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INTRODUCTION

As citizens with disabilities have increasingly been included in all forms of community life in our nation during this last decade, a need has grown for increased knowledge and understanding about inclusive outdoor programs serving youth. Inclusion generally refers to accommodating persons with disabilities in programs serving the general population. One effort toward meeting this need is the National Inclusive Camp Practices (NICP) project, a three-year nationwide study of effective practices and participant outcomes for youth attending organized outdoor programs that employ inclusive practices. This research project investigated resident camp and outdoor school programs and employed validated instrumentation to help determine the effects of inclusive practices on the growth and development of youth with and without disabilities (Brannan, Fullerton, Arick, Robb, and Bender, in press).

IMPORTANCE

This study is also an extension of the authors' prior nationwide research, the National Camp Evaluation Project (NCEP), which used validated instrumentation to help substantiate the positive impact of specialized resident camp programs on youth and adults with disabilities (Brannan, Arick, and Fullerton, 1998). Strong agreement has existed for years among professionals in various disciplines attesting to the wide range of benefits that organized outdoor programs contribute to the growth and development of persons with varying disabilities (Austin, 1980; Brannan, 1981; 1991; Cassidy, 1982; Dattilo, 1987; Frant, Roland, and Schempp, 1982; Havens, 1985; Hourcade, 1977; James, 1987; Robb, Havens, and Witman, 1983; Sugerman, 1988).

Although personal, social, leisure, outdoor skills, and other outcomes have been widely reported for persons with disabilities as a result of their participation in organized outdoor programs (e.g., camping, outdoor education, adventure programs), carefully designed, systematic research using validated instrumentation to determine the effects of outdoor programs are often lacking to support such claims. Robb and Ewert (1987) reported that gains in the affective domain (e.g., self-esteem, valuing, interests, social skills) represent a common area of benefit for persons with disabilities participating in challenging outdoor programs, but they and other researchers indicated that instrumentation designed to evaluate and objectively substantiate the impact of outdoor programs on the growth of persons mildly to severely impaired is extremely limited (Brannan, Rillo, Smith, and Roland, 1984; Compton, 1984; Ewert, 1988; Howe, 1984; Iso-Ahola, 1988; Schleien and Yermakoff, 1983; Witt, 1988).

The overwhelming majority of research on evaluating outdoor programs for persons with disabilities has been conducted in specialized camps and related outdoor recreation programs designed for persons with disabilities. Of particular importance today is that the implementation of inclusive practices in traditional (mainstream) camp and outdoor/environmental education programs in our country is a relatively new development and, as such, is still largely unrealized and under researched (Brannan, Arick, Fullerton, and Harris, 1997; McAvoy and Schleien, 2001; Smith, Austin, and Kennedy, 2001).

THE NICP STUDY

In planning for this research in 1997, the NICP research team partnered with the Ameri-

can Camping Association to conduct a nationwide survey to identify and study the general nature of mainstream (i.e., traditional) resident camps and outdoor schools whose administrators indicated they operate inclusive programs (Brannan et al., 1997). Camps and outdoor schools were defined as inclusive programs if campers/students with and without disabilities attended the same session(s), were members of the same cabins groups or units, and participated together in all camp activities. The ACA survey identified 31 resident camps across the country that primarily served campers without disabilities and also mainstreamed campers with disabilities into their programs (i.e., operated inclusive programs).

The ACA survey results helped guide the selection of 12 resident camps and 2 outdoor school sites in 12 states that participated in the NICP project. In addition to being inclusive, site selection for participation in NICP's research was based on (a) camp director/ administrative commitment to inclusive practices and program development, (b) a desire to communicate the benefits of inclusion to the camping and education professions, and (c) an interest in participating in future research on camper/student outcomes. The NICP research team studied the 14 outdoor camps and outdoor schools over the 2-year period of 1998-1999. The researchers employed validated instrumentation to help determine the effects of their inclusive practices on the development of youth with and without disabilities who participated together in the programs.

SUBJECTS

Sixty subjects were selected at each site between the ages of 6 and nineteen. First, thirty subjects with disabilities that represented a variety of disabling conditions (from mild to severe conditions), and reflected the different youth with disabilities who attended the programs, were selected. Then, for each of these subjects, a second subject without disabilities of the same sex, approximate age, and cabin group assignment was identified as another subject.

A total of 742 youth from 12 resident camps and 2 resident outdoor schools across 12 states participated in the study (see Table 1). A similar number of boys and girls were included in the study, the majority of which were of elementary and middle/junior high school age with at least 1 year of prior camp experience. Of the total number of youth researched, 372 subjects were disabled and 370 subjects were nondisabled.

Youth with disabilities represented a wide range of disabling conditions and levels of functioning. The majority of subjects, 59.4 %, were mildly impaired with mild mental retardation, speech impairment, learning disability, or attention deficit/hyperactive disorder. Other disability groups included 13.5% of subjects with autism or emotional disturbance, 11.0% of subjects with a physical/orthopedic or health impairment, 9.3% of subjects with a vision and/or hearing impairment, and 6.8% of subjects with moderate-to-severe mental retardation.

INSTRUMENTS

The NICP study team used validated instruments to collect quantitative data on all campers/students and qualitative data on selected participants at each site. The study employed varied methods such as objective assessments, video samples, and individual case studies. Only the quantitative instruments and results are presented in this paper. Detailed information on the quantitative measures, their reliability and validity, and the total results of the research to include a qualitative component is reported in Brannan, et al. (in press); qualitative results are also in Fullerton, Brannan, and Arick (in press).

Five validated instruments were used to collect quantitative data for the NICP study. The instruments were carefully developed and examined for reliability and validity to ensure their adequacy for measuring camper/student skills, etc. in outdoor programs. The development of all instruments was accomplished with assistance from national experts, parents, resident camp and outdoor school directors and staff, counselors, therapeutic recreation specialists, outdoor/environmental education consultants, spe-

TABLE 1
Camper/Student Population

1998-1999 Camper/Student Information Summary: All 14 Sites
Total N = 742

	Disabled (N=372)		Non-Disabled (N=370)	
	N	%	N	%
Age (N=737)				
6-11.9 yrs.	202	54.9	242	65.6
12-19 yrs.	166	45.1	127	34.4
Gender (N=739)				
Male	198	53.2	188	51.2
Female	174	46.8	179	48.8
School Setting (N=736)				
elementary	204	55.1	206	56.3
ms/jr.high	121	32.7	137	37.4
high school	27	7.3	17	4.6
other[1]	18	4.9	6	1.6
Number of Subjects on Medication (N=718)				
yes	175	48.7	69	19.2
no	184	51.3	290	80.8
# Previous Years at Camp (N=742)				
none	157	42.2	143	38.6
1-3 years	166	44.6	174	47.0
4-6 years	36	9.7	45	12.2
7-13 years	13	3.5	8	2.2

Disabled only		
	N	%
Primary Disability[2] (N=355)		
Autism	25	7.0
Emotionally disturbed	23	6.5
Sensory impaired: sight/hearing /DB	33	9.3
Mild MR/speech impaired/LD/ADHD[3]	211	59.4
Moderate or severe MR	24	6.8
Physical/orthopedic/health impaired	39	11.0

DB = Deaf-Blind
MR = Mental Retardation
LD = Specific Learning Disability
ADHD = Attention-Deficit Hyperactivity Disorder

Home Setting (N=362)		
Lives at home (incl. foster home)	352	97.2
Lives in a group home	0	0.0
Lives in a residential facility	1	0.3
Other	9	2.5

[1] includes schools such as: alternative, private, and special schools for youth with disabilities

[2] Certain disabilities were grouped together for ease of presentation and reference

[3] Frequencies of the group with mild levels of disabling conditions are as follows: mild MR (49, 13.8%), speech impaired (10, 2.8%), LD (29, 8.2%), ADHD (123, 34.6%)

cial education teachers, onsite research assistants, and graduate students in special education

The *Inclusive Practices Inventory (IPI)* consists of a core of 10 inclusive practices (e.g., modeling, providing peer assistance, breaking tasks into smaller steps) identified from professional practice and related literature as important for helping youth with disabilities successfully participate in program activities. The IPI is used to assess how often each kind of support (i.e., inclusive practice) is provided to the camper/student across at least three program areas: Self-Help, Social, and Outdoor Recreation. Content validity for the IPI was established by a panel of experts and pilot testing at inclusive outdoor sites in Oregon.

Inter-rater reliability for campers/students who were mildly to severely disabled ranged from 75% to 85% agreement across all three program areas. The IPI was completed by counselors (post only) onsite at the end of the outdoor session to measure the kind and frequency of support or assistance they provided to their camper/student(s) in each of the three program areas.

The *Outdoor Skills Inventory (OSI): Camps* was developed for use with campers with disabilities and focuses on 10 areas (scales) of outdoor recreation common to resident camp programs (e.g., overnight camping, swimming, music, crafts). Counselors or specialists onsite rated (pre-post) the camper/student's level of independence in outdoor recreation skills. Content validity for the OSI: Camps was established by a panel of experts and criterion-related validity was confirmed with acceptable moderate level correlations. Pilot and nationwide field testing of the OSI: Camps' 10 scales on over 2000 campers with mild to severe disabilities during 1993-96 revealed the following reliability statistics: an internal consistency reliability of .84-.98 ($p<.001$), test-retest reliability of .95 ($p<.001$), and inter-rater reliability of .80 ($p<.001$). The OSI: Camps was completed by counselors (post only) on their camper(s) at the end of their camp session.

The *Outdoor Skills Inventory (OSI): Schools* was developed for use with students with disabilities and focuses on six scales (outdoor/environmental education areas) common to resident outdoor school programs stressing natural science field studies (e.g., soil/earth, water, plants). Counselors or instructors measure (pre-post) the student's level of achievement in natural science skills/knowledge. Content validity for the OSI: Schools was established by a panel of experts and through pilot testing in outdoor school programs in Oregon and Indiana. Field testing of the OSI: Schools with over 80 students with and without disabilities revealed an internal consistency reliability of .92-.96 ($p<.001$). The OSI: Schools was completed by counselors (post only) on their student(s) at the end of their outdoor school session.

The Social Interaction Observation (SIO) is an instrument designed to record the types of social interactions of campers and students from videotaped sequences of their participation in resident outdoor program activities (Arick, Fullerton, and Brannan, 1998). Areas of social interactions recorded on the SIO form include appropriate social interaction with peers and/or adults, appropriate solo active participation, no active participation, and inappropriate participation or interaction. SIO recordings are based on a continuous time sample procedure using pre and post videotapings of campers during program activities. Content validity of the SIO for use with youth who are disabled was established by a panel of inclusion experts and a review of the professional literature. Inter-rater reliability correlations between paired observers ranged from .89 to .99 ($p<.001$). The SIO was completed by trained graduate students who coded the social interactions of campers/students by viewing and analyzing pre-post videotapings of them participating in program activities.

The *Individual Characteristics Survey (ICS)* is a 50-item rating scale with six subscales designed to measure the socio-emotional growth of youth with disabilities in the developmental areas of social, communication, domestic responsibility, independence, self-esteem, and recreation. Parents complete the ICS at home to measure the frequency with which the various charac-

teristics of their son or daughter are observed before and after the outdoor experience (i.e., pre-post). Content validity for the ICS was established by a panel of experts, with concurrent and criterion-related validity established with acceptable moderate level correlations. Pilot testing in Oregon and nationwide with over 2500 campers with disabilities revealed the following reliability statistics: an internal consistency reliability of .96 ($p<.001$), test-retest reliability of .80 ($p<.001$), and an inter-rater reliability of .65 ($p<.001$). Parents completed a pre (1 week before the camp/outdoor school program experience) and post (1-2 weeks following) ICS of their son or daughter.

PROCEDURES

The study used a descriptive casual-comparative design that summarized the findings for each assessment for both youth with and without disabilities based on a pre-post or post-only analysis. Comprehensive data collection used multiple sources including parents, counselors, instructors, and onsite video-taped observations.

All data were collected for youth (subjects) with and without disabilities of similar age, sex, and cabin assignment. Although youth weren't paired for activities, for each youth with a disability, a nondisabled cabin peer was identified as a second subject and all data were collected on the pair. Quantitative data collection tasks at each site consisted of identifying 30 pairs of camper/student subjects (30 with disabilities and 30 without disabilities), collecting all research data, and videotaping all subjects. A unique aspect of the project's data collection methods was the use of videotaping to record onsite observations of camper/students' social interactions during program activities.

At each camp or outdoor school site, the camp or program director supervised a full-time NICP Research Assistant (RA), trained by the project staff, who was assigned as the primary person onsite in charge of the collection, monitoring, and organization of all project data. RAs were trained by the NICP Project staff to follow all protocols detailed in the Project's Research Guides for camps and outdoor schools (Brannan, 1998; 1999).

The sequence of data collection was identical for all sites. *Before camp/outdoor school*, a pre-survey of parents using the ICS instrument was mailed to them about their child's personal/social development. During the *first day of the outdoor session*, campers/students were videotaped during group meals and program activities for use with the SIO observation instrument. A pre-survey with counselors/staff was also conducted with the OSI instrument about the campers'/students' skills. During the *last day of the outdoor session*, camper/students were videotaped during group meals and program activities for use with the SIO observation instrument. A post-survey with counselors/staff was conducted with the OSI instrument about campers'/students' skills. A post-survey by counselors/staff was conducted with the IPI instrument regarding inclusive practices they used during the session with campers/students. Lastly, a post-survey using the ICS was mailed to parents about their child's personal/social development.

RESULTS

What Inclusive Practices Were Used for Youth with Disabilities in Outdoor Programs?

Inclusive practices are generally employed to support (or accommodate) individuals in order to facilitate their successful inclusion in the group and program. Counselors use these practices with both youth with and without disabilities whenever an individual needs additional support or instructional assistance. The Inclusive Practices Inventory (IPI) includes 10 different kinds of inclusive practices that were derived from the literature on inclusive education and recognized as important by inclusion experts in assisting youth with disabilities to succeed in mainstream or inclusive programs.

In the study, counselors used the IPI to indicate what practices they employed during activities with individual campers/students with and without disabilities in their group. Table 2 lists ten inclusive practices and indicates the percentage of responses scored yes for each

TABLE 2
Inclusive Practices Provided by Counselors to Youth

Inclusive Practice Inventory (IPI) Percent of Responses Scored 'Yes' by Counselors Across Self-Help, Social, and Recreation Program Areas for each Inclusive Practice (Post Data only for 14 Summer Camps and Outdoor Schools)					
Inclusive Practices *	Disabled		Non-Disabled		
The following kinds of support were provided subjects to allow them to complete the program activities: Note: 1 is the highest rank	Rank	%	Rank	%	Level of Significance.
Gave encouragement/motivational support.	1	70.7%	1	49.3%	$p < .001$
Modeled the activity.	2	49.2%	2	31.1%	$p < .001$
Gave subject more time.	3	40.8%	6	11.0%	$p < .001$
Arranged for peer to provide assistance.	4	36.5%	3	14.9%	$p < .001$
Provided subject w/ physical assistance.	5	34.2%	7	10.6%	$p < .001$
Broke task into smaller steps.	6	31.9%	5	11.2%	$p < .001$
Provided alternative strategies.	7	30.5%	4	11.3%	$p < .001$
Provided extra practice.	8	18.5%	8	8.3%	$p < .001$
Allowed alternate ways of communication.	9	10.3%	9	3.1%	$p < .001$
Provided subject with special equipment.	10	5.8%	10	0.8%	$p < .001$

*Inclusive practices refers to kinds of support provided for youth with disabilities to help them successfully participate in program activities.

practice in three program areas: self-help, social, and recreation (for camps) or science/environ-/mental (for outdoor schools).

Across all 14 camps and outdoor schools studied, the five highest ranked types of support provided to youth with disabilities on the IPI were as follows: (a) gave encouragement/motivational support, (b) modeled the activity, (c) gave subject more time, (d) arranged for peer to provide assistance, and (e) provided subject with physical assistance.

Several similarities and differences were found in the practices used with youth who were disabled and with youth who were non-disabled. For example, the same two kinds of individual support (gave encouragement/ motivational support and modeled the activity) were provided most frequently to both youth with and without disabilities, but youth with disabilities demonstrated a greater need for them than their peers without disabilities. The remaining 8 practices were also used by counselors with both groups of subjects, but again were used more frequently with youth with disabilities. In particular, youth with disabilities (40.8%) needed more time to

complete activities than youth without disabilities (11.0%). Additional analysis revealed that youth with disabilities needed extra time more often in the area of self-help (personal care routines) and less often in recreation and social activities. Chi Square tests were run on each of the 10 items to test for significant differences between inclusive practices provided by counselors to youth with disabilities and by counselors to youth without disabilities. For all 10 practices, youth with disabilities were found to receive significantly more support than their peers who were not disabled ($p<.001$).

What Skill Development Occurred for Youth in Program Activities at Camp and Outdoor School?

At the end of each program session, camp counselors rated their campers' skill levels on OSI: Camps primarily in the recreation/living area, while outdoor school counselors rated their students' skill levels on the OSI: Schools primarily in the natural science/environmental area (see Tables 3 and 4). On the OSI: Camps, as noted in Table 3, counselors reported that youth with disabilities were at least partially independent on the post assessment of outdoor skills, and that youth without disabilities were fully independent on the post assessment. Campers without disabilities had average scores significantly higher than those of their peers with disabilities for all 10 areas (scales). For all categories, except fishing, the difference was significant at the .001 level; for fishing the difference was significant at the .05 level.

The average scores on the OSI: Schools indicate that counselors rated students with disabilities to be at the developing achievement level on the post assessment of natural science knowledge/skills, and that students without disabilities were rated to be at the proficient level of achievement on the post assessment (Table 4). Students without disabilities had significantly higher average scores, with levels of significance ranging from .05 to .001, than their peer with disabilities for the two recreation areas (scales) and for five of the six natural science areas (scales). There was no significant difference between the groups for the Soil/Earth area.

What Changes in Social Interaction Occurred for Youth During the Outdoor Program?

Videotape Observations

Analyses of Social Interaction Observation (SIO) data were completed for 10 of the camps and outdoor schools that provided complete pre-to-post (beginning of session to end of session) videotape observations of youth with and without disabilities. Paired *t*-tests were used to compare the pre- and post-observation frequencies for each observation category (see Table 5). Results showed an increase in the amount of time campers and students spent actively participating in an activity. Youth with disabilities significantly decreased the amount of time they spent in no active participation. Concomitantly, they significantly increased the amount of time they spent engaged in appropriate social interaction with peers without disabilities and with groups of peers/adults from the pre to the post observation. The same results were found for youth without disabilities. Thus, across a variety of group activities in these inclusive outdoor programs, youth with and without disabilities showed the same pattern of a decrease in non-interaction and an increase in appropriate social interaction with peers and within groups of peers and adults.

Survey of Counselors

At the end of the outdoor program session, counselors indicated whether they observed any change (i.e., increase, stayed the same, or decrease) in their campers' or students' social interactions with peers and adults since the start of the camp or outdoor school (i.e., pre-post). As illustrated in Table 6, the counselors judged that 62% of the youth with disabilities and 68% of the youth without disabilities exhibited an increase in social interactions with their peers. Similar, but smaller, increases in social interactions also occurred with adults. Chi Square tests were run on each of the items to test for significant differences between counselor responses for campers/students with disabilities and for camp ers/students without disabilities. No significant differences were found.

TABLE 3
Camper Achievement on OSI at End of Camp Session - 12 Summer Camps (1998, 1999)

Outdoor Skills Inventory (OSI): Post Data only						
		Disabled N = 355		Non-disabled N = 354		Groups Compared
Scale	Sample Items	Number of Campers	Average Score*	Number of Campers	Average Score*	Level of Significance
Nature Environmental (9 items out of 10)	• Recognizes natural objects • Picks up litter	290	3.54	293	3.76	$p < .001$
Overnight Camping (14 items out of 14)	• Roll sleeping bag • Helps cook meal	93	3.26	104	3.61	$p < .001$
Fitness/Hiking (7 items out of 7)	• Negotiates main camp area • Hikes 1/4 mile	165	3.42	164	3.79	$p < .001$
Boating (8 items out of 8)	• Puts on life jacket • Rows/paddles boat	167	3.52	176	3.80	$p < .001$
Swimming (12 items out of 12)	• Enters pool/water safely • Face floats	203	3.55	210	3.86	$p < .001$
Fishing (3 items out of 8)	• Casts a line • Hooks a fish	55	3.39	52	3.74	$p < .05$
Music/Drama/Crafts (4 items out of 7)	• Sings songs • Participates in skits	291	3.33	292	3.66	$p < .001$
Equestrian (9 items out of 11)	• Pets horse • Mounts horse	131	3.54	126	3.88	$p < .001$
Ropes/Challenge Course (2 items out of 3)	• Completes group initiatives	128	3.21	147	3.77	$p < .001$
Sports/Games(3 items out of 3)	• Plays individual sports/games	245	3.25	250	3.82	$p < .001$

*Recreation/living skills on the OSI's scales are stated in a positive manner and were rated by counselors as: 1=Not Independent, 2=Minimally Independent, 3=Partially Independent, or 4=Fully Independent

TABLE 4
Student Achievement on OSI at End of Session - 2 Outdoor Schools (1998, 1999)

Outdoor Skills Inventory (OSI) Post Data only						
		Disabled (N = 43)		Non-disabled (N = 42)		Groups Compared
Scale	Sample Items	Number of Campers	Average Score*	Number of Campers	Average Score*	Level of Significance
Fitness/Hiking (7 items out of 7)	• Negotiates main camp area • Hikes 1/4 mile	25	3.69	24	3.94	$p < .05$
Music/Drama (7 items out of 7)	• Sings songs • Participates in skits	34	3.29	35	3.73	$p < .05$
Soil/Earth (7 items out of 7)	• Identifies soil layers • Describes how soil is important	20	3.42	25	3.99	n.s.
Water (7 items out of 7)	• Identifies objects that float • Tests for general water quality	19	3.47	25	4.12	$p < .05$
Plants (6 items out of 6)	• Describes plant characteristics•	16	3.21	20	4.30	$p < .01$
Animals/Birds (8 items out of 8)	• Describes habitat requirements	12	2.83	19	4.10	$p < .001$
Atmosphere (6 items out of 6)	• Reads a thermometer • Helps to develop a weather forecast	15	2.62	17	3.84	$p < .001$
Environmental Etiquette (8 items out of 8)	• Stays on path/trail during walks • Picks up litter	22	3.82	23	4.43	$p < .05$

* Skills on the OSI's scales are stated in a positive manner and were rater by counselors as follows:
Recreation/living skills (Fitness/Hiking, Music/Drama)
1 = Not Independent, 3 = Partially Independent, or
2 = Minimally Independent, 4 = Fully Independent.
Life Science/Environmental Skills (Soil/Earth, Water, Plants, Animals/Birds, Atmosphere, Environmental Etiquette)
1=Beginning Achievement 2=Emerging Achievement 3=Developing Achievement
4=Proficient Achievement 5=Advance Achievement 6=Exemplary Achievement

TABLE 5
Pre-Post Social Interaction Analysis of Youth with and without Disabilities in Outdoor Programs

Youth with Disabilities: Social Interaction During Program

10 Sites: paired t-tests			
Type of Social Interaction	Pre-Observation Mean % (N=240)	Post-Observation Mean % (N=240)	Level of Significance
1. Appropriate Social Interaction in Group with Adult	13.30	19.83	n.s.
2. Appropriate Social Interaction in Group with Peer	20.92	22.78	$p < .05$
3. Appropriate Social Interaction in Group with Adult and Peer	8.68	10.40	n.s.
1-3. Appropriate Social Interaction in Group with Adult, or Peer, or Both Adult and Peer	42.89	48.79	$p < .05$
4. Appropriate Solo Active Participation	31.19	32.54	n.s.
5. No active Participation	23.92	17.53	$p < .05$

Youth Without Disabilities: Social Interaction During Program

10 Sites: paired t-tests			
Type of Social Interaction	Pre-Observation Mean % (N=252)	Post-Observation Mean % (N=279)	Level of Significance
1. Appropriate Social Interaction in Group with Adult	8.17	7.09	n.s.
2. Appropriate Social Interaction in Group with Peer	26.44	32.90	$p < .01$
3. Appropriate Social Interaction in Group with Adult and Peer	9.25	10.57	n.s.
1-3. Appropriate Social Interaction in Group with Adult, or Peer, or Both Adult and Peer	43.85	50.56	$p < .001$
4. Appropriate Solo Active Participation	32.77	31.84	n.s.
5. No active Participation	22.42	16.58	$p < .05$

TABLE 6
Counselor Judgment of Camper Change in Social Interactions: OSI

Outdoor Skills Inventory (OSI)
Average Percent of Change in Social Interaction Reported by Counselor
Post Data only for All 14 Sites: 1998,1999 (N = 794)

	Disabled (N=398)						Non-Disabled (N=396)						Groups Compared
	decreased		same		increased		decreased		same		increased		
	N	%	N	%	N	%	N	%	N	%	N	%	Level of Signif.
Social interactions with peers	17	4.7	94	23.6	247	62.1	7	2.0	108	30.3	241	67.7	n.s.
Social interactions with adults	7	2.0	148	41.6	201	56.5	4	1.4	154	43.8	194	55.1	n.s.

What Growth Did Parents Observe for Youth Following Camp and Outdoor School?

The Individual Characteristics Survey (ICS) was used pre-post to determine if parents observed any growth in their son or daughter after returning home from camp or outdoor school (see Table 7). Parents of youth with disabilities scored their child significantly higher (p-values ranging from 05 to .001) on the ICS at post assessment in the following areas (scales): (a) communication, (b) independence, and (c) self-esteem. Parents of youth without disabilities scored their child significantly higher (p-values ranging from .05 to .001) at post assessment in the areas (scales) of communication and independence. For the total scale, youth with disabilities improved their growth at the .01 significance level and their peers without disabilities improved at the .05 significance level.

DISCUSSION AND IMPLICATIONS

The NICP project researchers studied inclusive practices at 14 traditional resident camps and outdoor schools across the country that meaningfully integrate youth with disabilities into their program (i.e., inclusive). The project also investigated the impact of such programs on youth with and without disabilities at each site. Validated measures were used to collect quantitative data and the study employed varied methods such as objective assessments, surveys, and video samples to determine the effects of these outdoor programs on 743 youth. Inclusive practices were identified that were relevant for all participants and positive outcomes across each of the measures were found for youth with and without disabilities.

Inclusive practices were identified that are important for use by counselors with their campers/students and complement ones recommended by professionals promoting inclusive camps and outdoor/environmental education programs (McAvoy and Schleien, 2001; Roswal, Dowd, and Bynum, 1997; Solis, 2001). At inclusive camp and outdoor school sites, counselors used a variety of support and teaching strategies with individual campers or students in their groups. Certain youth, both with and without disabilities, needed additional support, guidance, and instruction beyond that given to the group as a whole. Researchers found that the two most frequent types of support, *encouragement/ motivation* and *modeling*, are needed for both groups of youth. With the addition of providing *additional time,* these three inclusive practices were ones

TABLE 7
Parent Evaluation of Child Growth on the Individual Characteristics Survey (ICS)

Pre-Post Comparison, All 14 Sites (1998, 1999)			
		Pre - Post Comparison	
Scale	Sample Items	Disabled (N = 246)	Non-Disabled (N = 249)
Social (11 items)	• Tries to get along with others • Makes new friends • Cooperative	n.s.	n.s.
Communication (9 items)	• Communicates own needs • Likes to share own feelings • Initiates conversations	p <=.001)	p<=.001)
Domestic Responsibility (7 items)	• Helps with chores • Is on time • Completes assigned tasks	n.s.	n.s.
Independence (9 items)	• Adapts during separations from family • Enjoys own leisure time • Seems more mature	p<=.001	p<.05
Self-Esteem (9 items)	• Self-confident • Positive Attitude • Happy	p<=.01	n.s.
Recreation Interest (5 items)	• Enjoys the outdoors • Enjoys physical activity • Enjoys recreation with family	n.s.	n.s.
Total Score (50 items)		p<=.01	p<=.05

All items (i.e., individual characteristics) on each of the ICS's six subscales are stated in a positive manner and were rated by the parents as:
0 = Never Observed, 1 = Sometimes Observed, 2 = Often Observed, 3 = Always Observed

used most frequently with youth with disabilities so that they could successfully participate in outdoor program activities. The finding that youth with disabilities more often needed extra time in the area of personal care routines has important implications for how schedules are managed in camp/outdoor school programs to accommodate such participants. Interviews with staff revealed a variety of ways that outdoor programs can provide individual participants with needed time for self-help tasks and also address the group's needs (Brannan et al., in press).

Positive outcomes were found for youth of all abilities who participated in traditional outdoor programs that were inclusive. Across the country, youth with and without disabilities were found to grow in their outdoor skills and personal/social development (e.g., self-reliance, social interaction, communication, self-esteem) while attending resident camp and outdoor school programs. The benefits to youth without disabilities participating in an inclusive resident outdoor experience, combined with the contributions of such community living experiences to their growth and development, are revealed in this study and strongly supported by other pro-

fessionals (Jordan, 1997; McAvoy and Schleien, 2001; Moon, Rogerson, and Komissar, 1991; Sable, 1992; Schleien, Hornfeldt, and McAvoy, 1994). The benefits to youth with disabilities of participating in inclusive resident outdoor programs are similar to the benefits of attending specialized camps (Brannan et al., 1998).

Change in social interaction patterns were found to be the same for both groups of campers/students, and both groups significantly increased their social interactions with peers and their active participation in the program over time. This outcome is an indication of successful integration because both groups' frequency of non-interaction, peer interaction, and adult interaction exhibited the same pattern over time. These findings, based on videotapes of actual social interactions, were also consistent with the counselor surveys that reported social interaction increases for all subjects. The use of the method (e.g., SIO) to code videotaped observations of subjects participating in program activities proved to be an effective procedure for assessing social interactions, one that was non-intrusive to campers, students, and staff, and that provided a useful visual and audio record of a camper/student's social behavior for subsequent study and analysis. Support exists for the use of similar observation methods of social interactions and its potential for use in future research (Schleien, Ray, and Green, 1997).

Parent judgments about the growth they observed in their son or daughter at home following the outdoor program proved to be significant for both groups of youth in the areas of independence (self-reliance) and communication and significant in the area of self-esteem for youth with disabilities. This study met a major need for follow-up measurement to determine the transfer or generalization of gains made by youth in outdoor settings to the home and community. Related research by Giallo (1984) and McAvoy, Schatz, Stutz, Schleien, and Lais (1989) also confirm the positive carry-over impact and benefits of resident outdoor programs for participants with disabilities. An important implication for camps, schools, and other youth serving agencies is that parents can be included as important evaluators in determining program effects on their son or daughter.

Positive outcomes for youth were achieved in resident outdoor programs that were predominantly one week in length. Although research has traditionally supported longer program periods for campers with disabilities, this study indicates a positive impact on youth with and without disabilities experiencing a short-term inclusive program at a resident outdoor site (e.g., one-week programs). Support for short-term intensive outdoor experiences is also indicated in related research conducted by Brannan et al. (1998), Marsh (1999), and McAvoy and Schleien (2001) and holds promise for the many camps and outdoor school programs nationwide that typically operate one-week programs.

Instruments were developed and implemented that are useful for measuring youth outcomes. The validated instruments developed may be especially helpful to various agencies (e.g., camps, parks and recreation, outdoor schools and centers) serving youth that need ways to help document the outcomes for youth who participate in their programs, as part of the process of obtaining administrative and financial support. Such agencies are increasingly faced with documenting outcomes for participants as a major criterion for such support. This study and related research can play a major role in contributing instrumentation and knowledge regarding the positive impact of outdoor programs on the development of youth. The results of this study are also useful in recognition that youth development has emerged as a high priority and that extensive efforts are underway to identify, confirm, and measure desired outcomes for our nation's youth through research and evaluation (North American Association for Environmental Education [NAAEE] and National Environmental Education and Training Foundation [NEETF], 2001; Search Institute, 2000).

There are practical resources available to support inclusive programming in residential camps and outdoor schools. Given that both youth with and without disabilities experienced positive outcomes that included positive social interactions over time, it appears that a number

of sites that participated in the research have developed strategies to successfully operate inclusive programs. The research team also studied and reported on the administrative, staffing, training, and management strategies used by these programs to operate an inclusive camp/outdoor school. These programs could be viable resources for professionals and others interested in inclusive practices employed by outdoor programs (Brannan et al., in press).

Lastly, the NICP research produced information that can be essential to parents and professionals. Positive answers to a number of important questions regarding the importance of youth attending an inclusive camp or outdoor school program were furthered by this study. Questions such as: Is a one-week camp and/or outdoor school experience helpful? What are the specific benefits of an inclusive experience for my child? In what ways do organized outdoor programs contribute to a youngster's "total life education?" Of special relevance, the findings lend strength to long-standing beliefs and more recent legal mandates affecting diverse groups of citizens; namely, inclusion provides personal and social benefits to all citizens (e.g., disabled and non-disabled) who are afforded opportunities to participate together in all areas of life.

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