The Meaning of Sea Kayaking for Persons With Spinal Cord Injuries

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Objectives. Research has described benefits of physical, athletic, and avocational activity on improving self-esteem, quality of life, and locus of control in persons with disabilities. The objective of this study was to identify meaningful components of the experience of sea kayaking as described by persons with spinal cord injury (SCI).

Method. Three subjects with SCI who had participated in recreational kayaking were interviewed. Qualitative research methods included strategies from Guba's model for rigor in qualitative research, Spradley's interviewing guidelines, and Good's method of semantic network analysis. Three interviews of approximately 45 min in length were conducted with each subject. Initial interviews began with a single question: "Tell me about sea kayaking." Subsequent questions contained only concepts and terms used in the subjects' responses.

Results. The subjects valued the novelty, challenge, safety, sociability, and natural environment aspects of sea kayaking. Perceptions of the self as able in the eyes of others and the need for support in pursuit of outdoor leisure activities were themes that figured prominently in the subjects' discourse.

Conclusion. Subjects' comments indicate that meaningful time use and the construction of an identity after injury are linked. This link has also been suggested in the rehabilitation literature. This information suggests the use of therapeutic intervention that supports a person's adjustment to an irreversible SCI.

Persons find meaning in leisure activities because they engage in them by choice, not out of necessity. Engaging in leisure activities may provide opportunities for social interactions as well as a means for balancing one's lifestyle to promote health and enhance quality of life. When a person sustains a spinal cord injury (SCI), access to activities that once had meaning may become limited. Wilderness experiences, including camping, skiing, white water rafting, and kayaking, present particular challenges for persons with SCI who wish to pursue them. There are now many outdoor adventure organizations whose primary goal is to enhance access to various outdoor activities for persons with disabilities.

A basic theoretical assumption in occupational therapy is that engagement in activities is related to life satisfaction. Thus, one function of the occupational therapist is to enable patients' participation in activities for which they report high levels of interest yet have low levels of satisfaction (Yerxa & Baum, 1986). One way to assist patients with SCI in pursuing valued and personally meaningful activities is to inform them of the resources available to them. Furthermore, rehabilitation professionals have long held that physical, sporting, and avocational activities benefit persons with disabilities and have con-
ducted studies to prove this assumption (Kinney & Coyle, 1992; Rogers & Figone, 1978; Stotts, 1986; Valliant, Bezzu-
hyk, Daley, & Asu, 1985). Little has been written, however,
to convey an insider’s perspective on how it is that such activities benefit persons with disabilities.

Background
Balance in aspects of work, activities of daily living, and leisure is important for the well-being of persons with and
without physical impairments. Occupational therapists help persons with disabilities explore new ways of maintaining that balance. This process includes looking at a person as a whole, discovering what personal goals are most important to that person, and assisting in the development of adaptive skills for attaining his or her goals (Davidson, 1991).

Bundy (1993) stressed the importance of play and leisure activity in occupational therapy. She defined play as being intrinsically motivated and internally controlled and as an experience that freed a person to suspend aspects of reality. Further, Bundy asserted that loss of choice in play or leisure activity is a loss of something essential to volition and individuality.

The pursuit of leisure activities, such as athletics, to promote health is a common theme in rehabilitation literature. Stotts (1986) identified some of the benefits of physical activities for athletes with paraplegia. Such benefits included increased strength, coordination, and endurance. Kinney & Coyle (1992) documented a correlation between increased recreation and decreased secondary problems, such as infection, skin breakdown, and weight gain, in persons with disabilities.

The focus on benefits of physical activities has included psychological factors as well. Stotts (1986) found that for athletes with paraplegia, physical activities decreased psychological problems such as depression, isolation, and mental inactivity; increased the probability of achieving rehabilitation goals; facilitated social interactions; and provided rewards and satisfaction in everyday living. Valliant et al. (1985) noted that sports allowed persons with disabilities to escape the aversive settings to which they had been confined. More important to therapeutic treatment, sports provided a means of focusing patients’ energies toward their goals. Valliant et al. (1985) determined with various standardized measures that athletes with paraplegia had higher self-esteem, greater life satisfaction, more enhanced mood, and higher education levels than a nonathletic group.

In a study that examined the impact of quadriplegia on avocational pursuits, Rogers and Figone (1978) suggested that exploratory learning and pursuit of competence in sports and other leisure activities facilitated avocational decision making. In addition, their study provided therapists with guidelines for avocational counseling. Results suggested that a person’s interests before sustaining a disability may be good indicators of his or her interests after the disability. Rogers and Figone (1978) identified a need for improved avocational training programs. “Since avocational training falls under the purview of OT, imaginative, deliberate programming is needed to enhance life satisfaction of persons with quadriplegia” (p. 576). Green, Pratt, and Grigsby (1984) suggested that persons with disabilities are capable of achieving a quality of life comparable to nondisabled persons in areas of life satisfaction, happiness, and locus of control.

Self-esteem, quality of life, mood, happiness, and locus of control are constructs used in the literature to label positive changes brought about by physical activity, social activity, or athletic pursuits among persons with physical disabilities. Sea kayaking is one such activity. With the proper support, sea kayaking is safe, physically beneficial, and has normalizing aspects. Janet Zeller, a kayaker with a disability and coauthor of Canoeing and Kayaking for Persons with Physical Disabilities, described the normalizing aspects of the sport: “On the water I am just another sea kayaker” (Webre & Zeller, 1990, p. ii). Numerous stories in therapy-related newspapers, such as OT Week and OT News, provide evidence of therapists’ interest in outdoor activities for persons with disabilities.

The studies reviewed in the preceding paragraphs show that when the effects of physical activity involvement were examined and quantified with standardized measures, positive changes were demonstrated. Such designs, however, do not explore the process by which such change occurs. When an internal process, such as change in self-esteem or perception of quality of life, is the focus of research, qualitative methods of data collection are most appropriate (Krefting, 1989; Schmid, 1981; Spencer, Young, Rintala, & Bates, 1995). The purpose of this study, therefore, was to use a qualitative method to explore what meaning persons with SCI ascribed to the experience of sea kayaking.

Method
Design
An ethnographic approach was chosen to explore the process and meaning of sea kayaking for persons with SCI. Schmid (1981) stated that “among health professionals there has been a growing interest in a research paradigm that is responsive to questions of a holistic nature, questions that generate complex knowledge about how an individual perceives himself” (p. 105). This study was not intended to measure positive effects, which have been documented in the studies previously mentioned, but rather to examine the processes that may underlie positive change from the person’s point of view.

Subjects
Subjects were persons with SCI who had participated in
Data from the subjects were collected over a series of activities outlined by Spradley (1979), with the second author, an experienced qualitative researcher. Interviews began with a single ‘grand tour question’ (Spradley, 1979, p. 62): ‘Tell me about sea kayaking.’ Questions that followed, as recommended by Spradley, were descriptive and contrast questions structured according to the subjects’ use of language; that is, the interviewer avoids using terms or introducing topics that the subject has not spoken of. In this way, the direction of the interview is determined by the subject, and the interviewer’s neutrality is enhanced. The goal of this interview style is to assemble a representation of the subject’s mental map of his experience that preserves his or her cognitive categories and structuring principles.

In addition to adherence to Spradley’s guidelines, Guba’s model of rigor in qualitative research (based on Krefting’s [1991] presentation) was chosen to guide this study. Among the constructs of trustworthiness relevant to qualitative studies are procedures to ensure truth value and neutrality. Truth value was ensured by triangulation of data sources. A kayaking guide and a recreational therapist who accompanied the kayakers with SCI also were interviewed. A second triangulation compared interview data, the first author’s field notes, and a published account of kayaking with a disability (Webre & Zeller, 1990). Neutrality was ensured at the level of data analysis through code-recoding and member checking procedures described in the paragraphs that follow.

Each interview was audiotaped and transcribed. Content of the interview was analyzed, and themes that emerged were coded. In addition to theme analysis based on coded concepts apparent in the subjects’ discourse, the semantic network technique of analysis used by Good (1977) was applied to the interview transcripts. This technique involved examining ‘sets of words, experiences, and feelings that typically run together’ (Good, 1977, p. 27) to better understand a person’s experience. In this study, co-occurrence of words and phrases used to describe experiences after disablement were mapped and represented visually as well as textually. Such visual mapping, or drawing of a web, was useful in connecting concept words in the subjects’ discourse.

After data analysis, subjects reviewed and evaluated the thematic analysis to ensure that it was representative of their experiences. This member checking was done to enhance transferability and credibility of data (Krefting, 1991; Sandelowski, 1986). The subjects enthusiastically approved of the themes presented at this step.

In accordance with Guba’s guidelines for truth value and neutrality (Krefting, 1991), the second author analyzed the middle half of the transcripts to recode themes independently. The themes she identified closely matched those of the first author.

**Themes**

Seven primary themes were generated exclusively from

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the interviews with the subjects: atmosphere, social interaction, adjusting, healthy life-style, “I can do this!”, safety, and a need for support. All themes were interconnected but are divided here to facilitate their discussion. The connections among themes will become apparent as they are presented.

Atmosphere

The first theme of meaning identified at the outset of each interview was the concept of kayaking as a “whole other world.” This phrase was consistent, almost verbatim, across the three subjects. For example, to describe this feeling one subject said, “You get excited about nature, clouds, and the currents . . . .” A day on the water was consistently described in terms of an overall feeling of “high” — a feeling of “being totally relaxed” and “laughter that’s not forced, but laughter from having done something fun. It’s one of the best highs you can have.”

“Fun” was a central concept that recurred for the three subjects. In fact, one subject used the word fun 47 times in 45 min to describe the experience of sea kayaking. When data were examined to ascertain elements that constituted “something fun,” the “other world” aspect of the aquatic outdoor environment was the most common co-occurrence. Relaxation, peace, and descriptors of the social aspects of kayaking were also mentioned in proximity to fun in the text of the interviews.

Social Interaction

The second theme described kayaking as a way to socialize with other persons with SCI but with the emphasis shifted from the injury to sea kayaking. On the water, the subjects provided support and encouragement to each other. Likewise, they shared the experience of taking on a new challenge and succeeding. In this environment, friendships developed, and according to subjects’ accounts, some have lasted to provide further support and encouragement in exploiting other activities.

Adjusting

The third theme was expressed in terms of adjusting to an SCI. Two areas were discussed: “coping with the hard times” and making use of excess leisure time. In their own ways, the subjects spoke of their senses of loss. Each one characterized sea kayaking as an activity that helped redefine what life was about. “From walking around for 35 years, to being in a chair . . . . that’s a difference! . . . Coping with the hard times, when you think you’ve lost it all . . . . Kayaking helped me get through it.” Sea kayaking was described as a means of defusing the stress of adjusting to drastic life changes inevitable with an SCI, as well as representing something to look forward to at a time when the focus of life was primarily on rehabilitating.

All the subjects spoke of the newness and unease of having a sudden excess of unstructured time after their injuries. Their alternatives were described with phrases such as “days spent watching [game shows on television],” and without activities to look forward to, “I'd go nuts,” “I’d go insane,” or “Why get out of bed?” Overall, the kayaking activity was characterized as something that provided some new meaning to their daily routines.

In the subjects’ discourse, talk about use of free time was linked to engaging in new activities. Although persons with SCI who were new to kayaking were not purposely sought for this study, the three subjects had become involved with this sport only after their injuries, and, for each, the novelty of kayaking figured prominently in the positive evaluation of it. For example, Subject 3, who had played basketball in college on scholarship, was encouraged to participate in wheelchair-based team sports after her injury. She joined a “quad rugby” team without much satisfaction: “I try to get involved with new things because doing things I did before, like team sports, is too frustrating.” Furthermore, newness was characterized as an important factor in allowing one to “move on.” In the visual maps of the subjects’ discussions, the positive evaluation of the newness of kayaking was not only linked to excess leisure time but also contrasted to the perceived focus of their rehabilitation, namely, regaining independence in familiar activities rather than taking on completely new ones.

I Can Do This!

The fourth theme stemmed from the experience of undertaking a novel activity and discovering that “I can do this!” Part of this discovery included having overcome the challenge of doing something “I never thought I could do.” Three key pieces of this experience were defined as personal competition, success, and sharing the experience with others.

Competition against myself, trying to get better and better with the ability I still have. Instead of dwelling on what I can’t do, focus on what I can do, then try to improve to the point where I can tell I’m getting better . . . . Then I feel I’m still OK.

The belief of being “OK,” of being successful, was consistently identified by subjects as important for building the self-esteem and self-confidence that generalized to other areas of life. Pushing the old and setting new limits for oneself was expressed as an important part of the rehabilitation process. With this new achievement, subjects found themselves able to redefine themselves with regard to both their own perceptions of their abilities and society’s perceptions of what persons with SCI can do. “I’m just as able as anybody else, when I’m in a sea kayak.” This description of the normalizing aspects of kayaking echoes Zeller’s, as noted earlier in the back-
Subjects expressed that sharing this positive experience with others was rewarding. One spoke of the satisfaction he felt when approaching someone in the hospital with a recent SCI and saying to him, “I just went kayaking and you’ll be able to do it too!”

Healthy Life-Style

The fifth theme identified was that of promoting a healthy lifestyle through physical activity. Health was discussed in terms of both physical and mental well-being. The physical benefits reported included increased strength and stamina. Kayaking challenged subjects to work on improving balance. One subject identified kayaking as being an activity in which one puts to practice the skills learned in the clinic setting. “All the work you put into rehab, you realize that’s why we did that over and over. [With] kayaking you can still use everything you worked so hard to gain.” Additionally, each subject advocated for the importance of being active, “It’s healthier for anyone. I feel better when I work out.”

Safety

The sixth theme identified was a feeling of safety. One subject commented, “I really did, I felt safe in a kayak.” The subjects recounted initial fears of being caught under a boat and drowning. The recreational therapy program in which the subjects participated provided in-pool sessions where rescues and wet water exits (i.e., exiting a kayak that overturns while on the water) were taught and practiced. These sessions reinforced that kayaking, with proper precautions, is safe. One subject said, “As far as kayaking itself . . . I really don’t have any worries. I think probably the biggest worry would be getting lost. I have no sense of direction!”

After the initial fears of drowning were alleviated and a day was spent on Puget Sound, the consensus was that the greatest concern was getting wet and cold, the quick and simple remedy being warm clothes and spare dry clothes. “The worst thing that could happen is that someone gets discouraged and would never try again.”

One subject recounted capsizing his single kayak while trying to adjust his seating. This situation was described by the other subjects as well: no one panicked, the recreation therapy leader got him up on land, into dry clothes, and back into the boat! The subject who capsized his boat, thereby earning the nickname “Flipper,” said, “Even if you do flip a kayak . . . it’s safe. I mean, you aren’t gonna drown . . . you look at the fish. If you tip over . . . just learn how to bail out.” The experience of capsizing, or watching someone else capsize a boat, was portrayed as a confirmation that kayaking is safe, with proper support and organization.

Feeling safe in a kayak was also reported to enhance the belief of “I can do this” and included an increase in self-confidence. Kayaking was seen as another challenge conquered.

A Need for Support

The seventh theme identified from the data was the subjects’ perception of a need for greater awareness among rehabilitation professionals of nontraditional rehabilitation activities.

“I just wish there was more awareness out there [about activities that persons with SCI can do]. But it seems there really isn’t an awareness when you have to explain what you want and what you’re going to do and they just look at you like, “Really, you’re going to do what?”

Each subject expressed a desire for more support in pursuing kayaking and other outdoor activities. “The more there is out there for people in my situation to do, the better off we are. We won’t be sitting all day long doing nothing.”

Other Perspectives

Through triangulation of the data, striking similarities among the discourses of subjects, kayaking guide, and recreational therapist, who is also a kayaker, were documented. The congruence of descriptions of this experience may be partially explained by a unique component of kayaking. Kayakers with or without disabilities experience essentially the same thing—being on the water and paddling. There is no coach, no referee, and no wheelchair. Few other recreational activities provide the setting in which a person with SCI can feel such equality. As the recreational therapist who had experience in guiding kayakers expressed it, “One of the best things about kayaking may be that it takes the wheelchair out of the activity.”

The recreational therapist identified two topics untouched by the others interviewed. One topic was the premorbid life-style of the typical person with SCI. Although none of the subjects with SCI identified themselves as risk takers, they all stated that having challenges in their lives was important. The therapist elaborated on this concept by suggesting that persons with SCI tended to pursue high-risk life-styles before injury, and risk taking remained an aspect of the construction of their identities after injury.

The second insight offered by the recreational therapist concerned the need for interdisciplinary cooperation. She foregrounded the contributions made by occupational therapists in analyzing problems and implementing adaptations to seating systems and paddles.

Discussion

Perhaps sea kayaking is as novel to the reader as it was to
the subjects of this study. Thus, we offer an activity analysis that draws upon the experiences of the first author, who has kayaked with persons without and with a variety of disabilities, including quadriplegia. This analysis will facilitate and inform the broader discussion of findings that follows.

Sea kayaking uses a larger, more stable craft than river kayaking and is an activity that may be graded to a person’s ability and comfort on the water. For some, participation may be paddling; for others, it may be riding in a double kayak paddled by a guide. Kayaking provides a variety of therapeutic opportunities for persons with quadriplegia, whether independent, assisted, or dependent.

There is a unique sensory component to kayaking: vestibular stimulation in numerous planes, simultaneously, provided by the boat rocking on the water. King (1974) stated that “vestibular stimulation is a basic and important source of pleasure for the normal human” (p. 533). Perhaps this sensory input accounted for some of the “fun” experienced when kayaking. All paddlers experience these sensory components, regardless of the amount of active participation in the task.

The motor components for transferring in and out of the boat and for paddling include postural stability and control, balance reactions, trunk rotation, upper extremity range of motion and strength, bilateral reciprocal movement, and cylindrical grasp. Because of their incomplete quadriplegia, the three subjects were able to paddle single kayaks independently and needed assistance only with getting into, getting out of, and launching the boat. Depending on individual needs, however, adaptations may be made to make kayaking possible for persons with complete quadriplegia or higher level lesions than those of the subjects. As mentioned above, the double kayak with a capable paddler can be used for persons who need assistance or are dependent. Not all of the themes of meaningfulness extracted from the study data can be expected to be part of the experience of the dependent kayak rider. It is important to note, however, that both the social relationships and the environmental and sensory aspects of water travel were identified as part of the overall fun of this leisure activity.

Seat supports, seats with removable backs, quick-release safety belts, nonslip inserts, or simple paddling with foam and duct tape can be used to adapt a boat for a person with positioning and trunk control concerns. To reduce balance demands, a boat may be weighted down with extra gear stored in the hull, or seats can be adjusted to give the kayaker a lower center of gravity. Adapted mitts and self-gripping straps can help supplement grasp for a person who has difficulty holding a paddle. Strength in the triceps, shoulder depressor, and protractor muscles is essential for active paddling, just as it is for manual wheelchair propulsion. There is no formula to predict level of independence in kayaking, however. Attitude is an important part of the potential (Webre & Zeller, 1990).

Results of this study are consistent with the literature (Green et al., 1984; Rogers & Fijone, 1978; Valliant et al., 1985) in that sea kayaking as a physical activity is recognized by participants as a way of promoting a positive physical and mental change. In describing what makes kayaking meaningful, important, or fun, subjects described a process in which a challenging and novel activity undertaken with others in a natural setting allowed them to confront issues of safety, to succeed, to feel competent, to adjust to an excess of leisure time, and to redefine life or self. Each subject spoke about initial safety concerns and fears and of overcoming them. It is important to reiterate that the interviewer followed Spradley’s method and did not introduce the topic of safety, or any other issue, unless it was raised first by the subject.) A therapist who knew the three subjects thought that perhaps their positive feelings were connected, in part, to a desire to take risks. Subjects did not mention risks, but spoke of needing challenges to overcome. Feelings of competence and mastery were linked to self-perception and to the perceptions of others in society.

The subjects raised issues that resonate with those extant in other rehabilitation literature. Murphy (1990), an anthropologist who sustained an adult-onset quadriplegia, wrote of his experience, “I had acquired a new identity that was contingent on my defects and that either compromised or radically altered my prior claims to personhood” (p. 110). When a person sustains an irreversible injury, skills and unique qualities of self that have taken a lifetime to develop are lost. When previous means of self-expression and areas of recognized competence and identity are taken away, the self must be redefined. The process of redefining self does not occur in isolation but in the interaction with others. Subjects spoke with satisfaction about engaging in an activity that most would think impossible for persons with disabilities.

The International Classification of Impairments, Disabilities, and Handicaps (ICIDH) defined the term handicap as being “characterized by a discordance between the person’s performance or status and the expectations of a particular group of which he is a member” (World Health Organization [WHO], 1993, p. 29). Handicap then presents as a social phenomenon, suggesting the locus of disadvantage to be in the interaction of cultural norms and the persons’ abilities to conform to them, given their impairments. One of the norms of an industrial society is the value placed on efficient and structured time use and the resultant productivity. Occupational therapy’s professional philosophy echoes European-American values of structured time use. According to Kielhofner’s Model of Human Occupation (Kielhofner & Burke, 1980), our playful and productive output provides our systems with feedback that enables us to follow a healthy trajectory toward an imagined future. The ICIDH defined one of several dimensions of roles as the need to “occupy time in a fashion customary to his sex, age and
culture, including following an occupation or carrying out physical activities such as play and recreation” (WHO, 1993, p. 39). The subjects described their concern with using their time meaningfully, defining themselves as competent (in the face of cultural norms that make imagining competence with a disability difficult), and coping with a sudden excess of unstructured time. The subjects seemed more pleased to see themselves as persons who felt safe conquering challenges presented by an unpredictable natural environment than to accept an identity defined by the confines of living quarters, paved surfaces, and passive leisure. Perhaps for this reason their accounts emphasize the value of an outdoor environment, novelty, and challenge.

Conclusion and Implications for Future Research
Qualitative research is useful in illuminating internal processes to assist in the understanding of human behavior, raising new questions for future research, and helping to define what might be important factors to explore in explaining human phenomena. Because kayaking provides outdoor adventure, novelty, and challenge and lessens the difference between ambulatory and nonambulatory persons, we cannot be certain that these are prerequisite qualities for activities to have value in helping those with adult-onset disability construct a positive new self-definition. In this study, we only asked about kayaking and did not draw comparisons across activities or start with the request “Tell me about life with a spinal cord injury.” Still, subjects voluntarily contrasted their kayaking experiences with those of wheelchair sports or rehabilitation activities. Given the strength and consistency with which the novelty, challenge, and outdoor adventure of kayaking were mentioned, it is reasonable to conclude that these aspects of activity were important to the subjects and contributed to their overall positive evaluation of kayaking and to identify that these aspects are worthy of further exploration. Consistent themes that emerged in this study (use of novelty and challenge in adapting to an SCI), combined with the interpreted themes of identity construction and meaningful use of time, suggest that rehabilitation processes that do not include opportunities for novel activities may fail to satisfy the need to reconstruct an identity.

As the subjects described, the change from “Why get out of bed?” to “I can do it!” and “You can do it too!” enabled identification of some of the undefined variables needed to assist occupational therapists in developing discharge programs that are meaningful to the patient. Unfortunately, as seen in the subjects’ theme of “a need for support,” many health care providers may be unaware of sea kayaking and other outdoor adventure activities as therapeutic possibilities.

Spindel et al. (1995) used ethnographic interview with an adult with a newly acquired SCI to illuminate the process of identity reconstruction during the inpatient phase of rehabilitation. A central theme that emerged with their subject was the need to connect the new self with past experiences of self. Spencer and her colleagues’ findings, taken together with the findings of the present study, describe a direction for future research: considering the roles of novelty and familiarity in identity reconstruction after SCI. Both studies also point to the importance of periods of transition from life before an injury to the rehabilitation phase and from hospital rehabilitation to the return home. More research is needed to identify ways to enable these transitions, with particular emphasis on the attributes of novelty and challenge, meaningful use of time, and identity construction. Qualitative studies addressing patient satisfaction after reentering the community may provide further insight into more effective interventions, which may then be adopted into rehabilitation plans.

References


