



Adventure Programming

**Self-concept, Attitude and Satisfaction Benefits of Outdoor Adventure Activities:
The Case for Recreational Kayaking**

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Introduction

For the past five years, a number of organizations in the Greater Victoria area, including Gorge Road Hospital, Pearson College, University of Victoria, Recreation Integration Victoria and Ocean River Sports have been involved with a project designed to introduce kayak touring as a lifetime recreational activity which would fully include people living with various disabilities. The project started when a group of people interested and active in ocean kayaking began to realize that the activity that they themselves enjoyed seemed to exclude some of their peers and friends. At the same time, it seemed that the activity of kayaking was somewhat unique in that it did not place a severe penalty on those with limited mobility, did not demand a great deal of muscular power, did not require the memorization and immediate recall of long lists of rules and regulations, was somewhat forgiving to those with balance difficulties, and was traditionally practiced by groups of social peers with varying levels of paddling abilities. It seemed to us that, with some alteration to the kayak itself, the activity could become easily accessible to many more community members.

We were also quite aware through personal experience that, for a number of reasons, many people with disabilities had been traditionally steered away from risk-oriented outdoor adventure activities by the medical profession, parents, educators, recreation practitioners and even advocates. This being the case, our first efforts had two main thrusts: (1) to provide an opportunity for people with disabilities to "try out" or sample a kayaking experience and (2) to adapt standard kayaking equipment in order to provide a safe yet challenging experience. The first thrust was based on the notion that if a person had not tried an activity, s/he could hardly make an informed decision about whether or not they might enjoy continuing it. True choice (a foundation of both of the concepts of recreation and leisure) cannot exist in the absence of viable alternatives. To this end, a series of introductory lessons and paddling trips were offered through a consortium of local municipal and regional recreation departments. Although these experiences were aimed at encouraging participation by people with disabilities, they attracted a mix of both these individuals and their able bodied peers. The second thrust was based on the idea that a person would be foolish to choose to participate in an equipment intensive activity if the equipment available was uncomfortable or unsuitable for their personal physical requirements. With considerable guidance from participants with disabilities, we designed and constructed an adapted kayak with (1) a removable upper hull for ease of entry and exit, (2) seating designed for comfort and freedom of movement, (3) variable external floatation to increase kayak stability and (4) both a sip and puff and remote control rudder system so that paddlers with lower body mobility difficulties could successfully steer the kayak.

This put us at a point where we had a substantial group of people interested in pursuing kayak touring as an outdoor adventure activity. As well, we had adapted equipment and made it available through a "loan-out" system; that made the cost of participation for paddlers who needed adapted equipment, at least on a trial basis, more manageable. Most importantly, we recruited and provided training sessions and on-water assistance for commercial kayak tour operators to encourage them to recognize and respond to a new target market group, paddlers with disabilities.

However, we soon began to recognize that encouraging and facilitating kayaking as an outdoor adventure activity was one thing, while sustaining participation was entirely another matter. We firmly believe that while a group such as ours can assist in the empowerment process, it must be sustained by individuals themselves. If some of our participants with disabilities wished to continue the activity on as much of an independent basis as possible, both mainstream recreational agencies and organizations targeting people with disabilities needed to be convinced that this particular activity, which fits our geographic location so well, could provide benefits other than the simple pleasures of paddling. We then began a study exploring the effects of a twelve week recreational kayaking program on the self-concept, leisure satisfaction and leisure attitude of one specific group of individuals living with a disability, traumatic brain injury.

Traumatic Brain Injury

The National Head Injury Foundation (1989) estimates, that each year, survivors of a severe traumatic brain injury are left with impairments of such a degree as to preclude their return to normal life. Brandstater, Bontke, Cobble and Horn (1991) suggest that 50,000 to 70,000 persons who have sustained a traumatic brain injury are classified as having a moderate to severe injury. Survivors will have a life span approaching normal but must cope with a combination of permanent cognitive, physical, behavioral, emotional, and/or psychological deficits (Direnfeld, 1990; Zoerink & Lauener, 1991). Often the cognitive and emotional impairments of memory, attention, planning, problem-solving, judgment and self-control pose problems for survivors throughout their lives (Stumbo & Bloom, 1990).

As with most other traumatic injuries (i.e., spinal cord), medical science has improved to the degree that a large number of people are surviving traumatic brain injury with more severe brain damage. This growing number of traumatic brain injury survivors has resulted in an increased need for rehabilitation services (Bullock & Howe, 1991; Fazio & Fralish, 1988). However, largely due to economic factors, the amount of time available to hospital-based professionals to accomplish treatment goals is diminishing as the length of stay in hospital decreases (Bullock & Howe, 1991; Stumbo & Bloom, 1990). The implication of this constraint means that there is also a reduction in the scope of treatment which can be completed during the stay in hospital. The treatment of individuals with traumatic brain injury does not end upon discharge. Treatment must continue throughout their lives (Stumbo & Bloom, 1991). Dryovage and Seidman (1992) stated that the "long term supports for the TBI client must address and is defined by their living environment, work life, recreational pursuits and development, and maintenance of social network" (p. 13). Leisure and recreation programs are a significant component to community reintegration of individuals with traumatic brain injury (Dryovage & Seidman, 1992; Fazio & Fralish, 1988; Stumbo & Bloom, 1990). Paulsen (1984) stated that "appropriate management of discretionary time enhances the client's expression, self-concept, social interaction skills, and community involvement" (p. 76). Active recreation programs for individuals with a traumatic brain injury are relatively new and unexplored in terms of beneficial

and contraindicated effects (Bullock & Howe, 1991; Fazio & Fralish, 1988). Data describing the effectiveness of active recreation could prove valuable in supporting further efforts of recreational professionals seeking justification for the use of active recreation in aiding client recovery and community reintegration.

Kayaking as an Outdoor Adventure Pursuit

A number of anecdotal articles focusing on kayaking/canoeing for people with disabilities have been published, but are mainly subjective self-reports of individual experiences (Ciccotto, 1980; Galland, 1982; Garlick, 1972; Jacobs, 1985; Saari, 1986). As well, some outdoor and/or rehabilitation facilities have recognized the possible physical and psychological benefits of kayaking (Shephers Spinal Centre, Woodrow Wilson Rehabilitation Centre, Cando Kayak Club, Vinland National Centre, and the Nantahala Outdoor Centre). Cracraft (1988) identified improvements in neuro-muscular skills, range of motion, strength, endurance, self-esteem, behavioral control and community recreation participation as outcomes of a recreational canoeing program.

Methodology

This study involved participants who were recruited from both rehabilitative and recreational facilities in Victoria, British Columbia. Participants were adults between the ages of 19 to 55; had incurred a traumatic brain injury after the age of 18 in either a motor vehicle or sport related accident; were classified as having severe post-traumatic amnesia; had a Rancho Los Amigos Test level of at least 7.0; and had been discharged from rehabilitative treatment for at least one year.

Three instruments, measuring self-concept, leisure satisfaction and leisure attitude were administered to each participant prior to and following the twelve week program. The Tennessee Self-Concept Scale (TSCS) (Roid & Fitts, 1991) was used to measure an individual's self-perception in areas such as: physical self, social self, personal self, self satisfaction, behavior and identity. The Leisure Satisfaction and Leisure Attitude measures identify the degree to which an individual perceives his/her general "needs" are being met through leisure (LSM); as well as the person's attitude towards leisure on the cognitive, affective and behavioral levels (LAM) (Beard & Ragheb, 1980, 1982). The program itself consisted of one 90 minute session per week. Each participant was paired with a program assistant to allow for cueing and skill oriented reminders and balance support when and where needed. In an attempt to control for variable participant motivation based on differential treatment, assistants were trained in a standardized verbal and non-verbal feedback routine. This standardized method of communication was reinforced prior to sessions. From 27 initial contacts, eight participants were selected. Selection was based on the ability of each subject to meet the criteria, as well as convenience. A dependent t-test was used to determine if there were any statistically significant differences within pre- and post- test mean scores with the significance level set at $p < .05$.

Results and Discussion

Before discussing the results, it is important to recognize the limitations of this study. Data were collected from a relatively small sample. As well, since the sample group was chosen on the basis of a particular set of criteria (see methodology section), it cannot be seen as a truly randomized representation of all adults with traumatic brain injury. Different criterion, different levels of post injury functional ability, or even a change in the number or duration of kayaking sessions might bring about a variety of results. In addition, since a control or alternate treatment was not used,

observations cannot be solely attributed to the outdoor adventure kayaking program.

All seven of the psychological measures on the TSCS showed significant increases from pre-test to the post-test (see Table 1). These results are similar to findings of many active recreation and self-concept studies (Brock, 1989; McAvoy, Schatz, Stutz, Schleien & Lais, 1981; Robb, 1982; Rosenzweig, 1987; Wright & Cowden, 1986).

Variable	Pre X	Post X	t	SIG. Level
Total Positive Score	254.4	392.5	-13.9	<.001
Physical Self	52.5	77.5	-14.9	<.001
Social Self	49.9	77.4	-10.0	<.001
Personal Self	40.5	75.5	-7.3	<.001
Identity	81.9	131.5	-15.9	<.001
Behaviour	95.0	144.0	-9.8	<.001
Self Satisfaction	77.5	117.0	-11.4	<.001

According to Roid and Fitts (1991), *Total Positive Score* is the most important scale of the TSCS. It reflects a person's overall perceptions of self-esteem. Comparing the pre-test mean scores of this subscale (and using normed scores provided by Fitts), our group held a relatively low level of self-esteem. Following participation in the kayak program, the group mean score increased to reflect enhanced feelings of self-worth, confidence, physical appearance, feelings of adequacy, and a sense of improved worth in social interactions, as well as the ability to follow through and become physically involved in active recreation.

All six components of the LSM showed significant gains between pre and post-test scores (see Table 2). This supports the position that knowledge of leisure resources and leisure attitudes of significant others will influence leisure satisfaction (Beard & Ragheb, 1980; IsoAhola & Buttner, 1982; McGuire, 1984; Riddick, 1986). Although this result applies only to this particular study of kayaking, it would seem to support the idea, that by providing an accessible active recreation program, positive perceptions/feelings can develop which lead to contentment and satisfaction. If we accept that education and experience relative to individual abilities and opportunities will expand an individual's activity inventory, quite obviously the ability to choose from among options will be enhanced. Increases in choice lead to increased leisure satisfaction (Beard and Ragheb, 1980).

Variable	Pre X	Post X	t	SIG. Level
Psychological	2.8	4.2	-17.6	<.001
Educational	2.8	4.4	-10.1	<.001
Social	2.8	4.5	-8.2	<.001
Relaxation	3.3	4.3	-7.1	<.001
Physiological	2.7	4.0	-10.0	<.001
Aesthetic	3.2	4.2	-8.4	<.001
Total Score	17.7	25.7	-15.5	<.001

Only two components of the LAM, affective and behavior, showed significant differences between mean pre- and posttest scores (see Table 3). The cognitive component, which tested knowledge base/awareness of leisure benefits and characteristics, remained relatively unchanged by participation in the kayak program.

Variable	Pre X	Post X	t	SIG. Level
Cognitive	3.9	4.4	-2.3	.061
Affective	3.6	4.5	-4.9	.002
Behaviour	3.1	4.2	-6.9	<.001
Total Score	10.5	13.1	-5.9	.001

Barriers to participation identified by the LAM included the opportunities to (1) choose from a variety of leisure pursuits, and (2) physically and psychologically experience the benefits and characteristics of leisure participation. By introducing an outdoor adventure oriented program (kayaking) which assisted in identifying the importance of leisure participation and how it might improve quality of life, changes in the affective and behavioral scores were both expected and achieved.

Conclusion

Although the stated intent of this study was to explore the effects of a recreational kayak program on the self-concept, leisure satisfaction and attitudes of traumatically brain injured adults, there were a number of other important matters to be accomplished along the way. The first was to demonstrate to decision makers in local rehabilitation facilities that there could be benefits to the people they serve from adventure oriented programs. Often recreational therapy is seen as somewhat secondary to the medical, occupational and life skill mandates. Recreational programs, fighting for their fair share of diminishing resources, must be able to present empirically documented examples of the worth of

their programming efforts. Anecdotal presentations, regardless of their emotional impact, hold little credibility with decision-makers. More specifically, our findings support the notion that leisure satisfaction is an important component in the lives of adults with a traumatic brain injury and can be enhanced by the opportunity to pursue outdoor adventure activities. The results also indicate a growing need for active recreation/leisure pursuits to be included in the on-going rehabilitative care and community reintegration of adults with a traumatic brain injury. Secondly, although the body of knowledge pertaining to the benefits of outdoor adventure activities is growing, it is certainly not complete. This study has added only a very small contribution to understanding the area. The generalizability of this particular study is quite limited. A series of similar studies, each enhancing the rest, could become a valuable tool for outdoor adventure programmers. Lastly, on the local level, this study has assisted in the attempt to get generic municipal and commercial recreation organizations to encourage participation in outdoor adventure activities by all community members, regardless of perceived ability. It has added a small but important piece in the effort to persuade outdoor adventure recreators and the community at large to participate more fully toward the inclusion of people with disabilities in the development of a community.

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