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Psychosocial Adaptation to Spinal Cord Injury: The Role of Coping Strategies

Hanoch Livneh

Abstract — This paper reviews the literature on the role played by coping efforts in fostering psychosocial adaptation to spinal cord injury. Following an introductory discussion of coping in general, and coping with chronic illnesses and disabilities more specifically, the review focuses on the research literature (1980-1999) regarding coping with spinal cord injuries. The paper continues with a summary of findings based on over 30 empirical studies focusing on coping with this disability. Among the prominent findings are: (a) more successful psychosocial adaptation is generally associated with higher levels of ego strength and internal locus of control; and (b) better adaptation is positively related to adoption of problem-focusing and seeking social support, and negatively related to wish-fulfilling fantasy and alcohol/drug abuse. The paper concludes by providing the reader with rehabilitation-related clinical and research implications.

A growing body of literature has been aggregated during the past quarter of century on the role played by coping styles and strategies in fostering psychosocial adaptation to various life occurrences. These include stressful life events (Billings & Moos, 1981; Lazarus & Folkman, 1984), loss and trauma (Katz & Florian, 1986; Parkes, 1975), chronic pain (Fernandez, 1986; Rosenstiel & Keefe, 1983), substance abuse (Moos, Brennan, Fondacaro, & Moos, 1990; Shiffman & Wills, 1985), psychopathological impairments (Matthews & MacLeod, 1994; Vaillant, 1994), and chronic diseases and disabilities (Feifel, Strack, & Nagy, 1987; Felton & Revenson, 1984).

A close look at the extant literature on coping, however, reveals a fragmented body of theoretical, clinical, and empirical research that is compromised by divergent: (a) definitions (e.g., coping as a stable personality trait vs. coping as a situational-based effort), (b) models (e.g., coping as a hierarchical, multi-level concept vs. coping as a temporal, unfolding series of phases), (c) theoretical underpinnings (e.g., coping as a psychodynamic, defense-like psychic operation vs. coping as a cognitive-behavioral set of strategies or activities), (d) conceptualizations (e.g., coping as an independent variable or predictor of future psychosocial adaptation vs. coping as a dependent variable or an outcome of efforts to relieve distress); and (e) measures (i.e., there are over 20 measures of coping that range, in size, from those composed of two to almost 30 scales or dimensions) (Endler & Parker, 1990; Krohne, 1993; Lazarus & Folkman, 1984; Zeidner & Endler, 1996).

This article seeks to acquaint the reader with a review of the coping literature on one of the most widely researched disabling conditions, namely, spinal cord injury (SCI). To

this end, following a brief summary of research findings on the role played by coping in adapting to chronic illness and disability (CID), the available literature on the relationship between coping styles and strategies, and SCI, is reviewed. At the completion of the review, clinical and research implications are drawn to the field of rehabilitation counseling.

For the purposes of this paper coping was conceptualized as a psychological strategy, mobilized to diffuse the ill-effects of stress-producing events, that: (a) is both a personal-ity trait but is also influenced by situational determinants (e.g., level of stress, controllability of outcomes); (b) is hierarchically structured and spans the range from microanalytic acts and behaviors to microanalytic, global styles and dispositions; (c) may be perceived as a predictor of future psychosocial adaptation to CID; (d) can be uniquely and independently assessed in its effect on psychosocial adaptation (i.e., its unique contribution to adaptation can be partialled out from that of other personality constructs and sociodemographic variables); and (e) can be assessed by a number of psychometrically sound measures.

Psychosocial adaptation to SCI was conceptualized as a complex and dynamic set of cognitive, affective, functional-behavioral, motivational, and interpersonal variables, typically seen as an outcome criterion that is comprised of, and accordingly reflects responses to, one or more of the following measures: (a) psychological or emotional distress (e.g., depression, anxiety); (b) life satisfaction or well-being; (c) perceived quality-of-life; (d) self esteem or self-concept; and (e) acceptance of condition (usually depicted by item endorsement on the Acceptance of Disability Scale).

Coping with Chronic Illnesses and Disabilities

The generic literature on coping with chronic illnesses and disabilities (CID) has been fraught with divergent efforts to define, conceptualize, classify, investigate, and measure coping approaches. Review of the available literature on coping with CID suggests the following:

First, three broad classes of coping efforts are typically identified. These include: (a) behavioral approaches that seek to manage the stress directly and include problem-focused, action-oriented, instrumental strategies; (b) affective approaches that attempt to maintain emotional balance and control and include emotion-focused, feeling monitoring strategies; and (c) cognitive approaches that focus on gaining a different perspective on the source and nature of the stress and include mental-focused, cognitive restructuring, and planning strategies (Billings & Moos, 1984; Feifel et al., 1987; Lazarus & Folkman, 1984; Lipowski, 1970). These broad categories are, at times, further subcategorized into approach or engagement vs. avoidance or disengagement coping strategies (Parker & Endler, 1996; Tobin, Holroyd, Reynolds, & Wigal, 1989). Demarcating the conceptual and clinical boundaries of these approaches is often tricky since they operate largely in unison to ward off encountered sources of stress and anxiety.

Second, chronic illnesses and disabilities require the adoption of differential groups of coping strategies to combat disability-specific generated stresses. This is due to each condition's unique array of symptoms, functional involvement, environmental impact, and long-term implications. Moreover, during the course of adapting to these conditions, different coping strategies are used to best meet the demands imposed by various medical and health related problems, treatment and prognostic related issues, and social and environmental related influences (Endler, Courbasson, & Fillion, 1998; Felton & Revenson, 1987; Zeidner & Saklofske, 1996).

Third, coping with CID is hierarchical in nature. Generalized or microanalytic coping styles or dispositions (e.g., problem- vs. emotion-focused; engagement vs. disengagement) are viewed as the broadest attempts at classification. These are typically followed by intermediate-level categories of coping approaches and strategies that normally refer to groups of coping behaviors seen as "scales" or "facets" on coping measures (e.g., avoidance, acceptance, problem-solving, wish fulfillment). Finally, specific or microanalytic behavioral acts are comprised of those observable or experienced coping responses that are depicted as unique items on coping measures (e.g., "I let my emotions out," "I make a plan of action") (Billings & Moos, 1981; Krohne, 1996).

Finally, coping efforts are seen as either directly contributing to psychosocial adaptation to CID, or as mediating variables between sociodemographic variables (e.g., age at disability onset, gender), disability-related factors (e.g., severity of disability, stability of condition), personality attributes, and environmental conditions, and adaptation to CID (Lipowski, 1970; Maes, Leventhal, & de Ridder, 1996).

Coping with Spinal Cord Injury

General coping styles and SCI

The empirical literature on dispositional coping with SCI is scarce but implies that at least two broad coping styles appear to be associated with psychosocial adaptation to this disabling condition. These are: ego resilience or ego strength, and locus of control.

Ego Resilience/Strength

Ego resilience refers to those psychodynamic mechanisms that regulate the ego's motivation in influencing behavior. The few studies available on the association between ego strength and adaptation to SCI suggest that higher ego resilience and ego strength are linked to (a) decreased levels of anxiety and depression, (b) a more positive outlook on life, and (c) better general adaptation to SCI (Bracken & Bernstein, 1980; Roberts, 1972). A similar personality construct, that of sense of coherence (the ability to achieve cognitive and emotional meaningfulness in one's life as well as to problem-solve internal and external demands) was also found to be associated with better adjustment in marital relationships, and adjustment to disability, among people who sustained SCI (Feigin, 1998; Feigin, Sherer, & Ohry, 1996).

Locus of Control

Research on the relationship between internal and external locus of control (LOC) dispositions and psychosocial adaptation to SCI, yielded generally consistent findings suggesting, that survivors of SCI who (a) adopted an internal LOC perspective (i.e., those who generally believe that outcomes are contingent upon their own behaviors and efforts) also reported lower levels of anxiety and depression (Bracken & Bernstein, 1980; Schulz & Decker, 1985); (b) scored high on internal LOC also demonstrated a better adaptation to life in general (Bracken & Bernstein, 1980), were more accepting of their disability (Mazzulla, 1984), and had higher levels of subjective well-being (Krause, Stanwyck, & Maides, 1998; Schulz & Decker, 1985); (c) showed an external LOC style, including the belief that health is controlled or influenced by powerful others, reported higher levels of emotional distress (Shadish, Hickman, & Arrick, 1981), increased number of health concerns (Krause et al., 1998), and decreased length of employment (Krause et al., 1998); (d) demonstrated increased preference for personal control, along with perceptions of options for control, also reported lower levels of depression when contrasted with SCI survivors who experienced decreased level of perceived control (Ferington, 1986); and (e) manifested internal health attributions (i.e., beliefs in personal control of health) reported less psychosocial distress and depression than those who exhibited external health attributions (i.e., beliefs in chance and powerful others as controlling health) (Frank & Elliott, 1989; Frank et al., 1987; Krause et al., 1998).

Finally, as compared to a control group of able-bodied respondents, persons with SCI were found to have lower self-esteem scores but, more importantly, to have more external perceptions of control and, in general, use more maladaptive coping styles (Craig, Hancock, & Chang, 1994; Hancock, Craig, Tennant, & Chang, 1993).

Specific Coping Strategies and SCI

Unlike the more global, trait-like coping dispositions, coping strategies are seen as more situation-specific approaches directed at diffusing stressful events, or alleviating their impact (Krohne, 1996; Lazarus & Folkman, 1984). These strategies are commonly inferred from respondents' endorsement of coping behaviors on self-report scales such as the Ways of Coping (WOC) Questionnaire (Folkman & Lazarus, 1988), the COPE Scale (Carver, Scheier, & Weintraub, 1989), and the Mental Adjustment to Cancer (MAC) Scale (Greer, Morris, & Pettingale, 1979), which was adopted to SCI populations (Hancock et al., 1993).

The classification of coping strategies into engagement (e.g., approach, problem-oriented) vs. disengagement (e.g., escape, problem-avoidance) offers a unique way of identifying these strategies (Billings & Moos, 1981; Carver et al., 1989; Krohne, 1996; Tobin et al., 1989). This section reviews findings from studies that have focused on the function of these strategies within the context of coping with SCI.

Engagement Strategies

Included here are strategies such as: (a) problem-solving or problem-focusing; (b) seeking social support; (c) maintaining hope (in face of adversity); (d) goal-directed determination; (e) cognitive appraisal or restructuring; and (f) venting emotion. These strategies, however, have not received equal empirical treatment from researchers. The following section reviews findings from studies in which these strategies were implicated, in varying degrees, in fostering psychosocial adaptation to SCI.

Problem-solving/focusing. Effective problem-solving was found to be predictive of lower levels of depression, lower psychosocial impairment, and higher degree of assertiveness among people with SCI (Elliott, Godshall, Herrick, Witty, & Spruell, 1991). As compared to those who relied more heavily on emotion-focused coping, survivors of SCI who adopted problem-focused coping, also scored higher on general coping effectiveness (as measured by the McNett Coping Effectiveness Questionnaire; McNett, 1987), as well as reported more positive mood and lower depression (Moore, Bombardier, Brown, & Patterson, 1993).

One study, however, failed to find any relationship between choice of emotion- or problem-focused coping and respondents' emotional well-being (Wineman, Durand, & Steiner, 1994).

Seeking social support. The most widely researched engagement-type strategy among people with SCI has been that of seeking social support. Although a number of con-

ceptual and empirical approaches to measuring this coping strategy have been undertaken by researchers, these strategies will be discussed jointly.

Generally (a) higher levels of perceived availability and perceived quality of social support, (b) satisfaction with the support network and social integration, and (c) amount of social support, were all found to be associated with (a) higher levels of psychological and physical well-being (Coca, 1991; Kennedy, Lowe, Grey, & Short, 1995; Rinalta, Young, Hart, Clearman, & Fuhrer, 1992; Schulz & Decker, 1985); (b) decreased depression (Elliott, Herrick, Patti, Witty, Godshall, & Spruell, 1991; Rinalta et al., 1992; Whalley-Hammell, 1994); (c) general coping effectiveness (McNett, 1987); (d) life satisfaction (Rinalta et al., 1992); and (e) acceptance of disability (Coca, 1991).

Elliott and coworkers (Elliott, Herrick, Witty, Godshall, & Spruell, 1992a, 1992b) further elaborated upon the structure of social support as it relates to psychosocial adaptation to SCI. They concluded from their studies that (a) those social relations that reinforced the self-worth of the individual and provided a sense of social integration were linked to lower levels of depression and psychosocial impairment; and (b) those social relations in which the person was responsible for the well-being of others (i.e., perceived by the authors as manifested by higher levels of nurturance and higher attachment support), were associated with higher levels of psychosocial impairment. Both of these studies and related research (e.g., McColl, Lei, & Skinner, 1995) implicated time since injury as an important interactive variable that influences the nature of the relationship between social support, coping in general, and psychosocial adaptation to SCI.

Other engagement-type coping. Only sparse data are available on additional engagement-type coping strategies and they are, therefore, discussed jointly. In earlier clinical reports, Roy and West (1983, 1984) content analyzed coping strategies of a small sample of SCI survivors. Of the five coping strategies outlined (i.e., suppression, denial/repression, resignation/acceptance, positive thinking, and independence/assertiveness) only the latter two are considered engagement-like strategies. The authors concluded from their studies, that no relationship was demonstrated between these strategies and successful adaptation to SCI since adaptation is a function of the individual and his or her unique life circumstances.

In a longitudinal study of four persons with SCI, Rosentiel and Roth (1981), reported that two coping strategies, namely, goal orientation and mental/cognitive rehearsal were associated with better psychosocial adaptation, as evidenced by increased levels of activity and decreased levels of depression and anxiety. Interestingly, denial and rationalization (often viewed as traditional psychodynamic defense mechanisms) were the coping strategies employed most frequently by the one participant regarded as most successfully adjusted.

In investigating the role of hope, as a coping strategy associated with psychosocial adaptation to SCI, Elliott,

Witty, Herrick, and Hoffman (1991) reported that two components of hope, a sense of goal-directed determination and a sense of pathways (the ability to find ways to achieve goals), were both associated with lower levels of depression and psychosocial impairment.

Additional coping strategies reported to be associated with psychosocial adaptation to SCI include: (a) cognitive restructuring (related to higher scores on Linkowski's Acceptance of Disability Scale, but not to general psychological distress in a 5-year follow-up study; Hanson, Buckelew, Hewett, & O'Neal, 1993); (b) venting emotions (associated with higher levels of psychosocial distress; Buckelew, Baumstark, Frank, & Hewett, 1990; Kennedy et al., 1995); and (c) acceptance (linked inversely to a number of indices of psychosocial adaptation including depression, hopelessness, anxiety, anger, and general psychological distress; Kennedy et al., 1995).

Disengagement Strategies

This group of coping strategies commonly includes the following: (a) denial, (b) wish-fulfilling fantasy, (c) self-blame, (d) other-blame, and (e) alcohol/drug abuse. The following section provides an overview of findings from studies that sought to investigate the association between disengagement coping strategies and psychosocial adaptation to SCI.

Denial. Surprisingly, the role of denial in adapting to SCI has been virtually left unexplored in the empirical literature. Bracken and Shepard (1980) provided a brief theoretical analysis of denial but neglected to explore its role in fostering, or impeding, psychosocial adaptation to this disability. A subsequent study by Bracken and Bernstein (1980) reported that denial at 1-year post-injury did correlate positively, but not significantly, with increased affective reactions (i.e., anger, anxiety, and depression) among persons with SCI.

Wish-fulfilling fantasy. The two studies that reported on the relationship between wish-fulfilling fantasy and psychosocial adaptation to SCI concluded from their findings that this coping strategy was positively associated with higher level of psychological distress (Buckelew et al., 1990), and negatively related to acceptance of disability (Hanson et al., 1993). However, at a 5-year follow-up study, wish-fulfilling fantasy was no longer related to severity of psychopathological symptomatology or to vocational status (Hanson et al., 1993).

Self-blame. The study of the relationship between self-attribution of blame and psychosocial adaptation to SCI, has resulted in mixed findings. Whereas most researchers (Buckelew et al., 1990; Hanson et al., 1993; Nielson & MacDonald, 1988; Reidy & Caplan, 1994) have reported positive associations between self-blame and higher levels of psychological distress, depression, and anxiety, other researchers (Bulman & Wortman, 1977; Schulz & Decker, 1985) concluded, from their findings, that self-blame was associated with better coping ability or effectiveness, and higher level of perceived well-being. Other researchers

failed to detect any relationship between self-blame and indices of psychosocial adaptation, including acceptance of disability (Heinemann, Bulka, & Smetak, 1988), depression during inpatient rehabilitation (Reidy & Caplan, 1994), and nurses' ratings of coping effectiveness (Sholomskas, Steil, & Plummer, 1990).

Other-blame. Conflicting results were also reported when the relationship between blaming others for the occurrence of SCI and psychosocial adaptation was explored. While some researchers suggested that blaming others is associated with poorer coping ability (Bulman & Wortman, 1977; Sholomskas et al., 1990), others (Nielson & MacDonald, 1988), in contrast, reported that when compared to self-blamers, other-blamers demonstrated lower levels of pessimism, depression, anxiety, and hostility. Similarly, Reidy and Caplan (1994), reported that increase in chance blame (as another form of blaming "others") was associated with decreased level of depression.

Related literature on attribution of blame further suggests that: (a) perceived avoidability of the accident is related to poorer coping ability (Bulman & Wortman, 1977; Van den Bout, Van Son-Schoones, Schipper, & Groffen, 1988); (b) survivors of SCI who **do not** blame self or others exhibit better coping effectiveness than those who blame either one (Sholomskas et al., 1990); (c) seeking an answer to "why did this happen to me?" was associated with poorer coping behaviors among long-term disabled survivors, in one study (Van den Bout et al., 1988), but failed to be related to acceptance of disability in another study (Heinemann et al., 1988).

Using alcohol and other drugs. Use of chemical substances is often regarded as a form of disengagement and maladaptive coping (Carver et al., 1989; Heinemann, 1995; Wills & Hirky, 1996). Heinemann and colleagues (Heinemann et al., 1988) reported that the absence of drinking was found to be a predictor of disability acceptance. Alcohol abuse was also found to be positively associated with other forms of disengagement and maladaptive coping behaviors such as self-blame (Sholomskas et al., 1990) and escape-avoidance (Heinemann, Schmidt, & Semik, 1994), and inversely related to engagement coping strategies including positive reappraisal, problem-solving, and seeking social support (Heinemann et al., 1994). Finally, Schandler, Cohen, and Vulpe (1996) reported that positive family history for alcoholism was associated with more use of coping strategies reflecting acceptance of responsibility, planful problem-solving, and generally more problem-focused coping. These paradoxical findings were interpreted, by the authors, as suggesting preference for more effective strategies among those with family history of alcoholism, but actual use of less effective strategies as indicated by the increased frequency of their alcohol-related problems.

Other disengagement-type coping. Only limited research findings are available on the relationship between other disengagement coping strategies and psychosocial adaptation to SCI. For instance, as compared to able-bodied controls, persons with SCI reported higher levels of help-

less/fatalistic coping while scoring lower on a measure of self-esteem (Craig et al., 1994; Hancock et al., 1993). In another study, behavioral disengagement, as measured by the COPE Scale was inversely associated with feelings of vigor and positively with depression and general psychological distress (Kennedy et al., 1995). Finally, escape-avoidance coping was found to be negatively related to acceptance of disability as well as to a variety of rehabilitation outcome measures (Meyer, O'Leary & Hagglund, 1999).

Conclusions from Findings on Coping with SCI

The review of the literature on coping with SCI suggests the following conclusions:

First, among the more global coping styles, persons with SCI who demonstrate higher levels of ego resilience (including a sense of coherence), and internal locus of control, also report lower levels of psychosocial distress and better adaptation to life in general. Second, among the more specific coping approaches, individuals with SCI who employ engagement-type strategies such as problem-focusing and seeking social support (the latter includes perceiving the availability of such support but not being overly enmeshed within it) also demonstrate better psychosocial outcomes including higher psychological well-being and life satisfaction.

Third, among those coping strategies said to reflect disengagement-type coping, wish-fulfilling fantasy (especially during early post injury period) and alcohol/drug abuse were found to be related to increased levels of psychosocial distress. Substance abuse was also found to be positively associated with the use of other disengagement and maladaptive coping strategies. Fourth, the body of empirical literature on the role of attribution of blame (i.e., self-blame, other-blame, chance blame) has yielded mixed findings. Both self- and other-blame have been implicated as contributing factors mostly to higher levels of psychosocial distress. However, both forms of attribution were also found, in some studies, to be related to better psychosocial adaptation to SCI. It has been suggested (Sholomskas et al., 1990) that when neither form of attribution is being employed (i.e., when persons with SCI do not attribute responsibility for the injury to self or others), general coping effectiveness and successful adaptation are greater. Finally, the role of one of the most widely researched coping strategies in the literature on psychosocial adaptation to chronic illnesses and disabilities, namely, that of denial, has remained surprisingly unexplored. The absence of research on the role of denial in buffering the stress associated SCI and its functional restrictions is particularly baffling in light of the extensive body of literature that exists on the relationships between denial and adaptation to other disabling conditions (e.g., cancer, heart disease, diabetes).

Clinical and Research Implications

The clinical implications of these findings to practicing rehabilitation counselors can be seen in both the assessment and intervention phases of the rehabilitation process. During initial client assessment, rehabilitation practitioners may benefit from giving additional weight to assessment of the client's coping styles and situation-specific strategies (e.g., work, school). Gaining knowledge of how the client with SCI approaches various stressful life situations and the efforts employed to diffuse the engendered stress is apt to shed light on how the client adapts to his or her disability. Furthermore, knowledge of coping strategies used by the client can contribute to a better understanding of the client's coping efforts in vocational settings, including the stresses triggered by work tasks, deadline requirements, supervision demands, and interactions with coworkers. Viewing the client's coping strategies along dimensions such as engagement-disengagement, adaptive-maladaptive, or problem-focused—emotion-focused can assist the rehabilitation counselor in gaining a broader, more accurate, and more psychodynamically-grounded perspective on the client.

During the rehabilitation intervention phase, practitioners who consider client's successful coping efforts as a necessary ingredient of the psychosocial adaptation process to SCI, may wish to adopt a skill-enhancing approach to fostering better coping with the disability. Focusing on training their clients in acquiring and rehearsing more active, problem-focused, social network-mobilizing coping skills, appears to be a promising approach to improved psychosocial adaptation to SCI. Related cognitive-behavioral coping skill training programs (Devins & Binik, 1996; Meichenbaum, 1977), although not directly derived from the literature of adaptation to SCI, may also be considered. These skill-training programs, often adapted from the literature on coping with life-threatening diseases (e.g., cancer, heart disease), systemic and chronic diseases (e.g., diabetes, arthritis), head injuries, and chronic pain, can be easily adapted to working with clients who have sustained SCI. Specific skill-training programs could focus on such areas as: problem solving, decision-making, goal setting and implementation, assertiveness enhancement, self-monitoring, stress management, stress inoculation, and health care resource utilization.

Future research should address conceptual and methodological limitations inherent in the literature reviewed and further expand research efforts to investigate the role played by coping styles and strategies in psychosocial adaptation to SCI. For instance, the following concerns have been noted in the coping literature: (a) confounding of the operational definitions, as well as the measurement, of coping strategies that often include overlap among conceptually different coping categories; (b) reliance on cross-sectional, rather than on longitudinal research designs; (c) failing to control for duration of injury and its relationship to coping strategies employed during the adaptation process; and (d) drawing conclusions from small and occasionally biased study sam-

ples (e.g., geographically homogeneous samples, male-only participants).

To address some of these issues, researchers should consider the following: First, efforts should be made to cross validate findings among the most often used scales that measure coping among people with physical disabilities. Findings from such studies could clarify the inter-scale relationships among these measures that, at the present time, comprise scales that include from three to fifteen distinct coping facets. Similar arguments have also been raised with regard to the measurement of psychosocial adaptation to disability. Therefore, research efforts should also be directed at developing a small, meaningful, and psychometrically sound indices of psychosocial adaptation to disability (e.g., measures of emotional distress, quality-of-life, social functioning, vocational performance).

Second, since coping is a dynamic, unfolding process, coping efforts should be measured longitudinally, with researchers focusing on the assessment of changes in type and valence of coping efforts from immediately post injury, to post hospital discharge, and finally at more stable, community-based living setting. These research efforts should help in better understanding the adaptability of coping efforts to varying external, social, and environmental demands as well as their relative success in meeting the survivor's personal needs and goals.

Third, in a similar vein, several researchers have documented the important role played by time since injury in influencing choice of coping efforts and, ultimately, psychosocial adaptation to SCI (Buckelew et al., 1990; Elliott et al., 1992; Hanson et al., 1993; Heinemann et al., 1994; Reidy & Caplan, 1994). Time since injury was found to be associated, for instance, with increase in information seeking and emotional expression, as well as with shifts in patterns of blame attributions. The mere passage of time has apparently permitted the injured individual to reframe the initial disabling experience and the subsequent perception, so that greater self-awareness has been achieved (Heinemann, 1995). Researchers should, accordingly, focus on tracking the nature and process of these coping efforts over time.

Fourth, since much of the coping literature is comprised of findings drawn from relatively small, self-selected, and homogeneous samples of persons with SCI, researchers should attempt to include larger and more heterogeneous samples and, if possible, include perspectives on coping garnered from family members (e.g., spouses) and other sources (e.g., rehabilitation personnel, employers).

Finally, researchers should expand their efforts to better understand the nature, structure, and process of coping by paying closer attention to other indicators of coping effectiveness, and to the intricate relationships among personality attributes, coping strategies, situational determinants, and psychosocial adaptation to SCI. For instance, the influence of variables such as perceptions of uncertainty, level of assertiveness, sense of agency, degree of mobility, on coping and on adaptation to SCI, has been suggested by researchers

(e.g., Elliott et al., 1991; Wineman et al., 1994). Future research should, therefore, seek to clarify the role played by these and other related variables in influencing the choice of specific coping strategies and, ultimately, psychosocial adaptation to SCI.

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