Negotiating Reality After Physical Loss: Hope, Depression, and Disability

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The utility of different reality negotiation strategies among 57 persons who had traumatically acquired severe physical disabilities was examined. It was predicted that a sense of goal-directed determination ("agency"; Snyder, 1989) would predict lower depression and psychosocial impairment since soon after injury. To meet the demands of rehabilitation and social integration, however, it was hypothesized that a sense of ability to find ways to meet goals ("pathways") would predict lower depression and psychosocial impairment among persons who had been disabled for a longer period. The expected interaction was significant in the prediction of psychosocial impairment but not of depression. The sense of pathways was predictive of impairment and depression regardless of the time since injury. Results suggest that in the reality negotiation process the different components of hope as defined by Snyder have salient effects on perceptions of ability to function in social capacities.

For decades the study of the psychologically healthy person primarily focused on the necessity of accurate reality perception. After reviewing the psychological wisdom of the day, Janoff-Bulman (1989) has proposed a two-factor model of reality negotiation. The propensity to negotiate reality is a cognitive process and has been found to have a variety of adaptive correlates among persons in commonplace and traumatic situations (Janoff-Bulman, 1989). These apparent consequences include higher levels of self-esteem, happiness, contentment, creative capacity, and productive work and an increased ability to empathize with others (Taylor, 1983; Taylor & Brown, 1988).

Snyder (1989) has proposed a two-factor model of reality negotiation encompassing protective and self-enhancing behaviors. Protective behaviors distance oneself from undesirable acts that would have negative implications on self-image (e.g., excuse making). Enhancing behaviors increase the personal connection to positive events (i.e., hope). Hope is theorized to have two primary components—agency and pathways—that interact to provide a positive motivational state. The agency dimension is the individual's sense of determination to meet personal goals, which provides the energy for the process of negotiation. The second component, pathways, is the person's sense of being able to meet personal goals successfully. Snyder, Irving, and Anderson (1991) have emphasized that the agency component provides the "will" to survive under adverse medical conditions and that the means for successful coping and adjustment involves the pathways component. People with a high sense of agency will remain psychologically buoyant under a stressful situation, and a high sense of pathways will likely result in the generation of a wide range of options for remedying the situation. Systematic study of these two hope variables has consistently shown results in predicted directions on measures of optimism, coping, desire for personal control, self-esteem, and psychological distress (Snyder, 1989; Snyder, Harris, et al., 1991).

The process of reality negotiation appears to be pronounced among people who experience traumatic accidents (Bulman & Wortman, 1977), degenerative physical disease (Taylor, 1983), and victimization (Janoff-Bulman, 1989). The components of hope, as postulated by Snyder (1989), may be particularly important to people who have sustained permanent physical losses accompanying chronic disease or debilitating injuries. These people have to maintain a sense of self-worth in spite of their losses, as well as engage in behaviors conducive to optimal psychological and physical adjustment.

Interestingly, many clinicians believe persons who traumatically acquire paralyzing disabilities (e.g., spinal cord injuries)
engage in a type of psychological “denial” soon after the onset of the injury (Wortman & Silver, 1989). An absence of depression, little acknowledgment of the concomitants of the injury, and expressed optimism regarding the eventual resumption of disrupted social roles and physical capacities are considered characteristic of denial (Knorr & Bull, 1970; Nemiah, 1957; Siller, 1969). Although anecdotal models of adjustment to spinal cord injury consider denial maladaptive and depression beneficial, empirical research has found denial to be related to internal expectancies for control (Lipp, Kolstoe, James, & Randall, 1968; Rosenbaum & Raz, 1977) and less psychological distress (Dinardo, 1971; Taylor & Brown, 1988) among these patients. Furthermore, research has also shown that depression is associated with greater difficulties in rehabilitation and social adjustment regardless of the time since injury onset (for a review, see Frank, Elliott, Corcoran, & Wonderlich, 1987).

Psychological adjustment following severe physical disability may be better understood in the context of hope and reality negotiation. People who sustain a debilitating injury may have very little information about the actual condition soon after injury other than the facts immediately available (e.g., being hospitalized and unable to walk). Initial displays of optimism and a lack of recognition of the extent of the injury may be activated by a sense of agency, in that the patient may be buttressed by goal-directed energy and a will to recover. As time in the hospital progresses, the patient will learn more about the injury and its concomitants. Although some of this information may be discouraging, remedies and options offered in rehabilitation may provide strategies for achieving personal goals and accelerating recovery. An individual with a high sense of pathways, then, would probably capitalize on physical therapies, self-care training, and discharge planning to expedite social integration.

The agency component could be operational in the denial process, staving off the negative impact of the situation until a clear direction for action can be found for the pathways component. In this conceptualization of hope, both a sense of agency and pathways are crucial to successful adjustment after the acquisition of a severe physical problem (Snyder, Irving, & Anderson, 1991).

The present study was conducted to examine the relationship of the two components of hope to the psychological adjustment of people with traumatically acquired physical disabilities. A cross-sectional design was incorporated to study the relationship of agency and pathways to depression and psychosocial impairment among persons who varied in the length of time since the onset of disability. Specifically, it was predicted that agency and pathways would be related to depression and psychosocial impairment. However, it was expected that the relationship of each component to psychological adjustment would be moderated by the amount of time since the onset of the injury: Higher levels of agency were expected to be associated with lower depression and impairment scores soon after the onset of disability, and it was expected that this relationship would diminish over time. The beneficial effects of agency should be pronounced earlier in injury, when an individual is confronted with a novel situation with many negative implications and little direction for adaptive coping. Conversely, it was predicted that a person’s sense of pathways would be weakly associated with depression and impairment early in injury, but over time these relationships should strengthen. The positive effects of pathways should be evidenced steadily over time as the hopeful individual integrates new information about the condition, rehabilitative strategies, and options that enhance societal and personal recovery.

**Method**

**Subjects**

Subjects included 45 men and 12 women with traumatically acquired spinal cord injuries (SCI). The average age of the sample was 36.72 years (SD = 13.01; range of 18 to 83 years). The average time since the onset of injury was 60.63 months (SD = 104.34; range of 1 to 452 months). Forty-four persons were receiving treatment at one of two university rehabilitation units, 6 were patients at a Veterans Administration medical center, and 7 were residing in an independent living facility.

Patients were approached individually and told that the study examined adjustment following SCI. Informed consent was obtained from interested participants, and the predictor and criterion measures were administered in a random order. Trained interviewers verbally administered the measures to patients, because many of those with high-level injuries required assistance.

**Predictor Variables**

The Hope Scale (Snyder, 1989) was used to measure the components of hope. The instrument contains 12 items that require a respondent to rate each on a 1 (definitely false) to 4 (definitely true) scale. Factor analysis has revealed two constructs, with four items loading on agency and four others on pathways (Snyder, 1989). The remaining four items are included as distractors. Test-retest reliabilities for the Hope Scale suggest temporal stability (.85 over a 3-week interval, .73 over an 8-week period, and .76 to .82 in 10-week intervals; Snyder, Harris, et al., 1991). The total score for the scale has exhibited modest correlations with measures of optimism (.58) and desire for personal control (.54; Snyder, 1989). Psychometric studies have yielded alpha coefficients for the two subscales within acceptable ranges (agency, .71 to .77, and pathways, .63 to .80; Snyder, Harris, et al., 1991). Similar alpha coefficients were observed in the present study (.77 for pathways and .73 for agency).

The second predictor variable, time since injury, was derived from the number of months transpired since the onset of injury for each patient. Participants reported the date of their injury, and time since injury was computed from the date of interview. All participants knew the date they incurred their physical disability.

**Criterion Variables**

The Inventory to Diagnose Depression (IDD; Zimmerman & Coryell, 1987) was used as a criterion variable. The IDD is a 22-item self-report instrument developed to measure depressive behavior (Zimmerman, Coryell, Corenthal, & Wilson, 1986). Test–retest reliability (98 over 2 days) and internal consistency coefficients (.92) have been impressive, and comparisons with interview systems and other self-report measures of depression have yielded acceptable correlations (ranging from .80 to .87; Zimmerman & Coryell, 1987; Zimmerman, Coryell, Corenthal, & Wilson, 1986; Zimmerman, Coryell, Wilson, & Corenthal, 1986). The sum of responses provides a total severity score that serves as a single index of depressive behavior. The total score was used in this study.

The Sickness Impact Profile (SIP; Gilson et al., 1975) was used to measure psychosocial impairment. The SIP is a 136-item questionnaire measuring health-related impairment in physical and psychologi-
The psychosocial subscale was used in this study. Items on this subscale tap functioning across categories of social interaction (e.g., "I am doing fewer social activities with groups of people"), alertness (e.g., "I do not keep my attention on any activity for long"), emotional behavior (e.g., "I laugh or cry suddenly"), and communication (e.g., "I do not speak clearly when I am under stress"). Respondents are asked to endorse only those items that describe their personal experience within the preceding 24 hr. Test-retest correlations of the SIP across several studies and time intervals have been consistently high (75 to .92) for the total score (Bergner, Bobbitt, Carter, & Gilson, 1981; Gilson et al., 1975). Validity coefficients resulting from comparisons with other measures of health-related dysfunction have ranged from .30 to .85 (Bergner et al., 1981).

Statistical Analysis

Pearson correlations were computed among the hope variables, depression, and psychosocial impairment. To examine the predicted relationships between the components of hope and time since injury on the criterion variables, separate multiple regression equations were then computed using the hope variables and time since injury as predictor variables. In each equation, time since injury was entered first, followed by a block containing the agency and pathways scores; a block of interaction terms (Time Since Injury X Agency and Time Since Injury X Pathways) was entered at the final step.

Results

The following means and standard deviations were observed on the predictor and criterion measures for the sample: Hope Scale total score, 25.25 (SD = 4.80); agency, 12.60 (SD = 3.53); pathways, 12.56 (SD = 2.73); depression, 13.35 (SD = 12.49); and psychosocial impairment, 13.65 (SD = 16.05). Correlations among the two factors of hope, time since injury, and the criterion variables are presented in Table 1. As expected, the total score on the Hope Scale was significantly related to the criterion variables. The negative correlations with depression (r = -.32, p < .01) and psychosocial impairment (r = -.44, p < .001) indicate that higher levels of hope were associated with lower depression and psychosocial impairment scores.

The first hierarchical regression tested the hypothesis that the components of hope would be significantly predictive of depression. The number of months since the onset of injury was not significantly predictive of depression, F(1,55) = 1.81, ns.

The block of Hope subscales was significantly predictive of depression, as predicted, F(2, 53) = 4.91, p < .05. This block accounted for 15% of the variance in the depression scores. The following beta weights resulted for the two Hope subscales: agency, $\beta = -.09$, $t(53) = .55$, ns, and pathways, $\beta = -.44$, $t(53) = -2.72$, p < .01. This pattern revealed that of the two components of hope, only pathways was predictive of depression. The block of interaction terms was not significantly predictive of depression, contrary to predictions, $F_{inc}(2, 51) = 1.91$, ns.

The second regression tested predictions regarding the relationship of hope to psychosocial impairment. The number of months since the onset of injury was not significantly predictive of impairment, F(1, 55) = .38, ns. The block of Hope Scale scores was significantly predictive of impairment scores, $F_{inc}(2, 53) = 5.09$, p < .01. This block accounted for an additional 22% of the variance in impairment. The following beta weights resulted for the components: agency, $\beta = -.01$, $t(53) = -.08$, ns; and pathways, $\beta = -.46$, $t(53) = -2.90$, p < .01. This pattern indicated that pathway scores were significantly predictive of impairment. The block of interaction terms was entered at the final step, and these terms were significantly predictive of impairment, $F_{inc}(2, 51) = 8.04$, p < .001. This block accounted for an additional 19% of the variance in impairment scores. The following beta weights were observed: Time X Agency, $\beta = 1.94$, $t(51) = 2.39$, p < .02, and Time X Pathways, $\beta = -.07$, $t(51) = -3.98$, $p < .0002$.

As can be seen in Figure 1, the interaction between agency and time indicates that subjects with a high sense of agency evidenced lower impairment scores soon after injury; but this relationship diminishes the longer the time since the onset of injury. Subjects with a lower sense of agency demonstrated higher levels of impairment soon after injury. This pattern, which is consistent with predictions, suggests that a sense of agency moderates the self-report of impairment in the early months following the onset of injury and that this relationship gradually fades the longer the person is disabled.

In contrast, Figure 2 depicts the Time X Pathways interaction, indicating that a higher sense of pathways is associated with lower impairment scores the longer the time since injury. Subjects with low scores on the pathways subscale reported more psychosocial impairment the longer they had been disabled. This pattern, which was also predicted, suggests that subjects with varying levels of pathways do not differ with respect to psychosocial impairment soon after injury, but as time passes the sense of pathways moderates the degree of psychosocial impairment. Both figures represent recommended procedures for analyzing significant interaction terms in multiple regression designs (Cohen & Cohen, 1983).

Discussion

The findings provide partial support for the primary hypotheses under examination and expand current understanding of the reality negotiation process. Hope, as defined by Snyder (1989), was significantly predictive of depression and psychosocial impairment among persons with acquired physical disabilities. The interactions of the two components of hope and time were predictive of psychosocial impairment, as hypothesized.
Pathways was significantly and inversely predictive of depression and impairment overall. Previous research has indicated that reality negotiation processes are more likely to occur when a person's self-esteem and sense of ability are threatened, making favorable self-presentation more probable and palatable to the individual (Roth, Snyder, & Pace, 1986; Sackeim & Gur, 1978; Taylor, Collins, Skokan, & Aspinwall, 1989). The measure of psychosocial impairment used in this study assesses individual behaviors within a social context including alertness, communication with others, affective displays, and mobility. Many items on the SIP objectively describe the harsh realities of acute inpatient care for persons with recently incurred SCI (e.g., “I am going out less to visit people,” “My sexual activity is decreased,” “I am not doing the things I usually do to take care of my children or family,” and “I express concern over what might be happening to my health”). Admitting these types of problems could have been possibly more threatening to self-esteem than depressive behaviors, because the former occur in a social context and carry negative implications about self-worth and perceived ability. Persons with a higher sense of agency and a recent injury may have made favorable self-presentations in their responses...
to this measure in an attempt to ward off anxiety and preserve self-esteem. Over time, this behavior apparently had served its purpose, and the recognition of constructive problem-solving strategies and options became more beneficial in decreasing purpose, and the recognition of constructive problem-solving to this measure in an attempt to ward off anxiety and preserve that were not necessarily threatening to their self-esteem (e.g., loss of weight and sleep disturbance) and perhaps common among their peers in the hospital environment.

The significant relationship between a person's sense of ability in generating successful optional strategies and psychological adjustment among individuals with severe physical disability coincides with other research. A recent study has found that patients who appraise their problem-solving skills as effective are less depressed and impaired, and more assertive, than persons with self-appraised ineffective problem-solving skills (Elliott, Godshall, Herrick, Witty, & Spruell, in press). Other studies have documented direct relationships between internal expectations for control and lower levels of distress (Dinardo, 1971; Frank, Umlauf, et al., 1987; Shadish, Hickman, & Arrick, 1981). Interpretation of this work has been limited by the lack of research linking the usefulness of short-term adaptation processes with successful long-term adjustment (Schulz & Decker, 1985, p. 1171). Results of the present investigation indicate that the process of adjustment involves complex and dynamic cognitive strategies to navigate the conditions imposed by acquired physical disability.

It should be noted that the present study found an indirect relationship between chronicity and psychosocial impairment. Despite early clinical assumptions that time passage is related to psychological adjustment, empirical research has generally found no meaningful associations between chronicity and psychological indices of adjustment (Frank, Elliott et al., 1987; Wortman & Silver, 1989). Longitudinal research is required to clarify the exact relation between psychological adjustment of people with acquired physical disability and the presumed healing properties of time.

References


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