

Outdoor Adventure Programming for Individuals With Cognitive Disabilities Who Present Serious Accommodation Challenges

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An outdoor adventure program was offered to 23 individuals with cognitive disabilities who presented serious accommodation challenges. Participants were accompanied by 23 support personnel, many of whom were group home staff, providing the capability of pair-wise response agreement. Assessment of outdoor recreation skills was done through a questionnaire on a pre-post basis; trip satisfaction was assessed through a post-trip questionnaire; and social/socialization development was assessed with a follow-up interview. Findings revealed that participants' outdoor skills, level of satisfaction and social/socialization abilities generally increased as a result of the outdoor experience. A set of programmatic strategies are offered as a means of supporting the participation of persons with cognitive disabilities who present serious accommodation challenges in an outdoor adventure program.

KEY WORDS: *Outdoor Adventure, Serious Accommodation Challenges, Cognitive Disabilities*

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Recreation professionals have expanded outdoor recreation opportunities for persons with many types of disability since passage of the Americans with Disabilities Act in 1990 (Clark, 2004). However, in spite of making impressive progress, when programming is offered to individuals who have disabilities in an outdoor adventure context the obstacles to program success can sometimes appear insurmountable.

Obstacles can appear especially daunting when attempts are made to involve individuals with cognitive disabilities who present serious accommodation challenges. For example, emotional and behavioral problems, such as an individual with a cognitive disability using abusive language or physical aggression on an outdoor trip, can quickly shut down any semblance of team interaction, a basic underpinning of a successful group outdoor adventure. Likewise, an unwillingness or inability to reliably self-monitor a serious diabetic condition, complicated by cognitive difficulties related to brain injury, can lead to an emergency evacuation with feelings of embarrassment on the part of the individual with a disability, and feelings of anger and disappointment on the part of other participants.

Clearly, social acceptance is a major factor in each of the foregoing situations, and social acceptance is of great importance in inclusive programs (Devine & Dattilo, 2000). In a leisure context, it appears that leisure skills, leisure satisfaction and social/socialization skills are important aspects of social acceptance. Devine and Dattilo found that persons with disabilities who perceived they were socially accepted by their peers without disabilities had a greater frequency of leisure participation and degree of leisure satisfaction than did those who perceived they were not socially accepted. Schleien, Ray and Green (1997) pointed out the importance of social skills for

social acceptance in leisure programs that include persons with cognitive disabilities. But, as Devine (2004) concluded in a recent study, program providers do not yet have a complete understanding of how the leisure context can best be used to foster social acceptance of persons with disabilities.

This study focused on the impact of an outdoor adventure program on persons with cognitive disabilities who present serious accommodation challenges. The primary purpose of this study was to assess growth in leisure skill functioning of persons with cognitive disabilities relative to participation in an outdoor adventure program. There were two secondary purposes. These were: (a) to assess participants' level of satisfaction with key components of an outdoor adventure trip program and the overall outdoor experience, and (b) to assess participants' social/socialization skill development in an outdoor adventure trip program.

Literature Review

The Outdoors and Persons with Disabilities

Two interdependent forces seem to be at work in programs that offer outdoor adventure opportunities that include persons with disabilities. One is the outdoor environment itself. The natural environment offers a multitude of benefits to all individuals who visit there, whether or not they have disabilities. Research by Brown, Kaplan and Quaderer (1999) indicated that persons with disabilities are no different from anyone else in the kinds of natural settings they prefer. They desire the same kinds of natural and wilderness areas, and the same kinds of outdoor recreation activities, as do people without disabilities (McCormick, 2001). Research by Anderson, Schleien, McAvoy, Lais and Seligman (1997), McAvoy, Schatz, Stutz, Schleien and Lais (1989), and Robb and Ewert (1987) all document that people with disabilities seek the same kind of challenge and adventure in the outdoors as do people without disabilities. Persons with dis-

abilities have indicated repeatedly that the outdoor environment itself is a critical element in realizing benefits from an outdoor adventure program like a canoe/camping trip. The outdoor environment intensifies and focuses group interaction and development while enhancing social integration of group members within a group of individuals with diverse ability levels (Anderson et al.).

In addition to the environment, a second force at work in programs is the type and quality of the program. Much of the recent research in this area has focused on outdoor programs where people with and without disabilities participate as equal or almost equal participants on organized outdoor adventure trips (McAvoy, 2001). These programs offer all participants an opportunity to participate fully in outdoor trips and activities such as canoeing, kayaking, camping, horse packing, and dog-sledding. The literature has been enhanced by recent texts and chapters describing inclusive outdoor adventure program planning and implementation (Brannan, Fullerton, Arick, Robb, & Bender, 2003; McAvoy & Lais, 1999; Schleien, McAvoy, Lais, & Rynders, 1993).

Research and evaluation findings indicate that there are a number of benefits realized through participation in inclusive outdoor adventure programs. For example, research by Anderson et al. (1997), McAvoy (2001), McAvoy et al. (1989), Robb and Ewert (1987), and Stringer and McAvoy (1992) has shown that persons with disabilities in inclusive programs gain enhanced self-concept and self-esteem, personal growth, increased outdoor recreation skills, increased social adjustment and positive behavior changes. Interestingly, both participants with and without disabilities show improved attitude and lifestyle changes in recreation patterns, growth in interpersonal relationships and social patterns, increased sensitivity to the needs of others, increased willingness to take risks, greater feelings of self-efficacy, spiritual benefits, and an increased respect for nature. Additionally, research is finding that inclusive family wilder-

ness programs make a positive difference in family satisfaction, that is, in family cohesion, in overall family satisfaction, in the family's ability to try new things, in the amount of time the family spends together, and in the number of activities the family does together (Scholl, McAvoy, Rynders, & Smith, 2003).

Research has also focused on resident camp and outdoor education programs that serve persons with developmental disabilities. McAvoy and Schleien (2001) summarized the results of six inclusive outdoor education and day interpretation programs that included children with developmental disabilities, some with severe disabilities. They found that the outdoor recreation skill levels of these children increased during the programs, as did the levels of social interaction between children with and without disabilities. They also found that even children with severe cognitive disabilities could be active participants. Similarly, Rynders, Schleien and Mustonen (1990) studied a two week overnight camp program that emphasized cooperative learning and included three children with severe disabilities and eight children without disabilities. They found it was a positive experience for all of the children and that the children with disabilities showed substantial increases in outdoor skills, while children without disabilities grew significantly in their feelings of self-confidence and empathy.

A nationwide evaluation study conducted by researchers at Portland State University focused on participant outcomes and effective practices of youth camps and outdoor programs that included youth with and without disabilities (Brannan, Arick, & Fullerton, 2002; Fullerton, Brannan, & Arick, 2000, 2002). Called the National Inclusive Camp Practices project, the study included 14 camps and outdoor schools, and 742 youth with and without disabilities. The study showed positive gains for both youth with and without disabilities, including outdoor skills and personal/social development (self-reliance, social interaction, communication, and self-esteem). However, only a small percentage (6.8%) of the study's participants with disabilities were

youth with moderate to severe mental retardation, or other significant cognitive disabilities.

Outdoor Programs and Persons with Cognitive Disabilities

The term “cognitive disability” describes a substantial intellectual deficit or impairment frequently accompanied by one or more important impairments in learning, social or vocational ability. (An extended use of the term is described in the “Participant Assessment and Selection” section of this paper.) There has been a paucity of research focused on persons with cognitive disabilities who typically go on camping excursions into wilderness or wilderness-like natural areas rather than staying in a developed camp facility. Much of the research has been conducted on programs that were not inclusive. However, the research available does show that benefits are realized from outdoor adventure programs that include persons with cognitive disabilities (Herbert, 1998; Robinson, 1991; Rose & Massey, 1993). Moreover, the research shows that cognitive limitations need not automatically rule out adults with cognitive disabilities in outdoor adventure programs that take place in more remote regions.

More specifically, the few studies in this area of the literature generally indicate that increases occur in areas such as locus of control and self-esteem among individuals with cognitive disabilities from pre-to post-testing, but these positive changes are not often maintained over time (Herbert, 1998). The studies in this area also usually have small sample sizes, making application to a broader set of participants difficult. For example, Robinson (1991) found modest gains in self-concept for a small group of four young adults with mild mental retardation in a program based in provincial parks of Ontario. In a very interesting and unusual study, Rose and Massey (1993) assessed a group of seven adults with severe cognitive disabilities participating in a mountaineering expedition on Mount Blanc in the French Alps. Assessment data included inter-

views with participants, family and other support persons, staff and volunteers, an analysis of detailed diaries kept by staff on the expedition and videotapes of the expedition. The results showed that study participants experienced an enhanced sense of accomplishment, cooperation, trust, self-esteem, role reversal, and an increase in fitness level and problem solving abilities.

Newman (2004) employed two well-known therapeutic recreation assessment instruments, the Comprehensive Evaluation in Recreation Therapy—Outdoor for Psych/Behavioral (CERT-O/Psych), and the Recreation Participation Data Sheet (RPD), to examine social and leisure skill achievement of persons with cognitive disabilities, both across outdoor adventure trips and the within group home environments where the individuals resided. Results of Newman’s study revealed that pre-post differences on the instruments were not significant statistically within, between, or across study phases. However a correlation analysis, when applied to summaries of the frequency of activities during which individuals displayed the highest scores on the two assessment instruments, showed a statistically significant correlation. Activities associated with the four highest leisure functioning scores on the RPD were: meals, canoeing, free time activities, meal prep/cleanup; fifth place was tied between campfire and loading/unloading gear. The activities that were associated with the five highest social skill functioning scores on the CERT-O/Psych were: meals, canoeing, meal prep/cleanup, group talks, and campfire.

Encouraged by Newman’s results with individuals who had cognitive disabilities, and recognizing the need for further work in this area, the primary purpose of the study reported in this paper was to assess the growth in leisure skill functioning of persons with cognitive disabilities relative to participation in an outdoor adventure activity. There were two secondary research objectives in the study: (a) to assess participants’ level of satisfaction with and enjoyment of key components of an outdoor adventure trip program and the overall

outdoor experience, and (b) to assess participants' social/socialization skill development in an outdoor adventure trip program.

The study utilized the Peterson and Stumbo (2000) Leisure Ability Model as a conceptual foundation for service and evaluation. Using this model, the service components of functional intervention, leisure education and recreation participation were used to provide opportunities for normalization, self-determination, social role valorization and to create optimal environments conducive to growth and development (Sylvester, Voelkl, & Ellis, 2001).

Methods

The present study was conducted in the context of "Gateway to Adventure," an outdoor adventure program devoted to assisting and training persons whose disabilities make participation in an outdoor adventure program difficult for themselves or for other trip participants. Gateway to Adventure trips are part of a larger trip schedule offered by Wilderness Inquiry, Inc. (WI), a non-profit outdoor adventure organization located in Minneapolis, MN. The Gateway program facilitates participation in a wilderness adventure trip through: (a) ongoing structured training in routine outdoor skills; (b) the provision of support staff partners (many of whom come from a cadre of volunteers and group home staff); and (c) a shorter and less demanding trip than WI's typical fully inclusive ones. According to WI, participants in the program sometimes gain a level of comfort and proficiency in outdoor settings that will help them succeed in subsequent outdoor adventures that are more fully inclusive. Although some participants take repeated Gateway trips, the Gateway trips are seen as a potential stepping stone to more inclusive programs.

Gateway trips in this study were either three or five days in length, and featured camping and canoeing as the primary outdoor activities. Trips took place at either Voyageurs National Park on the northern border of Minnesota or the St. Croix National Scenic River-

way in Minnesota and Wisconsin. Trip groups ranged in size from 12–16 persons, including participants, support staff and WI staff. Approximately 40% of participants in each group had a disability with the remainder of each group consisting of WI trail staff, support staff (including direct support professionals from participants' homes or group homes and volunteers recruited by WI), and a data collector. The trips included traveling as a group via canoes to each day's destination, completing camp chores such as setting up tents, preparing and sharing meals, and engaging in planning discussions and group games or activities, such as evening campfires. Each day also included several naturally occurring breaks of 15–90 minutes where participants could voluntarily participate in small group or individual activities like playing cards, fishing, swimming or going for a hike.

A Certified Therapeutic Recreation Specialist (CTRS) was involved in all four parts of the Gateway programs that were the focus of this study (assessment, planning, implementation and evaluation). The CTRS supervised the assessment of all participants, was heavily involved in the trip planning phase, contributed to the training of WI leaders who were responsible for program implementation, accompanied participants on all the trips, and supervised all data collection.

Participant Assessment and Selection

Over the past 25 years, WI has developed and repeatedly refined an assessment process for the purpose of trip planning. The process begins with a participant's (or advocate's) request to join a particular trip and submission of a registration form containing detailed information on the applicant's personal characteristics/needs. From this form, a WI assessment specialist, a staff member who has had extensive trip-leading experience and specific training in addressing accommodation challenges, reviews the registration form and makes a preliminary judgment about the likelihood of

need for a Gateway trip (as opposed to an inclusive trip). This judgment is based on the Universal Program Participation Model developed by Lais (2002) which considers the environment of a trip, the participant's and other group members' characteristics, the resources available for a trip (e.g., staff, equipment), and the activities of a trip. The assessment specialist also notes emotional or behavioral issues and cognitive, sensory, health and physical disability concerns that may require additional equipment, equipment or other forms of modification, or the support of a personal care attendant while on the trip.

When this assessment process is completed, if it is determined that a Gateway trip is needed, the leader assigned to a Gateway trip (a trip that approximates the applicant's original request, if possible) meets with the assessment specialist for a briefing about modifications/adaptations or other forms of support that might be required in light of the specific accommodation challenges presented. Thereafter, the leader of the recommended Gateway trip will speak by phone or in person with the individual and often his/her representative, to finalize planning.

The majority of WI applicants who have cognitive disabilities, even serious cognitive disabilities, are enrolled in a regular (fully inclusive) WI outdoor adventure trip and do well in it. It is not the cognitive disability per se that leads to Gateway enrollment. Rather, the functional characteristics of applicants are key factors in determining the need for a Gateway trip. To make the determination for the present study, heavy reliance was placed on the comments of key informants (e.g., group home staff) who were asked a number of closed and open ended questions that were designed to converge on accommodation issues. Occasionally, due to the nature of a particular accommodation challenge or constellation of challenges, WI encourages an applicant to enroll in a one-day canoe workshop instead of an overnight experience. WI routinely offers these workshops across the Minneapolis/St. Paul area.

This study included 23 individuals with cognitive disabilities, most of whom were group home residents. Eighteen were male and five were female, with the average age being 38.5 years (range 21–62). Fifteen participants had a cognitive disability that qualified them for the classification of mental retardation, with eight having mild to borderline mental retardation, six having moderate mental retardation, and one having severe mental retardation. The other eight participants were classified as having traumatic brain injuries (7) or having a mental illness (1). Of these eight individuals, key informants either used the term cognitive disability or a near equivalent to describe these participants. For example, they used phrases like “lacks reasoning and judgment,” “borderline IQ,” “very slow,” and “jumbled thinking ability” to describe these individuals. Of the 23 support persons who accompanied participants, eight were group home staff, 14 were social workers or employment counselors, and one was a parent.

The 23 individuals selected for this study's Gateway trips had the following functional characteristics: Five participants exhibited frequent bouts of aggression; five individuals were described as showing a lack of judgment to the extent that they posed a serious danger to themselves or others; five persons had a history of making highly inappropriate sexual advances; four individuals were obsessed with food and food hoarding and became hostile when prevented from engaging in this behavior; one participant had a history of several suicide attempts; another had a habit of persistently teasing others with a visible disability; one exhibited extreme over-attachment to anyone in a leadership position; and one person was extremely fearful of unfamiliar surroundings. In several instances, these accommodation challenges could be found in multiple forms across the group. In other words, multiple disabling conditions were the rule, not the exception. Moreover, participants frequently had additional impairments that were complicating factors in functionality determination. Several instances of severely

compromised physical stamina, poor balance, seizure disorders, poor communication, incontinence, poor memory, and multiple problems with activities of daily living were also present. Taken together, and focusing particularly on functional ability, the challenges to accommodation of the 23 selected individuals warranted enrollment in a Gateway trip based on the judgment of a team comprised of WI assessment specialists and trip leaders.

Only participants and support staff from whom consent was obtained were invited to be part of this study, to fill out questionnaires on the trip, and to be contacted for an interview following the trip. There were no selected trip participants or support staff who declined, or whose legal representative declined, to take part in the study.

Data Collection and Analysis

Two questionnaires were developed, one to assess participant growth in outdoor recreation skills and one to assess participant satisfaction with components of the outdoor adventure trip experience. In addition, an interview instrument was developed to assess participant social/socialization skill development and to further assess participant satisfaction with trip components and the trip overall. Instrument and protocol development was a cooperative process among the program staff of WI and researchers in Therapeutic Recreation, Outdoor Recreation and Special Education from the University of Minnesota. The primary goal was to create instruments that were understandable by, and respectful of, participants with serious disabilities, as well as manageable in the context of an outdoor adventure program. The literature reviewed to develop these tools included published approaches to measurement of leisure interests and skills of persons with cognitive disabilities (Hoge & Dattilo, 1995; Mactavish, 1997). Additionally, suggestions from experienced WI staff (especially Gateway staff) regarding these constructs were actively solicited. A parallel version of the questionnaires and interview

protocol was developed for support persons. This additional perspective offered an opportunity to compare support staff and participant responses, providing an important measure of trustworthiness.

Relying heavily on self-report information supplied by persons with cognitive disabilities required the design of a protocol that was short, asked questions that placed a low cognitive demand on respondents, and had a limited number of easy to understand items. The questionnaires (for participants and support staff) were field-tested on two pilot study Gateway trips and were found to be too lengthy and complex for many of the participants with cognitive disabilities. As a result, the number of outdoor recreation skill items on both the support staff and participant versions of the questionnaire was decreased. Furthermore, the number of choice points on the rating scales within the questionnaires was also reduced because participants with disabilities were generally having great difficulty distinguishing differences between rating choices. Finally, the interview instrument was pilot tested with participants and support staff of two Gateway trips, requiring only minor wording changes.

Quantitative measures

On the first day of each trip, and again on the final day, all participants were asked to complete a questionnaire using a three point Likert scale procedure, rating their perceived ability to complete 10 basic camping and canoeing skills (see Table 1 for list of skills). As an example, participants were asked to indicate their skill level in paddling a canoe by marking an "X" in one of three boxes. The three choices were "I don't know how" (Box 1), "This is hard" (Box 2), or "This is easy" (Box 3). At the same time that participants completed their questionnaires, participant support staff completed their version of the questionnaire. They were asked to rate the skill level of the participant they were accompanying. As an example, support staff were asked

Table 1.
Outdoor Recreation Skills as Perceived by Participants with Disabilities and Support Staff

Outdoor Recreation Skill	Pre-Trip Mean Rating	Post-Trip Mean Rating
1. Rolls up or “stuffs” a sleeping bag.		
Staff	1.96	2.39
Participant	2.65	2.91
2. Selects clothes to bring on a 3-day camping trip.		
Staff	1.96	1.91
Participant	2.52	2.70
3. Assists to set-up a tent.		
Staff	1.48	2.14
Participant	1.95	2.48
4. Knows three safety rules to follow when on a camping trip.		
Staff	1.87	2.55
Participant	2.55	2.91
5. Knows where to find small dry sticks to start a campfire.		
Staff	2.22	2.50
Participant	2.87	2.87
6. Knows how to put on a life jacket so it will work best.		
Staff	1.96	2.59
Participant	2.65	2.91
7. Knows how to hold a canoe paddle properly.		
Staff	1.72	2.73
Participant	2.09	2.91
8. Knows how to get in and out of a canoe safely so it doesn't tip over.		
Staff	1.48	2.43
Participant	2.45	3.00
9. Knows how to paddle a canoe.		
Staff	1.61	2.76
Participant	2.22	2.87
10. Knows the rules to follow to be safe while in a canoe.		
Staff	1.70	2.67
Participant	2.43	2.96

Participants n = 23, support staff n = 23.

to indicate the participant's skills in paddling a canoe by marking an “X” in one of three boxes, “Has not done this skill and does not know how” (Box 1), “Has tried this skill but is still learning” (Box 2), or “Has done this skill

and knows how to do it well” (Box 3). Participants who had difficulty reading items or marking their answers on the form were provided assistance by a research assistant or member of the WI staff in order to minimize

Table 2.
Level of Satisfaction about the Trip as Expressed by Participants with Disabilities
(N = 18)

	Number Responding with Highest Satisfaction	Percentage
1. The leaders on the trip were friendly to me	17	94%
2. The leaders on the trip knew what they were doing	16	89%
3. I felt safe all the time	17	94%
4. I got to do things I wanted on the trip	13	72%
5. I made some new friends on the trip	17	94%
6. I learned new things about camping and canoeing	17	94%
7. The food was good	15	83%
8. I didn't have to work too hard on my trip	11	61%
9. The tents and other equipment were in good shape*	17	94%
10. I would go on another trip like this**	13	77%

*Two respondents indicated "low satisfaction" on this item.

**One respondent indicated "low satisfaction" on this item.

the possibility of support staff bias. These scales must be considered ordinal since, while the options clearly indicate differing levels of the attribute being measured, the scale points cannot be quantified in such a way as to be able to judge their weights or values in relation to each other.

On the last day of each trip, all participants with disabilities were asked to respond to a satisfaction questionnaire. Ten items (see Table 2 for satisfaction items) were read to them about key aspects of the trip and they expressed their level of satisfaction using ratings of high satisfaction, medium satisfaction, and low satisfaction.

Qualitative measures

A qualitative approach was emphasized in this study because relatively little is known, or clearly defined, about programming successfully for individuals who present cognitive disabilities as well as serious accommodation challenges. This is especially true in the arena of outdoor adventure programs. Thus, the use

of open-ended and probe questions during the follow-up interviews surfaced highly useful insights about satisfaction and social/socialization skills, and themes to promote them, that would not have been possible to capture in a strictly quantitative oriented approach.

Qualitative data were gathered through semi-structured interviews 7-14 days following the trip, and included both participants with disabilities and those who went on a trip as a support staff partner. A total of 15 post-trip interviews were completed, with nine of the interviews being completed with persons who had disabilities, and six with support staff. This subset of 15 participants and support staff had indicated a willingness to be interviewed. There were a range of reasons for non-response. As examples, some group home staff said that they had scheduling conflicts or that they were too busy to be interviewed or to facilitate a follow-up phone interview with a participant. One parent of a person refused to allow his daughter with a disability to be interviewed, even after he had given permis-

sion for her to participate in the questionnaire part of the study. Of the nine persons with disabilities who completed post-trip interviews, six had mild intellectual disabilities, one had borderline intelligence and a history of mental illness, and two were persons who had experienced a traumatic brain injury and had some degree of cognitive impairment. The majority of these interviews were completed via telephone, but five of the nine interviews conducted with persons with disabilities were completed face-to-face to facilitate interaction.

Interview questions focused on what was learned on the trips (both recreation skills and social skills) and on satisfaction with the trip components and the trip overall. Examples of questions asked of participants with cognitive disabilities included: "What camping and canoeing things did you learn on the trip?" "What other new things did you learn on the trip?" "What did you learn on the trip that you can use back home?" Examples of questions asked of support staff included: "What skills other than camping and canoeing did your participant learn on the trip?" "What other skills did your participant learn on the trip?" "What general or social skills did your participant learn on the trip?" "What about the trip helped the participant learn these skills?" "How might these skills be useful for the participant back home?" All interviews were tape recorded and transcribed, and loaded into NVIVO qualitative data analysis software. The themes reported were generated using the method of constant comparative analysis (Glaser & Strauss, 1967) in which similar ideas were identified across interviews and compared/contrasted to identify central concepts that described the experiences of most participants or support persons. A rule was followed that in order for a theme to be reported as a result it needed to be represented in at least 51% of the interview transcripts.

Results

The results of this study are presented in three sections: (a) outdoor recreation skill de-

velopment, (b) satisfaction levels, and (c) social/socialization skill development. Both quantitative and qualitative results are presented in each section.

Outdoor Recreation Skills

As shown in Table 1, the 23 participants, as a group, on a pre-post basis, rated themselves as having increased their skill levels in nine out of ten outdoor camping and canoeing skills. Examples of these skills included assisting to set up a tent, finding small sticks to start a campfire, and properly putting on a life jacket. Similarly, the 23 support staff partners reported, as a group, that they saw participants having greater skills in nine of the ten areas post-trip as opposed to pre-trip. In one area, however, selecting clothing for trip activities, support staff rated their participant partners as having less skill.

A close look at individual participant scores indicates some important trends. When considering the scores for all camping and canoeing skills, substantial gains occurred in the self-ratings of eight participants whose initial self-ratings were low (a 2 or less on a 3-point scale) with nearly all showing large gains in their perception of their own skill levels. Another group of five participants rated themselves pre-trip as having the highest level of proficiency in all or nearly all skills. Since they were already at the top of the scale for the pre-test, it was not possible for them to indicate a gain on the post-test. Nonetheless, most retained a very high perception of their camping and canoeing skills for the post-test, with only one participant showing a decrease.

The assessments completed by support staff regarding their perceptions of participant outdoor recreation skill levels showed very similar trends. Support staff rated nine participants as having very limited skills pre-trip, with each being rated as having much greater skills by the same support staff after a trip. Another group of 10 participants that support staff rated as having moderate skills on the pre-test showed increases in skills over the

time of the trip, as indicated on the support staff post-test.

A strong theme that emerged from the qualitative data, for both participants and support staff, was that the Gateway trips provided a venue in which participants learned outdoor recreation skills in camping and canoeing. Responses from participants included, "I learned how to paddle, and not make a big splash." "I learned how to handle a canoe and how to set up camp." "I learned how to set up a tent." A support person commenting on the outdoor skills learned on the trip said: "I think that being in a new environment and finding out that they had abilities they didn't know they had, and maybe pushing their abilities." Other support staff responses included, "Each time Don does a trip like this he builds his skills so he can do more." Another said, "They will forget most of the gains they made on the trip and will have to relearn it again the next time. But, each time they go, they learn and retain a little more."

Participant Satisfaction

On the last day of each trip, all participants with disabilities were asked to respond to a questionnaire where they expressed their level of satisfaction about key aspects of the trip using ratings of high satisfaction, medium satisfaction, and low satisfaction. This questionnaire was completed by 18 of the 23 participants (five were required to leave immediately after the trip due to support personnel scheduling conflicts and hence could not complete this post-assessment at the canoe take-out point as was required). Levels of satisfaction were highly positive (see Table 2). This was especially true in areas reflective of friendship (e.g., new friend, friendly leaders), safety, and new learning (e.g., canoeing, camping). In a roughly parallel manner, when asked on the satisfaction questionnaire about their favorite part of the trip, a majority of participants (>50%) named specific outdoor recreation activities (e.g., canoeing, swimming) and social aspects of the trip (e.g., playing games, meet-

ing new friends). When asked to name the least favorite part of their trip, most cited an element of the natural environment (rain, bugs), rather than any particular aspect of the program.

An overarching theme revealed in the qualitative data was that most participants truly enjoyed their wilderness trip and their satisfaction levels following the trip were high. When asked about the trip overall, the most prevalent response was "It was fun." One trip participant with a disability said: "I am feeling pretty good. . . I thought it was a good trip. Actually, it was a great trip and I hope to do it again sometime." Other responses from participants included, "Yah, I did really have a good time and everything. Just being around everybody." "It was fun, I had a great time." "I want to come again next year." "I think that being in a relaxed, somewhat, setting I sort of forgot about everything. I had a good time."

As was true on the post-trip satisfaction questionnaires, most participants in the interviews discussed the outdoor recreation activities of canoeing and camping as highpoints of their trip. One participant, when asked about his favorite part of the trip said, "Well, I guess reacquainting myself with the canoe because the last time I did anything like that was when I was seven or eight years old when I canoed with my dad." Other exemplar quotes from participants were, "I just enjoy being in the canoes." "It was nice to get in the water and do a little swimming, and such." "I liked being in the sun, and feeling the breeze." "I liked seeing the stars with no lights." "Hiking and seeing the animals." "I see lots of birds." One participant summed up his canoeing experience by saying, "Canoeing, it was my favorite. The paddling was hard though. You know, and it hurts. But once you get used to it, it isn't that bad, you know."

A support staff person on the trip recounted how John, a participant with cognitive disabilities, felt about the trip: "He still talks about it. . . He got to, you know, hang out with different kinds of people. And the camping, he still talks about it." Another support person

commented on the person he was with: "Being in the canoe and paddling was definitely a highlight for some of the people because it is so different from what they are used to . . . and just the event of camping was another highlight."

A major theme in the interview data, related to satisfaction level, was the atmosphere of trust and safety created in the groups by the trip leaders during the Gateway trips. Participants and support staff remarked on a sense of physical and emotional safety that they felt during the trip, and also the sense that as new challenges emerged they were part of a team that collectively would be successful. A support person summarized this by stating: "The leaders accepted everyone as they were and helped each person enjoy the experience. They were calm, patient and extremely safety oriented. The leaders paid attention to everyone and made sure that all were included." Another support staff person commented, "The trip leaders from WI were outstanding. They were excellent at teaching all levels of ability, very patient." A support staff person who was also a parent of a participant said, "I think everybody was watching out for everybody else. I don't think it was just myself. I think he got all the help he needed." A participant with disabilities said, "I was happy with the guides. If we go again I'd have the same guides."

Social/Socialization Skills

A major theme evident in the interview data was that participants learned and practiced appropriate social skills during the Gateway trips. These skills focused on interacting with different people and being better able to be a contributing member of a group. Although most of this data came from the support staff, some participants indicated that they learned social skills. Examples include, "I learned how to handle myself around a crowd of people," and "I learned good behavior." Comments from support staff on improved social skills related to interacting with different people included, "The trip helped his abil-

ity to tolerate others." "This trip helped with physical stamina and endurance, also his ability to tolerate others." "He is more able to handle social situations." A support staff person of a group home said, "Just learning to meet different people was good. At the group home there's not much social interaction because it is always the same people. On the trip he learned to meet different people, and learned how to get to know them a bit."

Support staff responses that related to participants developing their ability to be a contributing member of a group included, "He learned how to participate in group activities, help with and prepare food." "He learned teamwork." "I think he learned to wait his turn, I mean that's a daily living thing he learned." "Pam's ability to be patient with herself in physically challenging situations seems to have improved and be less of a barrier." One support staff individual commented on the benefit of more than one person from a group home attending the same trip, "It has done a lot to kind of improve the relationship between people here."

Another major theme from the qualitative data, related to social/socialization skills, focused on the group culture and teamwork that developed during the Gateway trips, an atmosphere that encouraged group rather than individual challenges. Exemplar quotes from participants included, "I thought the other people [on the trip] were great." "Everybody became friends, and helped everybody." "My favorite part of the trip was the group games." "I remember the games we played together. It was fun to do with all the other people." A support staff commented on the group culture on the trip, "He still talks about it. He misses the people. He loves to be around people and I think for him that was really neat. He got to, you know, hang out with different kinds of people. He still talks about some of the people he met there." Another support staff remarked on the impact of the trip teamwork culture, "She likes to be part of a group, and I think the fact that she was helping, it was a success thing for her." A mother who accompanied her

modation problems to inclusive programs. (As noted earlier in this paper, six of the original 23 participants did go on a fully inclusive WI trip after the study ended.) A follow-up study with participants similar to those in the present study might identify programmatic elements that are especially rich pathways to greater inclusion. Another fruitful avenue for future research would be to analyze inclusive outdoor adventure programs to better understand the demands that these programs will place on persons with cognitive disabilities who have behavior challenges. What is it about the demands of an inclusive outdoor adventure trip program that could be adapted to make participation possible by persons with cognitive disabilities who present serious accommodation challenges?

To partially address the foregoing question, we offer a beginning set of programmatic strategies that are recommended based on the results of this study, experience of WI staff, and on literature describing the provision of supports to people with cognitive disabilities who present serious accommodation challenges (e.g., Bos & Vaughn, 1997; Kauffman, 1985; Lais, 2002). These strategies were used in this study and may have led to the perceptions of skill development and growth. It is recommended that research be conducted to study the effectiveness of each of these strategies. The two areas we have included in the list revolve around the issues of skill learning and social/socialization learning because of their centrality to Gateway programming and to the possibility of greater inclusion afterwards.

1. Provide assistance to learn outdoor skills such as paddling a canoe, tent set-up, etc.

- Provide structured outdoor task training; make training times important.
- Make the skills being taught during training sessions concrete through demonstration, and include time for “hands-on” practice.
- Develop skills incrementally. Begin by

practicing easy tasks and then move to more difficult tasks that include one or more of the more basic skills that participants have already learned, but stretch their abilities slightly.

- Train and retrain consistently throughout the trip, weaving learning opportunities into many program components. Work 1:1 with participants who have difficulty remembering skills from day to day.
 - Establish group participation routines by creating activities or structures that occur each day and which incorporate or lead naturally into necessary camp chores.
2. Provide assistance with social/socialization growth, especially self management:
- Create a cooperative culture that emphasizes teamwork, honors partial participation and leads to group accomplishments.
 - Provide a positive environment in which trail staff and others continuously demonstrate respectful and open communication and also encourage everyone to communicate their needs and desires so as to try to prevent problems that may lead to inappropriate behavior.
 - Offer, whenever possible, opportunities for participants to make choices. Frustration with not feeling heard and respected or with being treated as a child (when you are an adult) are common causes of aggressive acts by persons with cognitive disabilities. Offering opportunities for participants to make choices (who to paddle with, when to take a break, what to have for lunch, etc.) helps them to feel “in control” and respected, and may go far in heading off incidents of aggressive behavior. Opportunities for choice should include making allowances for group input on group-based decisions as feasible, and building in time where individuals can make choices about what they want to do independent of the group.

- Encourage communication. People with cognitive disabilities frequently use disruptive behavior to communicate unfulfilled needs and desires. Hence, after any safety issues are allayed, trail staff need to consider why the person is becoming angry (or anxious, upset, etc.), and encourage the person to find some other way to communicate his/her feelings.
- Persons should not be reinforced when using socially inappropriate behavior (which means, for example, that aggressive behavior is ignored, not punished, in so far as possible). Moreover, persons should be reinforced when solving problems in a socially appropriate manner.
- Use appropriate punishment and then only as a last resort; never resort to harsh physical means of punishment. Taking things away from a participant or preventing a person from participating in an activity that everyone else is allowed to do (time-out), should only be used as a last resort and with the goal of assuring the safety of the participant and/or other participants. Furthermore, when used, any punishment should end when the behavior is under control.
- Assure respect. Punitive measures, such as restraint of someone with a cognitive disability, are highly regulated by state and federal laws due to these individuals' high degree of vulnerability. A person who has any recent history of aggression or other behavior that may require the use of any form of punishment or restraint will usually have a trip assistant who knows the participant well and also knows exactly when and how to use such techniques with the specific person. Trail staff should take their lead from a support person.

For a more extensive description of supports in the form of strategies, adaptive procedures and devices used by Wilderness Inquiry readers can refer to Lais (2002), McAvoy,

Roehl, and Rynders (2002), McAvoy et al. (2003), and Schleien et al. (1993) in the list of references.

Conclusion

Findings of this study support the capability of a Gateway trip to promote participants' outdoor recreation skills, foster satisfaction with the trip experience, and enhance social/socialization skill growth. Thus, programs similar to Gateway are a viable possibility for this "hard to serve" population and for some individuals may lead to more inclusive outdoor recreation opportunities in the future. But, even if it does not, participants with cognitive disabilities who present accommodation challenges can have a positive outdoor leisure experience that adds greatly to the quality of their lives.

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