percent indicated that they were not as happy now as when they were younger, these were not the best years of their lives (73%), their lives could be happier than they are now (78%), they would change their past if they could (63%), and the lot of the average person is getting worse, not better (51%). The reasons subjects gave for some of these responses were related to their disability; for example, some persons volunteered the information that the part of their past they would change would be their injury.

Comparing the responses of spinal cord injured persons to those of other persons on the same 5 items, Harris and Associates (1975) report that 44 percent of those over 65 were not as happy now as when younger, 68 percent felt these were not the best years of their lives, 45 percent felt their lives could be happier, 38 percent would change their past lives, and 34 percent felt the lot of the average person was getting worse. Persons in these two samples scored similarly to each other on most of the remaining items. One exception was that only 58 percent of the spinal cord injured persons felt they had gotten pretty much what they expected out of life compared to 82 percent of the over 65 year old Harris sample. One interesting observation was that a majority of persons in both samples felt they "made a good appearance compared to other people their age" (spinal cord sample, 75%; Harris, 83%). One might expect that the spinal cord injured persons, in

particular, might feel inferior to other persons in regard to appearance. One person who said he didn't feel he made as good an appearance as others his age said that "if other people in the study said they did, they're kidding themselves!"

The Center for Epidemiologic Studies-Depression Scale (CES-D) yields a score of 0 to 60 with 60 being the most depressed response. Subjects are given a list of ways they may have felt or behaved during the past week and are asked to indicate how often they felt or behaved in each of the ways. Scores on this scale ranged from 0 to 37 with a mean score of 9.74, a mode of 3.0, and a median score of 7.5. The mean score of subjects in this sample is similar to that of a probability sample of 2,514 persons from the general population aged 18 and over in a study conducted by Radloff (1977). Radloff also reports mean scores on the CES-D for an inpatient psychiatric sample of 70 persons and for a sample of 35 persons admitted to outpatient treatment for severe depression (see Table V). The mean score and percentage of scores at or above 16 for spinal cord injured persons in this study are only slightly higher than the scores of the general population studied by Radloff. This finding may be interpreted as an indication that this group of disabled persons is not particularly "at risk" of depression or in need of treatment.

There were, however, six individuals scoring above the mean of the inpatient group in Radloff's study. Three

TABLE V
MEAN SCORES ON THE CES-D OF SELECTED SAMPLES

Radloff (1977)				Spinal Cord Injury Study
	<u>General Population 18+</u>	<u>Inpatient Psychiatric</u>	<u>Outpatient Psychiatric</u>	
Mean Score	9.25	24.42	39.11	9.74
Percentage of scores <u>at</u> or <u>above</u> 16	19	70	100	22

Note. Scores can range from 0 to 60. High scores indicate high levels of depression.

of these individuals had scores in the 30's, not far below the mean of the severely depressed outpatient sample in Radloff's study. Of these three persons, one was a paraplegic and reported no support person whatsoever. This person impressed the interviewer as being extremely isolated, bitter, and suspicious of people. The other two persons with high depression scores were quadriplegic and both were married. One of these persons required complete assistance with activities of daily living, was in constant pain, frequently cried during the interview, and asked the interviewer to get a gun and kill him several times during the interview. At one point he said he was interested only in getting rid of the pain. The other individual also required complete assistance with activities of daily living. He stated that he constantly had to come up with things to occupy his mind; otherwise he would dwell on his physical condition and want to kill himself. Suggestions for help were offered to these very depressed persons regarding resources they might wish to call for assistance.

QUESTION 8: WHAT ARE THE CORRELATES OF SUBJECTIVE
WELL-BEING IN THIS SAMPLE?

This survey research study examined a wide variety of variables in relationship to subjective well-being. The relationship between the three outcome scales and the four individual items measuring outcome were also examined (Table VI). As seen in Table VI, the highest correlation

TABLE VI
CORRELATIONS AMONG SEVEN MEASURES OF SUBJECTIVE WELL-BEING

Variable	IPWB	LSIA-A	CES-D	How Good is Life?	Happy?	Depressed?	Hopeful?
IPWB	1.00*	.73	-.62	.60	.57	.38	.46
LSIA-A	-	1.00	-.69	.72	.62	.45	.57
CES-D	-	-	1.00	-.60	-.54	.43	-.54
How good is life?	-	-	-	1.00	.63	.49	.51
Happy?	-	-	-	-	1.00	.40	.39
Depressed?	-	-	-	-	-	1.00	-.42
Hopeful?	-	-	-	-	-	-	1.00

* $p < .001$ for all correlations.

is between the Index of Psychological Well-Being and the Life Satisfaction Index-A ($r = .73$) followed by the correlation between the LSIA-A and the single item, "Overall, how good would you say your life situation is on a 1-10 scale with 10 being the greatest?" ($r = .72$). This single item question is one frequently used in clinical and other situations where it may not be expedient to administer a longer scale.

Many variables considered in this study showed a positive correlation with the measures of subjective well-being. Those independent variables with a Pearson correlation coefficient of $r = .3$ or higher are shown in descending order of significance in Table VII. The pattern of correlations is very similar on the three measures of subjective well-being and particularly on the IPWB and the LSIA-A. As predicted, the variables accounting for the greatest amount of variance in the outcome measures are social comparison, control, social support, and health. It was also predicted that reciprocity and income would be correlated highly with measures of subjective well-being. Reciprocity was correlated with the LSIA-A ($r = .34$, $p < .001$) and with the IPWB ($r = .20$, $p < .02$) and CES-D ($r = -.26$, $p < .004$) at somewhat lower levels. The level of perceived reciprocity was expected to be positively related to subjective well-being in that the person who views him or herself as both giving and receiving in relationships is likely to make favorable social comparisons about his or

TABLE VII
MAJOR CORRELATES OF THREE MEASURES OF SUBJECTIVE
WELL-BEING (IPWB, LSIA-A, CES-D)

IPWB		LSIA-A		CES-D	
	<u>r</u>		<u>r</u>		<u>r</u>
Social comparison	.61*	Social comparison	.74	Perceived control	-.56
Satisfaction with quality of social contact	.49	Perceived control	.52	Social comparison	-.56
Perceived control	.49	Satisfaction with amount of social contact	.51	Health	-.49
Health	.43	Health	.47	Satisfaction with amount of social contact	-.45
Satisfaction with amount of social contact	.43	Cognitive support subscale	.46	Satisfaction with quality of social contact	-.44
Social support	.42	Social support	.45	Cognitive support subscale	-.32
Cognitive support subscale	.42	Satisfaction with quality of social contact	.42		
Affective support subscale	.40	Affective support subscale	.42		
Instrumental support subscale	.34	Disability perception	.40		

Continued 89

TABLE VII (Continued)

IPWB		LSIA-A		CES-D	
	<u>r</u>		<u>r</u>		<u>r</u>
Religious	.31	Instrumental support	.39		
Positive meaning of disability	.30	Positive meaning of disability	.37		
Disability perception	.30	Education	.36		
		Assistance with ADL	-.35		
		Reciprocity	.34		
		Employed	.33		

*p < .001 for all correlations.

her interpersonal assets and to perceive capability or control in this realm. These correlations with subjective well-being were in the expected direction, but reciprocity does not appear to differentiate highly between persons reporting different levels of well-being.

Income had a surprisingly low relationship to the measures of subjective well-being (IPWB $r = .21$, $p < .02$; LSIA-A $r = .18$, $p < .04$; CES-D $r = -.08$, $p < .23$). One-way analysis of variance revealed a significant between-groups difference on one outcome measure only, the IPWB (F ratio = 3.66, $df = 2$ and 88, $p < .03$). The low contribution of income to variability on measures of subjective well-being can perhaps be attributed to the fact that although income levels varied widely in this sample, most of the subjects had comfortable living arrangements with relatively low expenses. Even subjects who reported low incomes did not appear to live in discomfort. Another possibility is that some subjects may have under-reported income due to a fear that their economic benefits could somehow be affected.

The correlations between the independent variables and the outcome measures for the most part, however, came out as expected. The order of importance of the independent variables differs somewhat on the three measures of subjective well-being, but as was proposed within the conceptual framework of the study, social comparison, perceived control, social support, and health are the variables most consistently correlated at the

highest levels with subjective well-being. It was especially interesting that the variable of perceived control was correlated higher than any other independent variable with the outcome measure of depression. This finding is supportive of the theory of learned helplessness (Seligman, 1975) which predicts that depression is the result of perceived noncontingency (lack of control) between personal efforts and the attainment of desired outcomes.

In addition to the variables already noted, the attribution of positive meaning to the disability and the perception of "the relative badness" of the disability were correlated with the IPWB and the LSIA-A with Pearson r coefficients above .3 (see Table VII). Thus, persons who were able to attribute purpose or positive meaning to their disability and who viewed their disability on the more positive end of the "worst to best thing that could happen" continuum, tended to report higher levels of subjective well-being than other persons.

The perception of self as a religious person was correlated positively ($r = .31$) with the IPWB. A higher level of education ($r = .36$) and being employed ($r = .33$) were correlated positively with the LSIA-A. The degree of assistance required with activities of daily living was negatively correlated with the LSIA-A ($r = -.35$) indicating that persons requiring more assistance indicated less life satisfaction.

Other variables of interest in regard to their relationship with the measures of subjective well-being (but with correlation coefficients below .30) were age, age at injury, blaming self for the disability, and perception of the ability to have avoided disability (Table VIII). Thus, there was a slight tendency for persons who were younger, incurred their disability at a younger age, blamed themselves for their disability, and who felt they could have avoided the disability to report higher subjective well-being. The findings regarding blame and the ability to have avoided the injury are interesting in view of the findings by Bulman and Wortman (1977) that victims of severe accidents who coped the best blamed themselves but felt the injury was unavoidable. As noted previously, blaming oneself and the perception of the ability to have avoided the disability are highly correlated ($r = .72$, $p < .001$) in this study.

To supplement the correlational findings, one-way analysis of variance was completed for a number of variables. There were no significant between-groups differences (significance level of .05) on the three outcome measures on the variables of age, level of injury, perceived ability to have avoided the disability, and residence location. Likewise, two-tailed t-tests showed no significant differences on outcome measures based on gender or marital status. Inspection of the data indicated no pattern of differences in well-being based on

TABLE VIII
 PEARSON CORRELATION COEFFICIENTS FOR AGE,
 AGE AT INJURY, BLAMING SELF, PERCEIVED
 AVOIDABILITY OF DISABILITY AND
 THREE MEASURES OF WELL-BEING

Variable	IPWB	LSIA-A	CES-D
	<u>r</u>	<u>r</u>	<u>r</u>
Age	-.18 p < .04	-.21 p < .02	.18 p < .03
Age at injury	-.18 p < .04	-.25 p < .006	.14 p < .09
Blaming self	.13 p < .10	.23 p < .01	-.25 p < .006
Avoidability of disability	.17 p < .05	.23 p < .01	-.22 p < .02

veteran/non-veteran status.

Significant between-groups differences on outcome measures were found for perceived health status, level of social support, social comparison, perceived control, satisfaction with social contact, blaming self for the disability, and perception of the disability "from the worst to best thing that could happen." Two-tailed t-tests also yielded significant differences on outcome measures based on attribution of positive meaning to the disability and employment status (see Table IX).

In addition to statistical analysis, it was thought interesting and of value to examine the profiles of those with the lowest and highest levels of subjective well-being as measured in this study. The five highest and the five lowest "scoring" subjects are similar in that none is employed. Most subjects in both groups were married; one person in the high well-being group and two in the low group were divorced. High scorers tended to be younger, ranging in age from 45-55 compared to 54-67 in the low well-being group. Four of the five in the high well-being group had some college, while three of the low scorers completed high school and two less than high school as did the fifth high scorer. The income levels of the high group tended to be higher (\$5001-7500 to 20,000 and over) than that of the low group (\$2500 to 10,001-15,000) although income levels overlapped substantially in the two groups. Individuals with high levels of well-being perceived their

TABLE IX
SUMMARY RESULTS OF ONE-WAY ANALYSIS OF VARIANCE AND TWO-TAILED T-TESTS
ON SELECTED OUTCOME MEASURES

Variable	IPWB				LSIA-A				CES-D			
	df	MS	F	p	df	MS	F	p	df	MS	F	p
<u>Health^a</u>			10.3	.001			11.5	.001			11.2	.001
Between groups	2	14.2			2	124.3			2	655.2		
Within groups	97	1.4			97	10.8			97	58.6		
<u>Social Support^a</u>			23.0	.001			22.3	.001			11.8	.001
Between groups	2	26.0			2	204.2			2	686.1		
Within groups	97	1.1			97	9.2			97	57.9		
<u>Perceived Control^a</u>			7.9	.001			12.5	.001			15.6	.001
Between groups	2	11.4			2	132.9			2	849.4		
Within groups	97	1.4			97	10.6			97	54.6		
<u>Satisfaction with Social Contact^a</u>			11.8	.001			12.0	.001			7.6	.001
Between groups	2	15.8			2	128.5			2	471.8		
Within groups	97	1.3			97	10.7			97	62.4		
<u>Blame Self^a</u>			4.8	.01			5.6	.005			3.2	.05
Between groups	2	7.2			2	66.9			2	215.1		
Within groups	97	1.5			97	11.9			97	67.7		
<u>Disability Perception^a</u>			7.5	.001			6.9	.002				
Between groups	2	10.9			2	81.0			Not Significant			
Within groups	97	1.4			97	11.7						
<u>Social Comparison^a</u>			26.4	.001			41.4	.001			19.2	.001
Between groups	2	28.6			2	298.4			2	991.4		
Within groups	97	1.1			97	7.2			97	51.7		

Continued

TABLE IX (Continued)

Variable	IPWB			LSIA-A			CES-D		
	df	T	p	df	T	p	df	T	p
<u>Positive Meaning of the Disability</u> ^b	98	3.2	.002	98	3.8	.001	Not Significant		
<u>Employed</u> ^b	98	2.6	.01	98	3.9	.001	Not Significant		

^aSubjects were divided into three groups (low, medium, high) of approximately equal size.

^bSubjects were divided into two groups based on response to questions with a yes-no answer.

health status as being moderate to high compared to low to moderate within the low group. The high group tended to have lower levels of injury (four paraplegic, one quadriplegic) than the low group (two paraplegic, three quadriplegic). Those with high well-being perceived more social support; their scores on the social support scale ranged from 110-247 compared to a range of 0-50 among the low scorers. High scorers rated their life situation on a 1-10 scale from 7-10, compared to a range of 1-5 among the low scorers of whom three persons gave a rating of "1" indicating great dissatisfaction. Those with high well-being were more satisfied with their social contact with others, rating this as moderate to high compared to a low to moderate rating by low scorers. High scorers made more favorable social comparisons (score range 17-19/possible score 25) than did low scorers (5-9). High scorers also perceived more control (20-24/possible score 25) than did low scorers (5-20). Perceptions of the disability as ranging from the "worst to the best" thing that could happen were interesting. Among the five highest scorers, ratings ranged from 1 to 5 with three persons giving a moderate rating of 3 (on a 1-5 scale). All five of the lowest scoring individuals gave ratings of "1" indicating they perceived their disability to be the worst thing that could happen to them in their lifetime.

QUESTION 9: TO WHAT EXTENT CAN SUBJECTIVE WELL-BEING BE
PREDICTED BY MEASURES OF PERCEIVED SOCIAL SUPPORT,
SOCIAL COMPARISON, CONTROL AND OTHER SOCIAL-
PSYCHOLOGICAL AND DEMOGRAPHIC VARIABLES?

Multiple linear regression analysis was conducted for each of the three measures of subjective well-being with health status entered first and income level second in order to control for their contribution to the prediction of well-being. The remainder of the independent variables were entered on step number three. These variables are social comparison, control, social support, satisfaction with the amount and quality of social contact, perception of the disability, and attribution of positive meaning to the disability. As seen in Tables X, XI, and XII, the independent variables studied accounted for approximately 56 percent of the variance in scores on the IPWB, almost 74 percent of the variance in scores on the LSIA-A, and 56 percent of the variance in scores on the CES-D. Looking at the Beta weights as indicators of the approximate change in the dependent variable due to change in the independent variable with other variables held constant, social comparison appears to account for the greatest amount of variance in the measures of subjective well-being. The apparent importance of the other independent variables varies among the three outcome measures of subjective well-being.

Correlation coefficients between the variables entered in these regression analyses are shown in Table XIII.

TABLE X
MULTIPLE LINEAR REGRESSION ANALYSIS OF
PREDICTOR VARIABLES ON IPWB

Independent Variables	Multiple R	R Square	RSQ Change	BETA	F
Health	.420	.177	.177	.157	3.19*
Income	.458	.210	.033	.013	.026
Social Comparison	.646	.418	.208	.282	7.10*
Perceived Control	.677	.458	.040	.120	1.81
Perception of Disability	.681	.463	.005	.054	.428
Social Support	.714	.510	.047	.216	6.97*
Satisfaction with Social Contact	.743	.552	.042	.222	6.93*
Positive Meaning of Disability	.748	.560	.008	.103	1.57

*p < .01

TABLE XI
MULTIPLE LINEAR REGRESSION ANALYSIS OF
PREDICTOR VARIABLES ON LSIA-A

Independent Variables	Multiple R	R Square	RSQ Change	BETA	F
Health	.452	.204	.204	.120	3.15*
Income	.476	.226	.022	.113	3.22*
Positive Meaning of Disability	.530	.281	.054	.042	.449
Social Comparison	.806	.649	.368	.560	47.19*
Perceived Control	.823	.677	.028	.105	2.32
Social Support	.847	.717	.040	.209	10.92*
Satisfaction with Social Contact	.855	.731	.014	.125	3.72*
Perception of Disability	.859	.738	.007	.093	2.18

*p < .01

TABLE XII
MULTIPLE LINEAR REGRESSION ANALYSIS OF
PREDICTOR VARIABLES ON CES-D

Independent Variables	Multiple R	R Square	RSQ Change	BETA	F
Health	.488	.239	.239	.204	5.45*
Income	.490	.240	.002	.144	3.13*
Positive Meaning of Disability	.494	.244	.004	.040	.241
Social Comparison	.658	.433	.189	.368	12.23*
Perceived Control	.714	.510	.077	.249	7.80*
Social Support	.725	.525	.015	.111	1.84
Satisfaction with Social Contact	.747	.558	.033	.216	6.67*
Perception of Disability	.751	.564	.006	.084	1.05

*p < .01

TABLE XIII

INTERCORRELATIONS AMONG ALL VARIABLES IN THE MULTIPLE LINEAR REGRESSION ANALYSES

	IPWB	LSIA-A	CES-D	Social Compar- ison	Perceived Control	Health	Income	Social Support	Satisfaction with Social Contact	Disability Perception	Positive Meaning of Disability
	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>
IPWB	1.00	.74 ***	-.61 ***	.62 ***	.50 ***	.42 ***	.21 *	.42 ***	.50 ***	.36 ***	.32 ***
LSIA-A		1.00	-.69 ***	.78 ***	.53 ***	.45 ***	.18 *	.46 ***	.48 ***	.42 ***	.36 ***
CES-D			1.00	-.58 ***	-.57 ***	-.49 ***	-.08	-.31 ***	-.51 ***	-.20 *	-.19 *
Social Comparison				1.00	.47 ***	.42 ***	.39 ***	.32 ***	.37 ***	.39 ***	.39 ***
Perceived Control					1.00	.39 ***	.17 *	.30 ***	.39 ***	.23 **	.18 *
Health						1.00	.07	-.002	.30 ***	.16	.25 **
Income							1.00	.15	.06	.01	.21 *
Social Support								1.00	.23 **	.14	.22 *
Satisfaction with Social Contact									1.00	.24 **	.08
Disability Perception										1.00	.24 **

Continued

TABLE XIII (Continued)

	IPWB	LSIA-A	CES-D	Social Compar- ison	Perceived Control	Health	Income	Social Support	Satisfaction with Social Contact	Disability Perception	Positive Meaning of Disability
	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>
Positive Meaning of Disability											1.00

*p < .05

**p < .01

***p < .001

Correlations between independent variables and outcome measures were previously discussed, but it is of interest here to note correlations between several independent variables. As seen in Table XIII, the independent variables are correlated positively except for a slight negative correlation between health status and the social support score. There appears to be a slight tendency for social support to increase as health status decreases. The highest correlations between independent variables are between social comparison and control ($r = .47$), social comparison and health ($r = .42$), social comparison and income ($r = .39$), control and health ($r = .39$), control and satisfaction with social contact ($r = .39$), social comparison and perception of disability ($r = .39$), social comparison and positive meaning of the disability ($r = .39$), social comparison and satisfaction with social contact ($r = .37$), social support and social comparison ($r = .32$), health and satisfaction with social contact ($r = .30$), and social support and control ($r = .30$). Although these correlations do not necessarily represent causal relationships, they do support some possible causal interpretations. The correlations between social comparison and other independent variables such as health, income, and perception of the disability may indicate that these variables are frequently used as part of the comparison process. Correlations between social support measures and social comparison and control measures are

supportive of the view that social support fosters favorable social comparisons and a perception of control. Correlations between social comparison and control may indicate that a perception of control fosters favorable social comparisons and/or that favorable social comparisons foster perception of control. A model incorporating these possible relationships is proposed in the conclusions of this report.

CHAPTER V

CONCLUSIONS

OVERVIEW OF THE STUDY

Advances in health care science are enabling greater numbers of spinal cord injured persons to live increasingly into old age. Persons sustaining severe spinal cord injuries face numerous adaptation problems. As those persons grow older, there may be additional problems in coping due to stressors associated with old age, such as decreasing health and income and loss of friends and family members. A considerable amount of research in social gerontology has been aimed at finding ways for maximizing optimal levels of wellness in older persons. The purpose of this study was to determine those factors that contribute to the psychological well-being and life satisfaction of middle-aged and elderly community-residing spinal cord injured persons.

One hundred spinal cord injured persons ranging in age from 40 to 73 were interviewed through use of the Elderly Spinal Cord Injury Questionnaire designed for this study and three established measures of subjective well-being; the Index of Psychological Well-Being (Berkman 1971), the Life Satisfaction Index-A (Adams 1969), and the

Center for Epidemiologic Studies Depression Scale (Radloff 1977). An extensive data base was collected in order to answer a wide range of questions regarding the characteristics of respondents. The major questions addressed in this study were:

- 1) What are the demographic characteristics of the sample?
- 2) What is the extent and nature of subjects' participation in recreational, group and community activities and services?
- 3) What are the health status characteristics of respondents?
- 4) What is the degree and nature of social support perceived by respondents?
- 5) What is the nature of the social comparisons made by respondents?
- 6) What is the degree and nature of respondents' perception of control over various life situations?
- 7) What is the degree and nature of respondents' subjective well-being?
- 8) What are the correlates of subjective well-being in this sample?
- 9) To what extent can subjective well-being be predicted by measures of perceived social support, social comparison, control and other social-psychological and demographic variables?

Qualitative and quantitative analysis of the data collected in this study was completed. In addition to the computation of frequencies and measures of control tendency and variation, the data were analyzed primarily by Pearson correlation and multiple linear regression techniques. Other statistical techniques employed were two-tailed t-tests, one-way analysis of variance, and computation of Cronbach's alpha and Kendall's tau c.

MAJOR FINDINGS

In general, the spinal cord injured persons in this study reported a degree of well-being that was slightly lower than that reported in studies of nondisabled populations on the same outcome measures of psychological well-being, life satisfaction and depression. One might have expected the spinal cord injured sample to exhibit a much lower level of well-being than the general population but this was not the case. The majority of subjects in this study appeared able to form a perception of life and self that was relatively positive despite the existence of a severe physical disability.

The independent variables explaining the greatest overall variance in the measures of subjective well-being were social comparison, perceived control, two measures of social support (a raw score indicating both quality and quantity of support and a Likert-type measure of satisfaction with the quality and quantity of social

contact), and perceived health status. Thus, persons who reported high levels of well-being compared themselves favorably with others, had a high perception of control over various life situations, reported a high degree of social support, were very satisfied with the quantity and quality of support they received, and perceived their health status as good. These "good copers" also perceived their disability in a more positive manner than did subjects indicating lower levels of well-being; they saw positive meaning in their disability and did not view their disability as the worst thing that could happen to them.

In addition, persons reporting high well-being tended to have higher incomes, more education, to be employed, and to be more religious than those indicating lower levels of well-being. The severity of the spinal cord injury was not correlated highly with subjective well-being, although there was a tendency for persons with greater disabilities to report lower levels of well-being. Although correlations were not high, persons who were younger and who incurred their disability at a younger age also tended to report higher levels of well-being.

In general, subjects in this study had small, but stable, interpersonal support systems which were very important and satisfying to them. Many subjects, however, appeared vulnerable to the potential loss of support persons; forty-one percent of the respondents named only one support person, who was usually a spouse. It was

interesting that relatively few of the respondents identified other disabled individuals as support persons. It was expected that severely disabled persons might have a desire or need for support from others with similar disabilities. Perhaps it is important to have contact with similarly disabled persons at a point soon after injury in order to redefine one's personal and social identity, but less important for such contact on an ongoing basis.

One finding in this study that was contradictory to a finding in the literature regarded the issue of the perceived avoidability of the injury and the attribution of blame for the injury. Bulman and Wortman (1977) concluded from their data that victims of severe accidents who coped the best blamed themselves and felt the injury was unavoidable. This finding by Bulman and Wortman (1977) was surprising in view of the positive correlation between self-blame and perceived avoidability in their study. As in the Bulman and Wortman (1977) study, self blame was positively correlated with perceived avoidability and with good coping in this study of spinal cord injured persons. However, unlike the Bulman and Wortman (1977) study, the data reported here indicate a positive correlation between perceived avoidability and good coping. This positive correlation between perceived avoidability and well-being is supportive of the perspective that the ability to view a negative outcome as the result of avoidable or preventable factors reflects a perception of control.

It is difficult to compare the findings in these two studies since different measures of well-being and different populations were used. The 29 subjects in the Bulman and Wortman (1977) study were younger and still hospitalized within a year post-injury; whereas, subjects in this study lived in the community and were as many as 42 years post-injury. However, one possibility is that the perception that "one could not have avoided the injury" may serve as a good defense to recently injured persons; such persons may have difficulty accepting the fact that they could have avoided this severe, permanent injury. As time goes by, however, perhaps this defense is not needed and it may be a sign of ego strength to be able to acknowledge one's role in causing an avoidable injury.

PREDICTORS OF WELL-BEING: A CAUSAL MODEL

While the non-experimental design of this study does not purport to confirm causal relationships among variables, the extensive analysis of relationships among variables does suggest a causal model of well-being which could be further tested (see Figure 1). As supported by the conceptual framework and data analysis in this study, the major predictor variables comprising this model are social support, social comparison, and perceived control. Health status, socioeconomic status, and the culture and environment in which one lives are also viewed as influencing well-being.

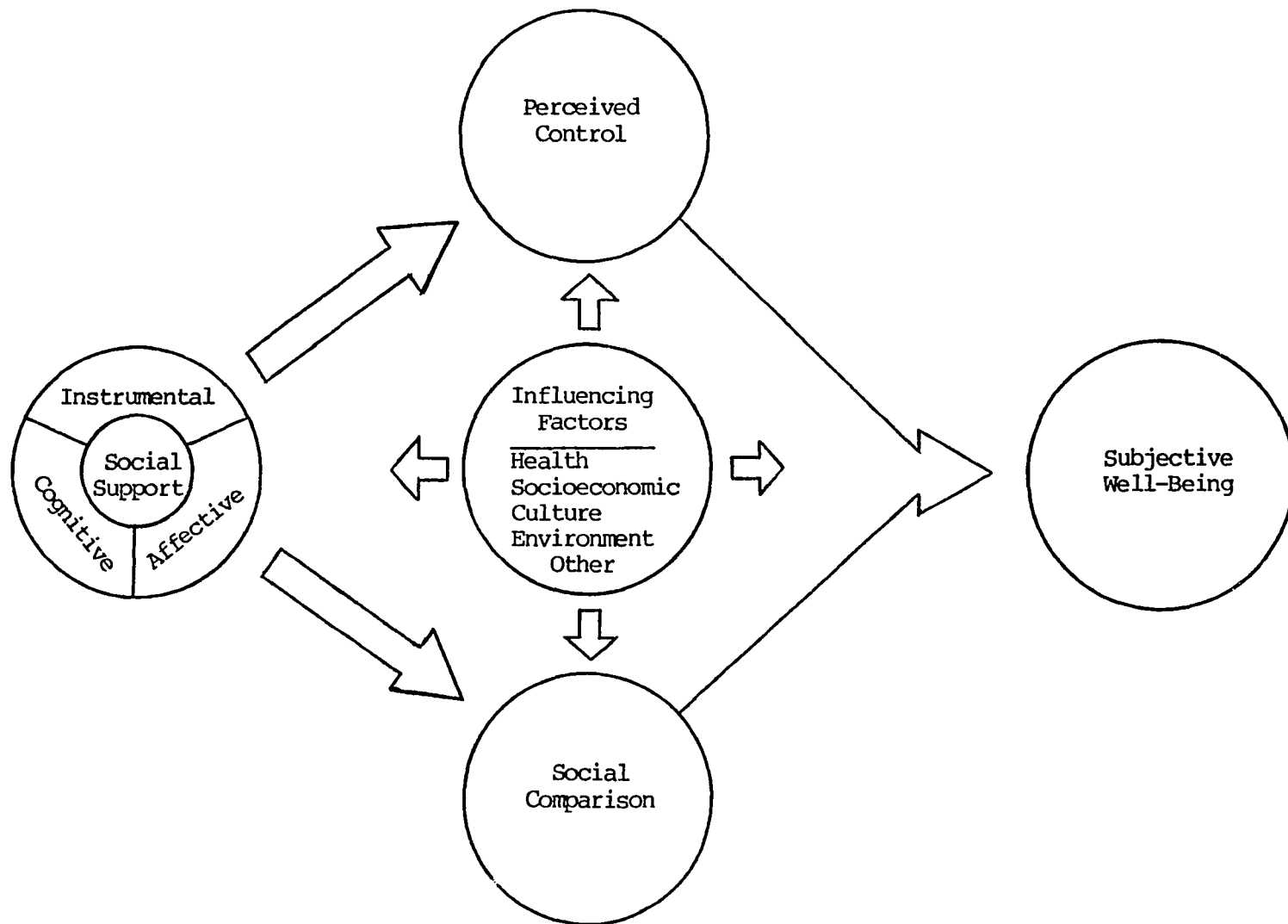


Figure 1. Social psychological model of subjective well-being.

More specifically, this model suggests that social support fosters (1) feelings of competency in meeting environmental demands and thereby the perception of control and (2) the making of favorable intra- and interpersonal social comparisons. In addition to social support, this model views the perception of control and social comparisons as being influenced by factors such as health status, socioeconomic status, and the culture and environment in which one lives. These influencing factors may also have an impact on the type and extent of social support provided.

The extent to which an individual perceives control over his or her internal and external environment and the favorable or unfavorable nature of social comparisons made are viewed in this model as determining the extent of the individual's subjective well-being. This model also acknowledges some direct influence on subjective well-being by factors such as health, socioeconomic status, culture and environment. Social support may also have some direct influence on subjective well-being not necessarily channeled through the perspectives of control and social comparison.

IMPLICATIONS OF THE MODEL FOR RESEARCH AND PRACTICE

This model has implications for both research and practice. The conceptualization of social support as being instrumental, affective, and cognitive in nature was useful

in this study and future researchers may wish to use and build upon the social support scale utilized in this study. Likewise, the scales measuring perceived control and social comparison provide a good basis for further application in research. Studies testing the usefulness of the proposed model with various populations would be desirable. In addition to survey studies such as this one, studies of a longitudinal nature could also lend credence to the interpretations in this study. A longitudinal study could show possible changes in subjective well-being as the quantity and quality of social support fluctuated over time. An experimental design in which independent variables were manipulated would be difficult to conduct due to the impractical and unethical nature of manipulating variables such as social support. Thus, the causal nature of the relationships among the variables under study may have to be largely inferred from extensive descriptive and correlational data.

This model also has valuable implications for clinical application. The model as proposed provides direction for the assessment of existing or potential risk factors for individuals or population aggregates. For example, the professional or family helper would be directed by this model to assess levels of social support, perceived control, and the nature of social comparison processes. The model also provides direction for clinical intervention; for example, the model would direct the

helping person to focus on promoting a perception of control and the making of favorable social comparisons by the spinal cord injured person.

Examples of the types of interventions suggested by this study include the following:

- 1) Assist spinal cord injured persons to build and maintain stable, intimate sources of social support by a) enhancing awareness in the injured person of the importance of social support and b) encouraging the development of contingency plans for the maintenance of future support.
- 2) Promote the active participation of family members (or equivalent others) in the ongoing rehabilitation process in order to enhance the helper's ability to a) reinforce an acceptable self-image in the injured person, b) foster independence and feelings of competency in the injured person, and c) develop reciprocal relationships with the injured person.
- 3) Foster the active participation of spinal cord injured persons in all aspects of the ongoing rehabilitation process in order to enhance feelings of competency and mastery over the environment; this may be accomplished by encouraging the spinal cord injured person to engage in problem-solving, decision-making, and in reasonably challenging activities.

- 4) Assist spinal cord injured persons to re-organize their value systems in ways that emphasize remaining assets in order to facilitate favorable social comparisons; this can be accomplished through verbal and nonverbal interactions with professional workers, family members, and other injured persons who project a favorable view of "life post-injury."
- 5) Assist spinal cord injured persons to focus on ways that they can make use of remaining physical, intellectual, and social assets, rather than concentrating on lost abilities.
- 6) Develop programs to facilitate the ongoing participation of spinal cord injured persons in vocational and avocational pursuits, thus enhancing the injured person's sense of competency and sense of contribution to society.
- 7) Develop educational programs for professional workers and family members (or equivalent others) of spinal cord injured persons which will foster understanding of the importance and functions of social support in promoting the psychological well-being and life satisfaction of older cord injured persons.

SUMMARY

As the absolute number and proportion of elderly

persons increase in the next few decades, the number of elderly spinal cord injured persons will increase as well. As is the case with other frail elderly persons, it is likely that the survival of this group in community settings is largely dependent on the availability of social support. In order to facilitate "residing in the community" as a viable option for this group, this study has attempted to identify those factors associated with subjective well-being and effective coping. A model was proposed to explain the processes through which social support and other variables facilitate subjective well-being and effective coping. This model, and the theories inherent in it, will hopefully provide an essential context within which research can be conducted and social programs and individual interventions implemented and evaluated.

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APPENDIX A

ELDERLY SPINAL CORD INJURY QUESTIONNAIRE

Interviewer _____

Respondent Code _____

Date _____

Elderly Spinal Cord Injury Questionnaire

First, let me thank you for agreeing to talk to us. We are very interested in learning more about persons with spinal cord injuries as they grow older. I have a number of questions to ask you, so please let me know if you need to stop or rest.

A. Demographics

1. Age _____

2. _____ Male _____ Female

3. Race (ask only if not obvious)

_____ Hispanic origin _____ Asian American

_____ Black _____ White

_____ Native American _____ Other

4A. Marital Status

_____ Divorced _____ Never Married

_____ Separated _____ Living as Married

_____ Widowed _____ Married

4B. If widowed, divorced or separated; how long?

_____ Less than one year _____ 4-7 years

_____ 1-3 years _____ Over 7 years

5. Children Age Gender

_____ No. Children

Child #1	_____	M	F
Child #2	_____	M	F
Child #3	_____	M	F
Child #4	_____	M	F
Child #5	_____	M	F

5. What is the highest level of education completed?

_____ Less than high school _____ Baccalaureate degree

_____ High School _____ Graduate degree

_____ Vocational training _____ Other

_____ Associate degree

7A. Would you describe yourself as a religious person?

1	2	3	4	5
Not at all				Very
Religious				Religious

7B. What is your religious affiliation, if any?

☐ Protestant ☐ Jewish
☐ Catholic ☐ Other ☐ None

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8A. Are you employed?

☐ No (If no, skip to question 9)
☐ Yes ☐ Part-time ☐ Full-time

8B. If employed, what is your occupation?

9C. If employed, how satisfied are you with your job?

1	2	3	4	5
Not at all satisfied				Very satisfied

9A. Can you tell me into which of these categories your yearly income falls?

<input type="checkbox"/> \$0-2500	<input type="checkbox"/> \$10,001-15,000
<input type="checkbox"/> \$2501-5000	<input type="checkbox"/> \$15,001-20,000
<input type="checkbox"/> \$5001-7500	<input type="checkbox"/> \$20,001 and over
<input type="checkbox"/> \$7501-10,000	<input type="checkbox"/> Refused to answer

9B. What are the sources of your income? (eg. job, social security, pensions, disability)

List in order of largest to smallest source of income:

9C. How satisfied are you with your income?

1	2	3	4	5
Not at all satisfied				Very satisfied

B. Recreational/Group Activities/Community Services

10A. What recreational activities and/or hobbies do you participate in? List: _____

10B. Are these activities?

☐ Individual
☐ Group
☐ Combination of above

11A. Are you a member of any group that meets together regularly? ☐ No ☐ Yes

133

11B. If yes, describe group(s)

	Meets less than once a month	Once or twice a month	Once a week	Several times a week	Almost every day
a) _____					
b) _____					
c) _____					
d) _____					

12. What community services or agencies do you tend to use on an ongoing basis?
(If no answer, probe: The Lift, Meals on Wheels, Senior Center)

Name of service/agency	Use less than once a month	Once or twice a month	Once a week	Several times a week	Almost every day
a) _____					
b) _____					
c) _____					
d) _____					
e) _____					

C. Residential Characteristics

13A. Residential status (Interviewer observation)

☐ Urban ☐ Suburban ☐ Rural

13B. Type of residence

☐ House
☐ Apartment
☐ Condominium
☐ Mobile home
☐ Hotel/SRO

13C.

☐ Own residence
☐ Rent residence

13D. Condition of Residence (Interviewer judgement)

(Interviewer: Explain that you're asking item 14 because we're interested in how much it costs for elderly cord injured persons to live)

14A. Monthly rent/mortgage payment? _____

14B. Monthly expenses for utilities, heating, phone, etc. _____

14C. Do you pay housing costs yourself? ☐ Yes ☐ No ☐ Share costs

14D. If no, who helps you pay this expense? _____

15A. Not counting yourself, how many persons live in this house/apartment/room, etc., with you? _____

15B. How are they related to you?

_____ Respondent only	_____ Sibling(s)
_____ Spouse	_____ Other relative
_____ Children	_____ Friend
_____ Parent	_____ Paid caregiver

D. Health Status

16A. All things considered, how would you rate your health status right now?

1	2	3	4	5
Poor				Excellent

16B. Compared to a year ago, is your health: (a) Better _____ (b) Worse _____ (c) Same _____

17A. What is the nature of your spinal cord injury?

Level of lesion _____ Complete _____ Incomplete _____

17B. How old were you when the spinal cord injury occurred? _____

17C. What was the cause of the injury?

Describe: _____

17D. _____ Service-connected _____ Non-service connected

18. Do you have any other chronic health problems: (If no answer, probe: eg. diabetes, heart condition, high blood pressure)

Describe: _____

19A. Have you been hospitalized in the past year? (a) No _____ (b) Yes _____

19B. If yes, for how long? _____

20. Do you feel your present physical condition may/is likely to:

Get better in the next year _____
 Stay the same in the next year _____
 Get worse in the next year _____

21. How much assistance do you need with the following activities?

	No assistance 0	Occasional assistance 1	Frequent Assistance 2	Complete Assistance 3
(a) Dressing				
(b) Bathing				
(c) Eating				
(d) Cooking				
(e) Toilet				
(f) Driving a vehicle				
(g) Shopping				
(h) Laundry				
(i) House Cleaning				

E. Social Network/Support

(22-31) Instructions:

I would like you to list those persons who are in some way significant to you at this time in your life. Please include on this list anyone who is an important source of help, support, or guidance to you. These persons may include relatives, friends, neighbors, co-workers, church or club members, or professional workers. After listing these people, I'd like to ask you some questions about these persons and your relationship with them.

(Interviewer instructions:

List the first names of the persons here. If the interviewee names more than five persons, ask them to look at these names and indicate which five are the most important to them. Ask the social support questions for these five persons.)

List first
names:

22.				23.		24.										25.										
				Where does this person live?		What is your relationship to this person?										Indicate to what degree each person on this list helps you in the following ways.										
				Is this person:												(Interviewer: use questions A-K and rating scale on separate sheet. Code 1-5 below.)										
FIRST NAME	AGE	SEX F M		1) disabled 2) nondisabled	3) tri-county area (miles?) 4) outside tri-county area (miles?)	your parent	your child	spouse	sibling	other relative	friend	neighbor	co-worker	fellow club/ church member	professional worker	A	B	C	D	E	F	G	H	I	J	K
1.																										
2.																										
3.																										
4.																										
5.																										

FOR USE IN QUESTION 25:

Indicate the degree to which each person on this list helps you in the following ways:

		Not At All 1	Rarely 2	On Some Occasions 3	Often 4	Very frequently 5
INSTRUMENTAL	A) Assist with things such as cleaning, shopping, transportation, repairs or even loaning money.					
	B) Make sure you get enough rest, nutrition, exercise, and just take care of yourself, in general.					
AFFECTIVE	C) Show genuine concern and interest in your feelings and worries.					
	D) Include you in what they do, make you feel you belong.					
	E) Let you know you are important to them, make you feel cared for and loved.					
COGNITIVE	F) Is there when you need them for support; know you can count on them.					
	G) Give you information or advice; help to give you some ideas or answers in dealing with problems.					
	H) See things in a positive way; make your problems seem smaller or remind you of things you have to be happy about.					
	I) Have the same or similar problems as you do; you discuss similar concerns with this person.					
	J) Point out your strengths, give you confidence to deal with stressful things in your life.					
	K) Serve as a model or example for you to follow; you try to be like this person in some ways.					

	26.	27.	28.	29.	30.	31.
	For each person on this list indicate if you help each other: 1) about the same 2) they help you more 3) you help them more	How many of the others on this list does this person know? (List number of other)	How long have you known this person? 1) less than 6 months 2) 6 months to 1 year 3) 1 to 5 years 4) more than 5 years	How often do you see or talk to this person? 1) several times a year 2) about once a month 3) several times a month 4) several times a week 5) almost daily	How satisfied are you with this relationship? 1) very dissatisfied 2) somewhat dissatisfied 3) neutral 4) somewhat satisfied 5) very satisfied	Overall, how important is this relationship to you? 1) not important 2) somewhat unimportant 3) neutral 4) somewhat important 5) very important
FIRST NAME						
1.						
2.						
3.						
4.						
5.						

32A. In general, how satisfied are you with the amount of social contact you have with others?

1	2	3	4	5
Not at all				Very
satisfied				satisfied

32B. In general, how satisfied are you with the quality or closeness of the social contact you have with others?

1	2	3	4	5
Not at all				Very
satisfied				Satisfied

33A. Are there persons who were very important to you that you've lost contact with in the last several years? (e.g. through death, moving away)

No _____

Yes _____

33B. Describe:

F. Social Comparison

34. Overall, how good would you say your life situation is on a 1-10 scale with 10 being "the greatest."

35. Who do you compare yourself with to decide this? Describe:

Probe: Is there any particular group of person you find yourself most frequently comparing yourself and your life situation to? Describe:

35. On what characteristics (e.g. appearance, skills, intellect, personality) do you find yourself comparing your life situation with others? Describe:

37A. Compared with most people (e.g., the "average American"), how good is your current life situation?

- Worse than most _____
- Worse than some _____
- Same as most _____
- Better than some _____
- Better than most _____

37B. Compared with others your age, how good is your life situation?

- Worse than most _____
- Worse than some _____
- Same as most _____
- Better than some _____
- Better than most _____

37C. Compared with others with a similar disability, how good is your current life situation?

- Worse than most _____
- Worse than some _____
- Same as most _____
- Better than some _____
- Better than most _____

37D. Compared to your life before your disability, how good is your current life situation?

- Much worse now _____
- Somewhat worse now _____
- About the same _____
- Somewhat better now _____
- Much better now _____

37E. How good do you think your current life would be if you didn't have the disability?

- Much worse _____
- Somewhat worse _____
- About the same _____
- Somewhat better _____
- Much better _____

38. What things or values come to your mind when you're thinking about your life situation?
Describe:

	Not at all 1	2	3	4	Very much 5
a) Self					
b) Other people					
c) Luck, chance					
d) God					
e) Other					

1	2	3	4	5
Not at all				Completely

1	2	3	4	5
Not at all				Completely

1	2	3	4	5
Not at all				Completely

1	2	3	4	5
Not at all				Completely

1	2	3	4	5
Not at all				Completely

	Not at all 1	2	3	4	Very much 5
a) Self					
b) Other people					
c) Chance, luck					
d) God					
e) Other					

1	2	3	4	5
Not at all				Completely

41A. What are the major difficulties in your life at this time? Describe:

41B. In general, to what extent do you believe present difficulties in your life are due to your own actions or inactions?

1	2	3	4	5
Not at all				Completely

42A. Considering the best and worst things that could happen to you in your lifetime, where does your disability fit into the scale?

1	2	3	4	5
Worst that could happen				Best that could happen

42B. Has there been any purpose or positive meaning that your disability has had in your life?

No _____

Yes _____ Describe:

43. How happy are you now (not at this moment, but at this stage of your life)?

1	2	3	4	5
Not at all happy				Extremely happy

44A. How often do you feel depressed?

1	2	3	4	5
Very Often	Often	Sometimes	Occasionally	Never

44B. When you feel depressed, what do you do to cope with that feeling?
Describe:

45A. In general, how hopeful do you feel about your future? (Probe: e.g. how good do you think things will be in a month or even a year from now?)

1	2	3	4	5
Not at all hopeful				Very hopeful

45B. What are your greatest fears about the future? Describe:

I. Index of Psychological Well-Being

Instructions: Here is a list that describes some of the ways people feel at different times.
How often do you feel each of these ways?

	0	1	3
	Never	Sometimes	Often
1. Very lonely or remote from other people			
2. Bored			
3. On top of the world			
4. Vaguely uneasy about something without knowing why			
5. Depressed or very unhappy			
6. Particularly excited or interested in something			
7. So restless you had to move about			
8. Pleased about having accomplished something			

46A. Negative feelings score _____
(0-15)

46B. Positive feelings score _____
(0-9)

46C. Balance of positive and negative feelings score _____
(1 - 7)
positive - negative

J. The Modified Life Satisfaction Index A. (LSIA-A)

Instructions: Indicate whether you agree or disagree with the following statements:

	Agree	Disagree	Uncertain
1. I am just as happy as when I was younger.			
2. These are the best years of my life.			
3. My life could be happier than it is now.			
4. This is the dreariest time of my life.			
5. Most of the things I do are boring or monotonous.			
6. Compared to other people, I get down in the dumps too often.			
7. The things I do are as interesting to me as they ever were.			
8. I have made plans for things I'll be doing a month or year from now.			
9. Compared to other people my age, I make a good appearance.			
10. As I grow older, things seem better than I thought they would be.			
11. I expect some interesting and pleasant things to happen to me in the future.			
12. I feel old and somewhat tired.			
13. As I look back on my life, I am fairly well satisfied.			
14. I would not change my past even if I could.			
15. I've gotten pretty much what I expected out of life.			
16. When I think back on my life, I didn't get most of the important things I wanted.			
17. In spite of what people say, the lot of the average man is getting worse, not better.			
18. I have gotten more of the breaks in life than most of the people I know.			

47. Score: _____

One (1) point affirmative (satisfied) response.

(0 - - - - - 18)
unsatisfied satisfied

K. CES-D Scale

Instructions: This is a list of the ways you might have felt or behaved.
Please tell me how often you have felt this way during
the past week.

	Rarely or none of the time	Some or a little of the time	Occasionally or a moder- ate amount of the time	Most or all of the time
During the past week:	Less than 1 Day	1-2 Days	3-4 Days	5-7 Days
1. I was bothered by things that usually don't bother me. (0-3)				
2. I did not feel like eating, my appetite was poor. (0-3)				
3. I felt that I could not shake off the blues even with help from my family or friends. (0-3)				
4. I felt that I was just as good as other people. (3-0)				
5. I had trouble keeping my mind on what I was doing. (0-3)				
6. I felt depressed. (0-3)				
7. I felt that everything I did was an effort. (0-3)				
8. I felt hopeful about the future. (3-0)				
9. I thought my life had been a failure. (0-3)				
10. I felt fearful. (0-3)				
11. My sleep was restless. (0-3)				
12. I was happy. (0-3)				
13. I talked less than usual. (0-3)				
14. I felt lonely. (0-3)				
15. People were unfriendly. (0-3)				
16. I enjoyed life. (3-0)				
17. I had crying spells. (0-3)				
18. I felt sad. (0-3)				
19. I felt that people dislike me. (0-3)				
20. I could not get "going." (0-3)				

Scoring Instructions:
(Score each item on a 0-3
scale with 3 being a
depressed response)

48. Score: _____
(0 - 60)
non-depressed - depressed

L.

49. How difficult was it to answer these questions?

1	2	3	4	5
Not at all difficult				Very difficult

50. Would you be willing to participate in this study again at a future time?

Yes _____

No _____

Observer Notes: (Cognitive and affective state, appearance, behavior)

APPENDIX B

CLIENT INTERVIEW CODEBOOK

Client Interview Codebook - Middle-Aged and Elderly Spinal Cord InjuredPersons: Surviving In The Community

<u>CARD</u>	<u>COLUMN</u>	<u>QUESTION</u>	<u>VARIABLE</u>	<u>CODE</u>
.	1	A	Card #	1-6...Card #
	2-4	B	Subject ID #	001-100
	5-6	C	Place of Interview	01...S's home 02...Telephone -8...Other
	7-8	1	Age	Put age
	9	2	Gender	1...Male 2...Female
	10	3	Race	1...White 2...Black 3...Hispanic 4...Native American 5...Asian American
	11	4A	Marital Status	1...Married 2...Living as married 3...Never married 4...Divorced 5...Separated 6...Widowed
	12-13	4B	How long; widowed, divorced or separated	01...Less than 1 year 02...1-3 years 03...4-7 years 04...Over 7 years Blank, Not Applicable (N.A.) (-9)
	14	5	Number of Children	Put number
	15	6	Education	1...Less than high school 2...High school 3...Vocational training after H.S. 4...Some college 5...Associate degree 6...Baccalaureate degree 7...Graduate degree
	16	7A	Religious	1...Not at all religious 2... 3... 4... 5...Very religious

CARD	COLUMN	QUESTION	VARIABLE	CODE
1	17-18	7B	Religious Affiliation	01...Protestant 02...Catholic 03...Jewish 04...None -8...Other
	19	8A	Employed	1...No 2...Yes
	20	8B	Employment Status	1...Part-time 2...Full-time 3...Not employed
	21-22	8C	Occupation	01...Self-employed 02...Professional 03...Sales 04...Management 05...Technician 06...Clerical 07...Craftsman 08...No occupation 09...Laborer -8...Other
	23-24	8D	Job Satisfaction	01...Not at all satisfied 02... 03... 04... 05...Very satisfied Blank, N.A. (-9)
	25-26	9A	Income	01...\$0-2,500 02...2,501-5,000 03...5,001-7,500 04...7,501-10,000 05...10,001-15,000 06...15,001-20,000 07...20,001 and over -7...Not determined
	27-28	9B	Main Income Source	01...Job (self or spouse) 02...Social Security (Regular and Disability) 03...Pension/Retirement 04...Disability insurance (V.A. and other) -8...Other Blank, N.A. (-9)
	29-30	9C	Second Income Source	Code same as 9B
	31-32	9D	Third Income Source	Code same as 9B

CARD	COLUMN	QUESTION	VARIABLE	CODE
1	33	9C	Satisfaction with Income	1...Not at all satisfied 2... 3... 4... 5...Very satisfied
	34	10A	# of Recreational Activities	Put number of (0-9)
	35	10B	Type of Rec. Activity	1...Individual 2...Group 3...Combination
	36	11A	Membership in Groups	Put number of
	37	11B	Group Participation	1...Never 2...Less than once a month 3...Once or twice a month 4...Once a week 5...Several times/week 6...Almost daily
	38	12A	# of Community Agencies Used	Put number of
	39	12B	Level of Agency Use	1...Never 2...Less than once a month 3...Once or twice a month 4...Once a week 5...Several times a week 6...Almost every day
	40	13A	Residence Location	1...Urban 2...Suburban/small town 3...Rural
	41	13B	Residence Type	1...Home 2...Apartment 3...Mobile home 4...Condominium 5...Hotel/SRO
	42	13C	Residence Ownership	1...Own 2...Rent 3...Other family member or friend owns
43-44	14A		Monthly Housing Cost	01...Nothing 02...Less than \$100 03...101-150 04...151-200 05...201-250 06...251-300 07...Over \$300 -7...Not determined

CARD	COLUMN	QUESTION	VARIABLE	CODE
1	45-46	14B	Monthly Housing Expenses	01...Less than \$100 02...101-150 03...151-200 04...201-250 05...251-300 06...over \$300 -7...Not determined
	47-48	15A	# Persons/dwelling	Put number (01-10)
		15B	Type Relationship/ Persons Dwelling	01...Respondent only 02...Spouse 03...Child 04...Parent 05...Sibling 06...Other relative 07...Friend 08...Paid caregiver -8...Other Blank, N.A. (-9)
	49-50	a)		
	51-52	b)		
	53-54	c)		
	55	16A	Health Status	1...Poor 2... 3... 4... 5...Excellent
	56	16B	Health cf./ one year ago	1...Better 2...Worse 3...Same
	57-58	17A	Categorical/ Level Injury	01...Paraplegia, incomplete 02...Paraplegia, complete 03...Quadriplegia, incomplete 04...Quadriplegia, complete -8...Other -7...Not determined
	59-60	17B	Age at Injury	Put age
	61-62	17C	Cause of Injury	01...Ventricular accident 02...Fall 03...Sports 04...Polio 05...Penetrating wound 06...Tumor 07...Disease other than polio 08...Other accident -8...Other
	63	17D	Service-Connected	1...Service-connected 2...Non-service-connected
	64	18	Chronic Health Problems	1...No 2...Yes

CARD	COLUMN	QUESTION	VARIABLE	CODE
1	65	19A	Hospitalized Past Year	1...No 2...Yes
	66	19B	Length/Hospitalization	1...Not hospitalized 2...Less than 1 week 3...1-2 weeks 4...3-4 weeks 5...Over 1 month
	67	20	Projected Health	1...Get better 2...Stay same 3...Get worse
	68	21A	Dressing	1...No assistance 2...Occasional assistance 3...Frequent assistance 4...Complete assistance
	69	21B	Bathing	Same as 21A
	70	21C	Eating	Same as 21A
	71	21D	Cooking	Same as 21A
	72	21E	Toilet	Same as 21A
	73	21F	Driving	Same as 21A
	74	21G	Shopping	Same as 21A
	75	21H	Laundry	Same as 21A
	76	21I	Housecleaning	Same as 21A
	77	21A-I	Overall Assistance	1...Low (1-1.9) 2...Moderate (2.0-2.9) 3...High (3.0-4)
2	1	A	Card #	1-6...Card #
	2-4	B	Subject ID #	001-100
	5	22	Number/Support Persons	Put 0-5
	6-7	22A(1)	Age/Support Person	Put age
	8-9	(2)	"	or
	10-11	(3)	"	Blank, N.A. (-9)
	12-13	(4)	"	
	14-15	(5)	"	
	16-17	22B(1)	Gender	01...Male
	18-19	(2)		02...Female
	20-21	(3)		Blank, N.A. (-9)
	22-23	(4)		
	24-25	(5)		

CARD	COLUMN	QUESTION	VARIABLE	CODE
2	26-27	22C(1)	Disability Status	01...Disabled
	28-29	(2)		02...Nondisabled
	30-31	(3)		Blank, N.A. (-9)
	32-33	(4)		
	34-35	(5)		
	36-37	23(1)	Proximity	01...Same residence
	38-39	(2)		02...Immediate neighborhood
	40-41	(3)		03...Tri-county area
	42-43	(4)		04...Outside tri-county area
	44-45	(5)		Blank, N.A. (-9)
	46-47	24(1)	Relationship	01...Parent
	48-49	(2)		02...Spouse
	50-51	(3)		03...Child
	52-53	(4)		04...Sibling
	54-55	(5)		05...Other relative
				06...Friend
				07...Neighbor
				08...Co-worker
				09...Club/church member
				10...Professional worker
				-8...Other
				Blank, N.A. (-9)
	56-57	25A(1)	Instrumental Support/ Assistance	01...Not at all
	58-59	(2)		02...Rarely
	60-61	(3)		03...On some occasions
	62-63	(4)		04...Often
	64-65	(5)		05...Very frequently
				Blank, N.A. (-9)
	66-67	25B(1)	Instrumental Support/ Care of Self	Code same as 25A
	68-69	(2)		
	70-71	(3)		
	72-73	(4)		
	74-75	(5)		
	76-77	25A+B	Total Instrumental Support	Put total (00-50)
3	1	A	Card #	1-6...Card #
	2-4	B	Subject ID #	001-100
	5-6	25C(1)	Affective Support/ Concern	01...Not at all
	7-8	(2)		02...Rarely
	9-10	(3)		03...On some occasions
	11-12	(4)		04...Often
	13-14	(5)		05...Very frequently
				Blank, N.A. (-9)
	15-16	25D(1)	Affective Support/ Inclusion	Code same as 25C
	17-18	(2)		
	19-20	(3)		
	21-22	(4)		
	23-24	(5)		

CARD	COLUMN	QUESTION	VARIABLE	CODE
3	25-26	25E(1)	Affective Support/ Important & Loved	Code same as 25C
	27-28	(2)		
	29-30	(3)		
	31-32	(4)		
	33-34	(5)		
	35-36	25F(1)	Affective Support/ Is There	Code same as 25C
	37-38	(2)		
	39-40	(3)		
	41-42	(4)		
	43-44	(5)		
	45-47	25C-F	Total Affective Support	Put total (000-100)
	48-49	25G(1)	Cognitive Support/ Information	01...Not at all
	50-51	(2)		02...Rarely
	52-53	(3)		03...On some occasions
	54-55	(4)		04...Often
	56-57	(5)		05...Very frequently Blank, N.A. (-9)
	58-59	25H(1)	Cognitive Support/ Positive Outlook	Code same as 25G
	60-61	(2)		
	62-63	(3)		
	64-65	(4)		
	66-67	(5)		
	68-69	25I(1)	Cognitive Support/ Similar Problems	Code same as 25G
	70-71	(2)		
	72-73	(3)		
	74-75	(4)		
	76-77	(5)		
4	1	A	Card #	1-6...Card #
	2-4	B	Subject ID #	001-100
	5-6	25J(1)	Cognitive Support/ Gives Confidence	Code same as 25G
	7-8	(2)		
	9-10	(3)		
	11-12	(4)		
	13-14	(5)		
	15-16	25K(1)	Cognitive Support Model	01...Not at all
	17-18	(2)		02...Rarely
	19-20	(3)		03...On some occasions
	21-22	(4)		04...Often
	23-24	(5)		05...Very frequently Blank, N.A. (-9)
	25-27	25G-K	Total Cognitive Support	Put total (000-125)
	28-30	25A-K	Total Social Support	Put total (000-275)

CARD	COLUMN	QUESTION	VARIABLE	CODE
4	31	25A-K	Level of Total Social Support	1...Low (0-50) 2...Moderate (51-109) 3...High (110-275)
	32-33	26(1)	Reciprocity	01...About the same
	34-35	(2)		02...They help you more
	36-37	(3)		03...You help them more
	38-39	(4)		Blank, N.A. (-9)
	40-41	(5)		
	42	26(1-5)	Total Reciprocity	1...Low (most nonreciprocal) 2...Moderate (equal) 3...High (most reciprocal)
	43	27	Density	1...Low (most don't know others) 2...Moderate (equal) 3...High (most know others)
	44-45	28(1)	Length of Relationship	01...Less than 6 months
	46-47	(2)		02...6 months-1 year
	48-49	(3)		03...2-5 years
	50-51	(4)		04...More than 5 years
	52-53	(5)		Blank, N.A. (-9)
	54	28(1-5)	Overall Stability	1...Low (most 0-1 year) 2...Moderate (most 1.1-5 years) 3...High (most > 5 years)
	55-56	29(1)	Frequency of Contact	01...Several times a year
	57-58	(2)		02...About once a month
	59-60	(3)		03...Several times a month
	61-62	(4)		04...Several times a week
	63-64	(5)		05...Almost daily Blank, N.A. (-9)
	65	29(1-5)	Overall Frequency	1...Low (most < once/month) 2...Moderate (most several times/month) 3...High (most several times a week to daily)
	66-67	30(1)	Satisfaction with Relationships	01...Very dissatisfied
	68-69	(2)		02...Somewhat dissatisfied
	70-71	(3)		03...Neutral
	72-73	(4)		04...Somewhat satisfied
	74-75	(5)		05...Very satisfied Blank, N.A. (-9)
	76	30(1-5)	Total Relationship Satisfaction	1...Low (most 01-02) 2...Moderate (most 03) 3...High (most 04-05)

CARD	COLUMN	QUESTION	VARIABLE	CODE
5	1	A	Card #	1-6...Card #
	2-4	B	Subject ID #	001-100
	5-6	31(1)	Relationship Importance	01...Not important
	7-8	(2)		02...Somewhat unimportant
	9-10	(3)		03...Neutral
	11-12	(4)		04...Somewhat important
	13-14	(5)		05...Very important
				Blank, N.A. (-9)
	15	31(1-5)	Total Relationship Importance	1...Low (most 01-02)
				2...Moderate (most 03)
				3...High (most 04-05)
	16	32A	Satisfaction with <u>Amount</u> Social Contact	1...Not at all satisfied
				2...
				3...
				4...
				5...Very satisfied
	17	32B	Satisfaction with <u>Quality</u> Social Contact	Code same as 32A
	18	33A	Loss of Persons	1...No
				2...Yes
	19-20	33B(1)	Who Lost	01...Spouse
	21-22	(2)		02...Parent
				03...Sibling
				04...Friend
				05...Other relative
				06...Paid caregiver
				-8...Other
				Blank, N.A. (-9)
	23-24	34	How Good is Life Situation	01 - 10
				(worst) (greatest)
	25	35	Comparison Persons	1...Disabled
				2...Nondisabled
				3...No particular group
		36	Comparison Characteristics	01...Health
	26-27	a)		02...Mobility/Independence
	28-29	b)		03...Finances, live comfortably
	30-31	c)		04...Family/Friends
				05...Appearance
				06...Personality, intellect
				07...Work/productivity/skills
				08...Nothing in particular
				09...Pain
				-8...Other
				Blank, N.A. (-9)

CARD	COLUMN	QUESTION	VARIABLE	CODE
5	32	37A	Comparison/Most People	1...Worse than most 2...Worse than some 3...Same as most 4...Better than some 5...Better than most
	33	37B	Comparison/Same Age	Code same as 37A
	34	37C	Comparison/Similar Disability	Code same as 37A
	35	37D	Comparison/With Before Disability	1...Much worse now 2...Somewhat worse now 3...About the same 4...Somewhat better now 5...Much better now
	36	37E	Comparison/Without Disability	5...Much worse 4...Somewhat worse 3...About the same 2...Somewhat better 1...Much better
	37	37A-E	Overall Comparisons	1...Negative (3-5 neg. comparisons) 2...Neutral (3 not neg. or pos.) 3...Positive (3-5 positive comparisons)
	38	Values		Code same as 36
38-39		a)		
40-41		b)		
42-43		c)		
		Life Controlled by:		
44	39A(a)	Self		1...Not at all
45	(b)	Other People		2...
46	(c)	Luck/Chance		3...
47	(d)	God		4...
48	(e)	Other		5...Very much
49	39B	Able to Achieve		1...Not at all 2... 3... 4... 5...Completely
50	39C	Able to Control Interactions		Code same as 39B
51	39D	Cope with Stress		Code same as 39B
52	39E	Solve Problems		Code same as 39B
53	39F	Good Things Own Doing		Code same as 39B

CARD	COLUMN	QUESTION	VARIABLE	CODE
5	54	39B-F	Total Perceived Control	1...Low (overall 1-2) 2...Moderate (overall 3) 3...High (overall 4-5)
		40A	Blame for Disability	1...Not at all
	55	(a)	Self	2...
	56	(b)	Other People	3...
	57	(c)	Chance/Luck	4...
	58	(d)	God	5...Very much
	59	(e)	Other	
	60	40B	Avoided Disability	1...Not at all 2... 3... 4... 5...Completely
		41A	Major Difficulties	01...None exist 02...Health 03...Relationships, family problems 04...Finances 05...Dependency/Immobility 06...Pain -8...Other Blank, N.A. (-9)
	61-62	(a)		
	63-64	(b)		
	65-66	(c)		
	67-68	(d)		
	69	41B	Difficulties Own Doing	1...Not at all 2... 3... 4... 5...Completely
	70	42A	Disability, from Worst-Best	1...Worst that could happen 2... 3... 4... 5...Best that could happen
	71	42B	Positive Meaning Disability	1...No 2...Yes
		42C	Type of Meaning	01...God 02...Others more important 03...+ patience/tolerance 04...+ self awareness, value change, better person 05...More careful now, slows you down 06...Use head-vs-brawn 07...No meaning 08...Acquired new skills, hobbies, etc -8...Other Blank, N.A. (-9)
	72-73	(a)		
	74-75	(b)		
	76-77	(c)		

CARD	COLUMN	QUESTION	VARIABLE	CODE
6	1	A	Card #	1-6...Card #
	2-4	B	Subject ID #	001-100
	5	43	How Happy?	1...Not at all happy 2... 3... 4... 5...Extremely happy
	6	44A	How often Depressed?	1...Very often 2...Often 3...Sometimes 4...Occasionally 5...Never
	7-8	44B a)	How Cope?	01...Talk to someone
	9-10	b)		02...Read, TV, music, radio
	11-12	c)		03...Drink, drugs
				04...Activity, do something
				05...Think, think positively
				06...Prayer
				07...Cry, moan
				08...Sleep
				09...Argue, yell, complain
				-8...Other
				Blank, N.A. (-9)
	13	45A	Hopeful	1...Not at all hopeful 2... 3... 4... 5...Very hopeful
	14-15	45B a)	Fears	01...Declining health
	16-17	b)		02...Death
	18-19	c)		03...Dependency
				04...Loss of others, loneliness
				05...Financial
				06...Nursing home
				07...Boredom
				08...No fears
				09...Pain
				-8...Other
				Blank, N.A. (-9)
	20	46 1)	Index of Psychological Well-Being	Score:
	21	2)		0...Never
	22	3)		1...Sometimes
	23	4)		3...Often
	24	5)		
	25	6)		
	26	7)		
	27	8)		

CARD	COLUMN	QUESTION	VARIABLE	CODE
6	28-29	46A	Negative Feelings Score	(0-15)
	30	46B	Positive Feelings Score	(0-9)
	31	46C	Balance of Pos. & Neg. Feelings Score	(1 - 7) Pos. Neg.
		47	LSIA-A	
	32	1) 1-0		Score:
	33	2) 1-0		1 for each <u>satisfied</u>
	34	3) 0-1		response
	35	4) 0-1		
	36	5) 0-1		0 for each <u>unsatisfied</u>
	37	6) 0-1		response
	38	7) 1-0		
	39	8) 1-0		
	40	9) 1-0		
	41	10) 1-0		
	42	11) 1-0		
	43	12) 0-1		
	44	13) 1-0		
	45	14) 1-0		
	46	15) 1-0		
	47	16) 0-1		
	48	17) 0-1		
	49	18) 1-0		
50-51	47A		LSIA-A Total Score	(0 - 18) Unsat. Satisfied
		48	CES-D Scale	
	52	1) 0-3		<u>Score</u> each item on a
	53	2) 0-3		0-3 scale with
	54	3) 0-3		3 being the
	55	4) 3-0		depressed response:
	56	5) 0-3		
	57	6) 0-3		<u>Score 0-3 or 3-0</u>
	58	7) 0-3		Rarely
	59	8) 3-0		Some of the time
	60	9) 0-3		Moderate amount of the time
	61	10) 0-3		Most of the time
	62	11) 0-3		
	63	12) 3-0		
	64	13) 0-3		
	65	14) 0-3		
	66	15) 0-3		
	67	16) 3-0		
	68	17) 0-3		
	69	18) 0-3		
	70	19) 0-3		
	71	20) 0-3		
72-73	48A		Total CES-D Score	(0 - 60) Nondepressed depressed

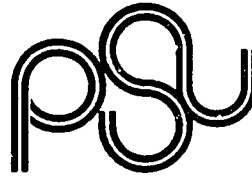
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CARD	COLUMN	QUESTION	VARIABLE	CODE
6	74	49	How difficult to answer?	1...Not at all difficult 2... 3... 4... 5...Very difficult
	75	50	Participate again?	1...Yes 2...No

APPENDIX C

CORRESPONDENCE



We at the Portland State University Institute on Aging have become increasingly interested in the special problems encountered by the spinal cord injured individual as he or she grows older-- into his or her forties, fifties, sixties, seventies, and beyond. Certain problem areas exist for many or most older Americans, generally (health, housing, finances, transportation, nutrition, activities, etc.), but the special problems of the spinal cord injured individual as he or she becomes older have not been studied to any extent. We feel that a survey of such areas will be important in determining future needs and how best to deal with them.

We are currently conducting a study of cord injured persons. To obtain the information that we feel will be necessary, we plan to interview a large number of cord injured persons..Your participation in this study will be confidential and names will not be a part of the records of the survey.

We feel that the information obtained from this study may be very valuable in helping health care and other agencies understand the problems of older spinal cord injured persons and prepare to meet their needs in the future.

During the next month you will be phoned by one of the Portland State University staff to provide you with further information and to find out if you are willing to participate in this survey. If you are willing, a single interview of one to two hours will be scheduled at your convenience in your home or such other place as you may wish. This will complete your involvement in this study.

For the survey to be complete and meaningful we will need the participation of a large number of persons, and we hope that you will be willing to help. In order for us to reach you as soon as possible, please call 229-3952 (the Institute on Aging at Portland State University) to give us your current telephone number and address.

Very sincerely,

Susan D. Decker, M.S.N.

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APPENDIX D

INFORMED CONSENT FORM

INFORMED CONSENT FORM

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I hereby agree to participate in the study, "Elderly Spinal Cord Injured Persons: Surviving In The Community", conducted by Susan Decker, Doctoral candidate, under the supervision of Richard Schulz, Director, Institute on Aging at Portland State University; and in cooperation with Dr. Philip King, Head of Rehabilitation Medicine at the Oregon Veterans Administration Medical Center. I understand that the purpose of the study is to learn more about those factors that contribute to the well-being and life satisfaction of elderly community residing spinal cord injured persons, to determine the nature of the social support system of elderly community residing spinal cord injured persons and to project the future needs of this population as it ages.

I realize that parts of the interview may be sensitive, and I reserve the right to talk about only those things with which I feel comfortable. My participation in the study will involve a personal interview requiring approximately two hours of my time. While I may not receive any direct benefit from participating in the study, I realize that my participation will help to increase knowledge which may benefit others in the future.

The interviewer, _____, has offered to answer any questions I may have about the study, and I know I can reach her through the Institute on Aging, Portland State University, (503) 229-3801. I also understand I may contact Dr. Philip King at (503) 222-9221, extension 416, regarding further concerns.

I understand that my responses will be completely confidential and that neither my name nor identifying personal information will be used when the findings of the study are described. I also understand that my participation is voluntary and that I can withdraw at any time. I understand that refusal to participate or a decision to withdraw from the study will not involve any penalty or loss of benefits to which I am otherwise entitled. I understand that I may be asked to participate again in this study at a future time.

I have read the above information.

Date _____
(Interviewee's Signature)

Date _____
(Interviewer's Signature)