

The Relationship of Coping, Self-Worth, and Subjective Well-Being: A Structural Equation Model

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Abstract

The purpose of this study was to determine the relationship between various coping-related variables and the evaluation of self-worth and subjective well-being among persons with spinal cord injury. Positive coping variables included hope, proactive coping style, and sense of humor, whereas negative coping variables included perceptions of stress, dysfunctional attitudes, and catastrophizing. Evaluations of self-worth were determined by measures of self-esteem and acceptance of disability. Quality of life and life satisfaction were indicators of subjective well-being. The results of the study indicate that negative coping has a negative association with both positive self-worth and subjective well-being. Feelings of positive self-worth were found to be positively associated with subjective well-being. In addition, positive coping appears to influence subjective well-being positively by first increasing feelings of positive self-worth. The findings indicate that coping strategies play an important role in the psychosocial adjustment of individuals with disabilities, and subsequently, in their quality of life. The implications for counseling individuals with disabilities are discussed.

Keywords

adjustment to disability(ies), psychosocial aspects of disability(ies), adjustment to rehabilitation counseling, stress and coping

Psychosocial adaptation to disability has been the focus of both clinical and research interest in rehabilitation for more than a half century (Livneh & Parker, 2005). Acknowledgment and consideration of the psychosocial factors related to disability is a fundamental component of the rehabilitation philosophy (Patterson, Bruyere, Szymanski, & Jenkins, 2005). The scope of practice for rehabilitation counseling includes the use of "group and individual counseling interventions focused on adjustment to medical and psychosocial impact of disability" (Commission on Rehabilitation Counselor Certification, 2008). Research has indicated that knowledge of psychosocial issues and application of counseling interventions are important skills for rehabilitation practice (Leahy, Chan, & Saunders, 2003) and rehabilitation counselor education (Ebener, 2007). Although there has been a wealth of research on psychosocial adaptation to disability (e.g., Bishop, 2005; Devins, 1994; Livneh, 2001; Livneh & Antonak, 1997; Wright, 1983), the applicability of this research to rehabilitation counseling practice has been criticized (Bishop, 2005).

Assisting individuals with disabilities to improve their quality of life is considered the overarching goal of rehabilitation (e.g., Bishop & Feist-Price, 2001; Fabian, 1991; Livneh, 2001). Individuals who have a disability or chronic

illness generally report having a poorer quality of life than those who do not have a disability (Dijkers, 1997). However, little is understood about the factors that make up or affect quality of life in persons with disabilities. This information would be useful in developing applicable interventions that rehabilitation counselors can employ when assisting persons with disabilities in dealing with psychosocial issues that affect quality of life. Given the limitations of the empirical research in rehabilitation counseling, this investigation was an examination of variables that relate to quality of life in persons with disabilities. Specifically, relationships are explored among quality of life, the individual's sense of self-worth, and various coping strategies that an individual may employ to cope with the stressors in life that result from having acquired a disability, such as a spinal cord injury.

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Subjective Well-Being

Although the terms quality of life, life satisfaction, and sense of well-being are often used interchangeably, there are some subtle distinctions. Quality of life has generally come to represent a multidimensional construct including both objective and subjective dimensions (Bishop & Feist-Price, 2001; Fabian, 1991; Roessler, 1990), with objective dimensions referring to external criteria that are indicative of success or lack of success in a variety of accepted social roles, and subjective dimensions consisting of the individual's feelings about his or her well-being in a variety of life areas or life in general. Life satisfaction, a global, cognitive evaluation of one's life as a whole, however, is based purely on the subjective perspective of the individual (Fabian, 1991). The concept of sense of well-being is also based on a subjective perspective and is conceptualized as including (a) the concept of life satisfaction, in addition to (b) a cognitive assessment of the amount of positive and negative affect that the individual generally experiences (Diener, Lucas, & Oishi, 2005). Several authors have suggested that subjective measures of well-being will yield a more meaningful assessment of an individual's quality of life, in particular among individuals with a disability (Chapin, Miller, Ferrin, Chan, & Rubin, 2004; Dijkers, 1997).

Self-Worth

Wright (1960) asserted that an individual's acceptance of disability "reflects or affects the self-concept in general" (p. 134). A major factor of an individual's self-concept is self-esteem, defined by Rosenberg (1979) as an individual's global positive or negative feelings toward himself or herself. It may be that people pursue self-esteem because "their attempts to satisfy their contingencies of self-worth help them manage their fears and anxieties" (Crocker & Park, 2004, p. 394). Much empirical evidence suggests that acceptance of disability is related to self-esteem in persons with disabilities (Heinemann & Shontz, 1982; Li & Moore, 1998; Linkowski, 1988, cited in Li & Moore, 1998; Linkowski & Dunn, 1974; Marini & Rogers, 1995). Self-esteem and acceptance of disability, therefore, appear to be strong indicators of positive self-worth in individuals with disabilities.

Coping Strategies

Cognitive stress theory (Lazarus & Folkman, 1984) posits that individual differences in outcomes, such as valuations of quality of life, are mediated by appraisal and coping variables. When the demands made on an individual are more than the resources available to him or her, the individual develops strategies to identify available resources that

would decrease stress and improve overall quality of life. In this study, the interest is in determining what types of coping strategies enhance quality of life or result in a cost to quality of life. Uncovering information with regard to the relationships between different types of coping strategies, self-worth, and quality of life may assist in better understanding of the adjustment process in people with disabilities.

Although coping strategies are not considered universally to be good or bad, there does appear to be empirical evidence to suggest that specific coping strategies are more likely to be associated with the responses of adjustment to disability. It is important, therefore, to attempt to investigate specific coping strategies discussed in the rehabilitation literature to determine their relationship (i.e., positive or negative) with an individual's self-worth and subjective well-being. The specific coping strategies explored in this study are the use of hope, humor, proactive coping, catastrophizing, dysfunctional attitudes, and maintaining a focus on stress.

Positive coping. A review of the literature suggests that the coping strategies of proactive coping (discussed above), hope, and humor share a cognitive-emotional process and result in better adjustment among individuals with disabilities. Hope, defined as "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (Snyder, Irving, & Anderson, 1991, p. 287), has been found to be related to psychosocial factors in that individuals with higher levels of hope have lower depression and psychosocial impairment (Elliott, Witty, Herrick, & Hoffman, 1991); fewer mental health symptoms, better well-being, and more positive therapeutic outcomes (Irving et al., 2004); and more positive thoughts (Snyder et al., 1996). Another important coping strategy, humor, is defined as "the ability to appreciate or express that which is funny or amusing" (Burkhead, Ebener, & Marini, 1996, p. 51). Humor allows an individual to reframe that which is causing overwhelming and unmanageable distress to something less threatening. A positive correlation has been found among individuals with disabilities between humor, self-concept, and vitality (Leftcourt & Martin, 1986, cited in Burkhead et al., 1996). Humor has also been found as an effective and positive situational and functional approach among members of families who had a child, or children, with a disability (Rieger, 2004).

Negative coping. Whereas coping strategies are neither positive nor negative in nature, these terms are being used simply to describe the outcomes that have been associated with these types of coping strategies. For example, using catastrophizing as a coping strategy to manage chronic spinal cord injury pain is associated with higher pain-related disability and depression and lower health and well-being (Wollaars, Post, van Asbeck, & Brand, 2007); is a significant predictor of depression (Turner, Jensen, & Romano, 2000);

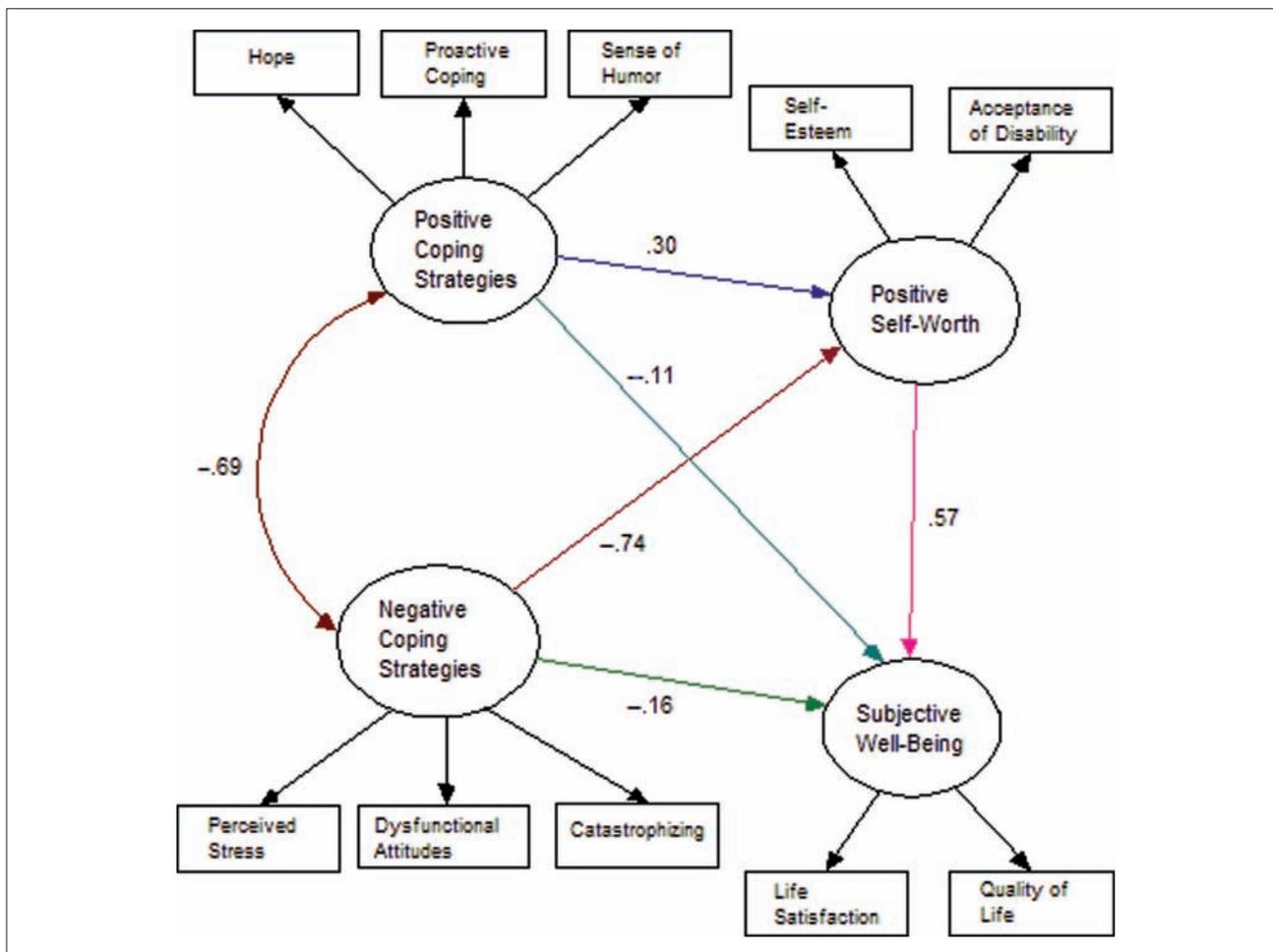


Figure 1. Effect estimates for the proposed model

and is significantly related to individuals reporting greater levels of disability (Woby, Watson, Roach, & Urmston, 2004). Similarly, maladaptive coping strategies have been found to be associated with lower ratings of quality of life among individuals with HIV (Vosvick et al., 2002). Consistent with the cognitive stress theory, and in light of the findings of the studies described above, it is suggested that using a coping strategy of maintaining attitudes that are ineffectual (i.e., dysfunctional), or a continuous focus on the stressful event or situation, would result in a poorer quality of life.

Purpose of Study

In this study, we examined various coping variables to determine the relationship between these variables and the evaluation of self-worth and subjective well-being among persons with spinal cord injury. Positive coping variables included hope, a proactive coping style, and a sense of humor, whereas negative coping variables included perceptions of stress, dysfunctional attitudes, and catastrophizing.

Evaluations of self-worth were determined by measures of self-esteem and acceptance of disability. Quality of life and life satisfaction were indicators of subjective well-being. All constructs were operationalized as scores on instruments with sound psychometric properties selected for their ability to measure the specific constructs. Based on previous literature, we expected that positive coping would be associated with positive evaluations of self-worth and subjective well-being. Conversely, we expected that negative coping would be associated with negative evaluations of self-worth and subjective well-being. It was also expected that positive self-worth would be associated with positive subjective well-being. The proposed model is shown in Figure 1.

Method

Participants

Individuals with spinal cord injuries ($n = 242$) participated in this study. The mean age of participants was 44.6 years

($SD = 13.2$, range = 18–81). The group of participants was 66.1% male and 33.9% female. Nearly 76% (75.6%) of participants identified their ethnic background as European American, 12.0% identified as African American, 7.9% identified as Latino/Latina, 2.5% identified as Native American, and 2.1% identified as Asian American. Slightly more than 22% (22.3%) of the participants indicated that they live alone (with or without support), 54.1% indicated that they live with a spouse/romantic partner and children (if applicable), 2.9% indicated that they live with roommate(s), 16.5% indicated that they lived with parents/guardians, 2.9% indicated that they live in a group or nursing home, and 1.2% reported that they live in another type of living arrangement, unspecified. About 51% (51.2%) of the participants reported that their injury was in the cervical spine, 40.5% reported injury in the thoracic spine, 6.6% reported injury in the lumbar spine, and 1.7% reported injury in the sacral spine. Participants worked an average of 10.1 hours ($SD = 17.6$, range = 0–84) per week in paid employment; however, 70.2% of participants reported being unemployed. Participants reported an average of 10.6 years since injury ($SD = 9.7$, range = 1–48).

Measures

The instruments used in this study included a demographic questionnaire, two subjective well-being measures (*Satisfaction with Life Scale*, *Sense of Well-Being Inventory*), two positive self-worth measures (acceptance subscale of the *Spinal Cord Lesion-Related Coping Scale*, *Rosenberg Self-Esteem Scale*), three positive coping measures (*Adult Dispositional Hope Scale*, *Proactive Coping Scale of the Proactive Coping Inventory*, *Sense of Humor Questionnaire-6*), and three negative coping scales (*Perceived Stress Scale-4*, *Dysfunctional Attitudes Scale*, *Pain Catastrophizing Scale*).

Demographic questionnaire. The questionnaire consisted of 11 items designed to elicit specific demographic information about the participants, including age, gender, race, years since injury, injury level, living situation, and employment status.

Subjective well-being measures. The *Satisfaction with Life Scale* (Diener, Emmons, Larsen, & Griffen, 1985) is a five-item measure of global life satisfaction. Individuals are asked to indicate the extent to which they agree with each item (e.g., “In most ways my life is close to ideal”), using a 7-point Likert-type rating scale (1 = *strongly disagree* to 7 = *strongly agree*). Higher scores are indicative of higher levels of life satisfaction. The authors found that scores on the instrument had moderate to high correlations with other measures of subjective well-being, as well as specified personality characteristics. The Cronbach’s alpha coefficient reported by the authors was .87. In this study, the alpha coefficient was computed to be .89.

The *Sense of Well-Being Inventory* (Rubin, Chan, Bishop, & Miller, 2003) is a quality of life measure developed specifically for people with disabilities. It consists of 36 items and asks participants to indicate the extent to which they agree that each item is descriptive of them (e.g., “I get frustrated about my disability”), using a 4-point Likert-type rating scale (1 = *strongly agree* to 4 = *strongly disagree*). Higher scores are indicative of higher levels of well-being. The content, factorial, and concurrent validity of the measure has been supported in several research studies (e.g., Chapin et al., 2004; Rubin et al., 2003). The Cronbach’s alphas were reported by the authors to range from .62 to .88. The alpha in this study was calculated to be .94.

Positive self-worth measures. The acceptance subscale of the *Spinal Cord Lesion-Related Coping Scale* (Elfstrom, Kreuter, Ryden, Persson, & Sullivan, 2002) is a four-item measure of acceptance of spinal cord injury. For this study, the wording of the instrument was changed slightly to reflect American terminology (i.e., the word *lesion* was changed to *injury*). Individuals are asked to indicate agreement with each statement (e.g., “I think I have accepted my spinal cord injury”), using a 4-point Likert-type rating scale (1 = *strongly disagree* to 4 = *strongly agree*). Higher scores are indicative of higher levels of spinal cord injury acceptance. The authors demonstrated the validity of the instrument by factor analysis and extensive multitrait analyses. The Cronbach’s alpha coefficient reported by the authors was .79. In this study, the alpha coefficient was computed to be .81.

The *Rosenberg Self-Esteem Scale* (Rosenberg, 1965) was developed to measure self-esteem. It is composed of 10 items reflecting attitudes that participants have about themselves (e.g., “I take a positive attitude toward myself”). The items are rated on a 4-point Likert-type scale (1 = *strongly disagree* to 4 = *strongly agree*). Higher scores are indicative of higher self-esteem. Multiple studies over the past four decades have demonstrated the validity of the instrument. For example, Rosenberg (1979) demonstrated a moderate correlation of the instrument with measures of mood. Studies using the scale report test-retest reliabilities ranging from .72 to .90 (Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001) and Cronbach’s alphas ranging from .77 to .88 (Blascovich & Tomaka, 1993). In this study, the alpha coefficient was computed to be .89.

Positive coping measures. The *Adult Dispositional Hope Scale* (Snyder, Harris, et al., 1991) is a 12-item measure of hope. Individuals are asked to indicate agreement with each statement (e.g., “Even when others get discouraged, I know I can find a way to solve the problem”), using an 8-point Likert-type rating scale (1 = *definitely false* to 8 = *definitely true*). Higher scores are indicative of higher levels of hope. The authors indicate that responses to the scale are highly correlated with several scales measuring similar psychological phenomena. The Cronbach’s alpha coefficients reported

by the authors ranged from .74 to .88. In this study, the alpha coefficient was computed to be .91.

The *Proactive Coping Scale of the Proactive Coping Inventory* (Greenglass, Schwarzer, & Taubert, 1999) is a measure of thoughts and behaviors related to goal setting and attainment. Participants are asked to rate their level of agreement with 14 items (e.g., "I always try to find a way to work around obstacles; nothing really stops me"), using a 4-point Likert-type rating scale (1 = *not at all true* to 4 = *completely true*). Higher scores are indicative of higher levels of proactive coping. The authors confirmed the scale's factorial validity and homogeneity using principal components analysis. High correlations with additional scales on coping style, related attitudes, and depression were also found. The Cronbach's alpha coefficients reported by the authors ranged from .80 to .85. In this study, the alpha coefficient was computed to be .91.

The *Sense of Humor Questionnaire-6* (Svebak, 1974) is a six-item measure of self-assessed sense of humor. Participants are asked to respond to a question or indicate level of agreement with a statement (e.g., "Would it be easy for you to find something comical, witty, or humorous in most situations?") on a 4-point scale (A = *very easy* to D = *very difficult*). Responses to each item are scored from 1 to 4 and summed for an overall sense of humor score. Higher scores reflect a greater level of sense of humor. The author found scores to correlate positively with scores on other measures of sense of humor and to be inversely related with scores on measures of depression and anxiety. The Cronbach's alpha reported by the author was .85. The alpha in this study was calculated to be .68.

Negative coping measures. The *Perceived Stress Scale-4* (Cohen, Kamarck, & Mermelstein, 1983) measures the degree to which an individual would appraise situations in one's life as stressful over the past month. Participants are asked to indicate how often they have felt or thought a certain way (e.g., "In the last month, how often have you felt that you were unable to control the important things in your life?") using a 5-point Likert-type rating scale (0 = *never* to 4 = *very often*). Higher scores indicate higher levels of perceived stress. The authors have shown the scale to be correlated in predicted directions with variables such as life-event scores, depression, and physical symptomology. The Cronbach's alpha coefficient reported by the authors was .60. In this study, the alpha coefficient was computed to be .77.

Dysfunctional attitudes were measured with an abbreviated 9-item version of the *Dysfunctional Attitudes Scale* (Weissman & Beck, 1978) developed by Lewinsohn, Joiner, and Rohde (2001). Individuals are asked to indicate the extent to which they agree with each item demonstrating dysfunctional attitudes associated with depression (e.g., "I should be happy all the time"), using a 5-point Likert-type scale (1 = *totally disagree* to 5 = *totally agree*). Higher scores reflect greater amounts of dysfunctional attitudes. In a previous

pilot study, the 9-item version was found to have a .93 correlation with the 20-item version of the scale (Andrews, Lewinsohn, Hops, & Roberts, 1993). The Cronbach's alpha coefficient reported by Lewinsohn et al. (2001) was .74. In this study, the alpha coefficient was computed to be .79.

The *Pain Catastrophizing Scale* (Sullivan, Bishop, & Pivik, 1995) is a 13-item instrument derived from definitions of catastrophizing described in the literature (e.g., Chaves & Brown, 1987). Participants are asked to reflect on past painful experiences and to indicate the degree to which they experienced each thought or feeling when experiencing pain (e.g., "I worry all the time about whether the pain will end") on a 5-point Likert-type scale (0 = *not at all* to 4 = *all of the time*). Higher scores are reflective of greater levels of catastrophizing. Validity analyses revealed moderate correlations with measures of depression, trait anxiety, negative affectivity, and fear of pain. In addition, the instrument contributed significant variance to the prediction of pain intensity. The Cronbach's alpha coefficient reported by the authors was .87. In this study, the alpha coefficient was computed to be .96.

Procedures

Human subject approval for this project was granted from the Florida State University Institutional Review Board. Participants were recruited with the assistance of the Florida Brain and Spinal Cord Injury Program (FBSCIP) and the Florida Spinal Cord Injury Resource Center (FSCIRC). Both agencies placed links to the survey online and were given hard copies of the survey to photocopy and distribute to clients without computer access. In addition, a link to the study was placed on the Web site of the National Spinal Cord Injury Association (NSCIA). One hundred twenty-three hard copies of the survey were returned from the two agencies in Florida and 119 surveys were completed online.

Results

The means, standard deviations, and correlations among the variables were calculated using the Statistical Package for Social Sciences (SPSS 15.0) for Windows and are shown in Table 1.

Structural Equation Model

All model estimations in the path analysis were conducted with AMOS 4.0 (Arbuckle & Wothke, 1999). The estimates of effects found through the analysis are shown in Figure 1. The effect estimates for the proposed model ranged from $-.11$ between positive coping and subjective well-being to $-.74$ between negative coping and positive self-worth. For the hypothesized model, a significant chi-square value was found, $\chi^2(29, N = 242) = 81.5, p < .001$. Thus, according to

Table 1. Means, Standard Deviations, and Correlations for all Variables ($N = 242$)

	M (SD)	1	2	3	4	5	6	7	8	9	10
Subjective well-being variables											
1. Life satisfaction	17.8 (8.6)	—									
2. Quality of life	91.6 (20.4)	.399**	—								
Positive self-worth variables											
3. Self-esteem	80.6 (21.4)	.496**	.333**	—							
4. Acceptance of disability	11.8 (3.0)	.405**	.149*	.656**	—						
Positive coping											
5. Hope	47.7 (11.9)	.385**	.167**	.604**	.515**	—					
6. Proactive coping	41.1 (8.7)	.367**	.180**	.628**	.573**	.811**	—				
7. Sense of humor	19.2 (2.8)	.240**	.078	.382**	.444**	.337**	.432**	—			
Negative coping											
8. Perceived stress	7.2 (3.7)	-.488**	-.163*	-.629**	-.604**	-.553**	-.531**	-.334**	—		
9. Dysfunctional attitudes	20.9 (6.7)	-.159*	-.129*	-.374**	-.280**	-.203**	-.120	-.151**	.341**	—	
10. Catastrophizing	18.8 (14.5)	-.368**	-.204**	-.567**	-.524**	-.379**	-.418**	-.435**	.562**	.325**	—

* $p < .05$. ** $p < .01$.

the chi-square test, the proposed model appeared to have a less than adequate fit with the data. However, a criticism of the chi-square statistic as a measure of model fit is that it is too sensitive to sample size (Ullman, 2001). More specific, as the sample size increases, the likelihood of finding significant differences between the estimated and the actual matrices also increases. In contrast, other goodness-of-fit indices are less affected by sample size.

An alternate measure that is commonly reported is the comparative fit index (CFI; Bentler, 1990). This index can range from 0 to 1, with values closer to 1 indicating a better fit, and indices above .95 indicating a very good fit. The CFI for the hypothesized model in this study was .94, suggesting an adequate fit of the model to the data. Another frequently reported comparative fit measure is the goodness-of-fit index (GFI). The GFI can also range from 0 to 1, with indices closer to 1 indicating a better fit, and indices above .95 indicating a very good fit. The GFI for the hypothesized model in this study was .98, suggesting a very good fit of the model to the data. Finally, another common measure is the root mean square error of approximation (RMSEA). The RMSEA represents the goodness of fit that could be expected if the model were estimated in the population and not just in the sample (Ullman, 2001). Hair, Anderson, Tatham, and Black (1998) suggested that values ranging from .05 to .08 indicate acceptable fit and values lower than .05 are indicative of excellent fit. The RMSEA found for the hypothesized model in this analysis was .09, suggesting that the hypothesized model did not provide a good fit for the data.

Model Respecification

Thus, when evaluating the fit of the hypothesized model, the results were mixed. The CFI (.94) and the GFI (.98)

values supported a good fit of the model to the data, but the chi-square (81.5) and the RMSEA (.09) values did not. This suggests that there is room to improve the fit of the hypothesized model to the sample data. Thus, respecification of the model was attempted to try to achieve a better fit of the model with the data.

To create a more parsimonious model, paths that had been specified in the hypothesized model but were not found to contribute to the prediction in the analysis were deleted from the model. The positive coping to subjective well-being path was eliminated in the post hoc model respecification, due to low critical ratio (-.29).

The resulting model is shown in Figure 2. The effect estimates for the paths in the respecified model ranged from .26 to -.74. When the goodness of fit of the respecified model was assessed, the chi-square value was once again significant, $\chi^2(30, N = 242) = 81.8, p < .001$, suggesting that the respecified model did not provide an improved fit for the data. The CFI and the GFI values for the respecified model were .94 and .95, respectively, both suggesting that the respecified model provided a good fit for the data. Finally, the RMSEA value for the respecified model improved to .08, suggesting that the respecified model provided an adequate fit for the data. Thus, all of the indexes for the respecified model supported the fit of the model with the data, with the exception of the chi-square statistic, which may be overly sensitive to the sample size in this study.

Discussion

The results of this study provide support for our predictions. Negative coping was found to have a negative association with both positive self-worth and subjective well-being. Feelings of positive self-worth were found to be

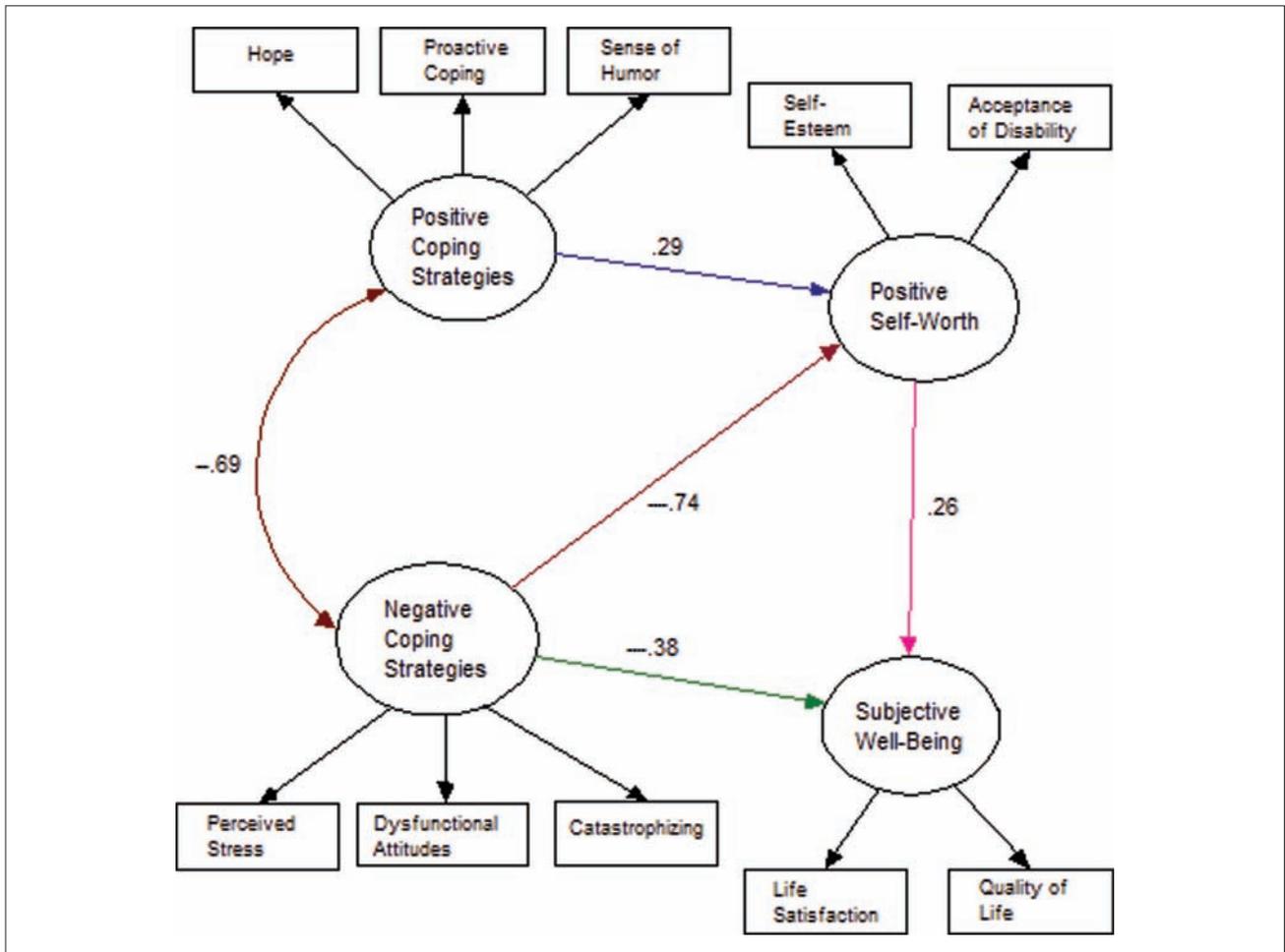


Figure 2. Effect estimates for the respecified model

positively associated with subjective well-being. In addition, positive coping appears to influence subjective well-being in a positive direction by first increasing feelings of positive self-worth. The findings of a negative relationship between negative coping and self-worth and subjective well-being are consistent with the literature (e.g., Livneh & Wilson, 2003; Vosvick et al., 2002; Wollaars et al., 2007). Individuals who adopt a coping strategy that focuses on the negative effect of the disability, minimizes the positive assets that the individual still possesses, and emphasizes what the person cannot do are said to have succumbed to the disability (Wright, 1983). Persons who succumb to their disabilities essentially devalue their own lives, precluding successful adaptation, or acceptance, of disability. Our findings provide additional support for the growing literature that coping strategies play an important role in the psychosocial adjustment of individuals with disabilities, and subsequently, in their quality of life.

The findings that positive self-worth and self-esteem are positively associated with subjective well-being find support in the extensive work of Diener and his colleagues on subjective well-being. Self-esteem, in particular, has been consistently found to correlate highly with measures of subjective well-being and life satisfaction (e.g., Diener & Diener, 1995; Diener & Emmons, 1984; Fordyce, 1988). An interesting finding has been that the more individualistic the culture of a country, the higher the correlation between self-esteem and life satisfaction (Diener & Diener, 1995). The importance of self-esteem therefore appears to vary across cultures.

There was not a direct relationship between positive coping and subjective well-being, however, as was found between negative coping and subjective well-being. Rather, the relationship between positive coping and subjective well-being appeared to be influenced by feelings of positive self-worth and self-esteem. This lack of a direct relationship

between positive coping and subjective well-being has been found elsewhere (e.g., Kohn, Hay, & Legere, 1994). Kohn and colleagues found that emotion-focused coping strategies had an effect on health and mental well-being; however, instrumental coping strategies (i.e., problem focused) failed to produce a positive moderating influence. The current results were consistent with this finding. Furthermore, evidence exists that there is an interrelationship between coping strategies, self-esteem, and health status, a component of subjective well-being. Individuals with high trait self-esteem have been found to employ more adaptive coping measures, resulting in better health outcomes, whereas individuals with low self-esteem and a greater tendency to ruminate had poorer health outcomes (Rector & Roger, 1996). According to Rector and Roger, self-esteem was positively associated with problem-focused efforts to manage stress and inversely with negative approaches to reduce stress. These findings were also similar to the results of this study. Rector and Roger, however, found that coping appeared to mediate the effect of self-esteem on health outcomes, whereas we found that self-esteem mediated the effects of positive coping on subjective well-being. The interrelationship of coping, self-esteem, and subjective well-being, therefore, appears to be complex and requires further study.

In summary, the structural equation modeling analysis indicates an adequate fit between the proposed model and the data. Clinically, the structural relationship among the predictor variables and the dependent variable in the causal model appears to be consistent with previous research findings. Positive coping appears to influence subjective well-being by first influencing an individual's feelings of self-worth and self-esteem. Negative coping, however, appears to directly influence subjective well-being and self-worth. This relationship has important implications for counseling persons with disabilities.

Implications for Rehabilitation Counseling Practice

An individual will likely experience an array of psychological and emotional reactions to the onset of a disability. Rehabilitation counselors in various settings recognize the importance of addressing psychosocial adjustment or adaptation to disability issues (Leahy et al., 2003) to improve rehabilitation counseling outcomes (Perrone, Perrone, Chan, & Thomas, 2000). Although theories of adjustment and adaptation to disability have provided insight into the process of adaptation, questions concerning the clinical utility of these theories continue to exist. Bishop (2005) suggested that a focus on quality of life in persons with disability may bridge the gap between adaptation to disability theory and practice. A further understanding of factors that affect quality of life is necessary for clinical application. This study explored how sense of self-worth and coping strategies relate to quality of

life in individuals with a disability. Counseling interventions to improve coping strategies and self-worth may be beneficial in improving the quality of life of persons with a disability.

Cognitive behavioral therapy focuses on the identification and modification of dysfunctional cognitions, the appraisal of stress and its effects, and the development of coping strategies. Therefore, it would seem applicable to counseling with individuals adapting to a physical disability that does not impair abstract conceptualization skills or their capacity for self-assessment (Swett & Kaplan, 2004). Research has demonstrated that cognitive behavioral interventions have a positive effect on coping and the quality of life of individuals with cancer, diabetes, HIV, and heart disease (e.g., Claar & Blumenthal, 2003; Fawzy, 1999; Fekete, Antoni, & Schneiderman, 2007; Graves, 2003; Scott-Sheldon, Kalichman, Carey, & Fielder, 2008; Tang, Brown, Funnell, & Anderson, 2008). Psychoeducational strategies, coping skills training, behavioral techniques, and cognitive therapy have also been effectively used to increase self-efficacy and coping skills and decrease depression and anxiety with individuals in medical settings (Fawzy, 1999; Graves, 2003; Rehse & Pukrop, 2003). Within the rehabilitation counseling literature, cognitive-behavioral interventions have also been discussed as appropriate interventions for addressing issues related to adaptation to disability (Livneh, 1980; Mpofo, Thomas, & Chan, 1996; Stewart, 1996; Swett & Kaplan, 2004).

Cognitive behavioral interventions that emphasize the reduction of negative reactions to disability, such as being adversely affected by stress, catastrophizing circumstances related to the disability, and developing dysfunctional attitudes, appear to have the potential to influence feelings of self-worth and subjective well-being. Such techniques as decatastrophizing and reframing can assist a person in viewing a disability as manageable and recognizing available coping resources. Decatastrophizing, also known as the "what if" technique, as an intervention may be beneficial when an individual overgeneralizes or "catastrophizes" the circumstances related to disability. Reframing is a cognitive technique used to modify a client's dysfunctional or maladaptive perception of a problem or behavior (Swett & Kaplan, 2004). Such techniques as decatastrophizing and reframing can assist a person in viewing a disability as manageable and recognizing available coping resources.

It is important for rehabilitation counselors to assess an individual's coping resources early in the rehabilitation process, in particular the inclination toward emotion-focused or avoidant-focused coping strategies. The use of an emotion-focused or problem-focused coping strategy is often dependent on whether the individual sees the situation as being within his or her control to change. In those situations where persons believe their actions will make a difference, they are more likely to employ problem-focused coping strategies

(Lazarus, 1993). Appropriately, and accurately, assessing an individual's coping response to a stressful event is a critical element to determine how best to assist the individual in developing and maintaining adaptive coping strategies. Rehabilitation counselors should consider interventions that increase individuals' coping repertoire and empower them to use already existing coping skills. Increasing an individual's coping resources and self-esteem are desirable goals for rehabilitation counseling. However, the manner in which self-esteem is pursued should be considered carefully as it can at times result in decreasing, rather than increasing, self-esteem. For example, whereas increased self-esteem has been found to reduce anxiety, the pursuit of self-esteem may increase it (Crocker & Park, 2004). Should a person fail at achieving meaningful goals in the pursuit of self-esteem, he or she could experience feelings of failure, worthlessness, shame, and sadness. Readers interested in applying interventions designed to improve an individual's self-esteem are encouraged to read Crocker and Park's excellent analysis on the costs of pursuing self-esteem, which include costs to autonomy, learning and mastery, relationships, self-regulation, and physical and mental health.

Clinically, however, addressing an individual's coping strategies and self-esteem to identify potential risk factors would likely enable the individual to regain much of the quality of life he or she experienced prior to the disability and help minimize physical and mental health costs. Cognitive and behavioral strategies such as cognitive restructuring, reframing, and decatastrophizing can be effective in influencing self-esteem among individuals with a disability. Rehabilitation counselors, in an effort to help consumers improve their quality of life, could routinely demonstrate and model these strategies in the course of participating in the rehabilitation program. This could lead to an improved quality of life for the consumer as well as more successful rehabilitation outcomes.

Limitations

Although this study provides findings consistent with others, it has several limitations. First, the sample of this study included only individuals with spinal cord injury and therefore findings may not be generalizable to individuals with other types of disabilities or chronic illnesses. Second, as the sample was not a random sample of persons with spinal cord injury, the resulting geographic and demographic restrictedness, proportion of males versus females, and small proportion of respondents from diverse ethnic and racial backgrounds also encourage caution in interpreting the statistical analyses and in generalizing the results to a larger population of individuals with disabilities. The reliance on self-report data within the study also suggests that the data must be interpreted with caution. Internal validity

is necessarily threatened by the operationalization of the independent and dependent variables. There are numerous coping strategies possible, yet this study assessed for only six. Positive self-worth and subjective well-being, as well as the individual coping variables, are complex constructs and it is possible to operationalize them by other strategies and variables.

Further Research

This study provides a model for understanding the relationship among various positive and negative coping, self-esteem, and subjective well-being among individuals with spinal cord injury. Continuing research to facilitate the understanding of these relationships would serve to refine and validate the model developed in this study. Replications with larger samples that included more diversity among the participants, including ethnic and disability diversity, would provide important information that could confirm the structure of the model as well as indicate important modifications. The constructs indicated in the model could be measured in future studies with multiple instruments, as well as by observation, providing a more accurate assessment of these constructs. Continuing research would allow for further clarification of the interrelationship among coping, self-worth, and subjective well-being and serve to facilitate the ongoing development of effective assessment and treatments for improving the psychosocial functioning of individuals with disabilities.

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