

Research Paper

Initial Investigation of Comfort Levels, Motivations, and Attitudes of Volunteers During Therapeutic Recreation Programs

Valerie Collier
Erin Rothwell
Rena Vanzo
Paul S. Carbone

Abstract: Some of the barriers faced by individuals with disabilities result from negative attitudes of individuals without disabilities from the general public. Thus, therapeutic recreation programs in the community are an ideal setting to foster interaction between individuals with and without disabilities through integrated services, which can reduce negative attitudes toward individuals with disabilities. The purpose of this study was to describe the factors that motivate individuals to volunteer for therapeutic recreation programs and to evaluate how the volunteer experience affected the volunteer's comfort level and attitudes toward individuals with disabilities. Using quantitative scales, volunteers were surveyed before and after exposure to therapeutic recreation programs. Data analyses demonstrated that baseline comfort levels of volunteers toward individuals with disabilities were high. There was a statistically significant increase in comfort levels toward individuals with disabilities after exposure to therapeutic recreation programs among volunteers with lower baseline comfort levels.

Keywords: *therapeutic recreation, developmental disability, autism spectrum disorders, volunteer motivations*

Valerie Collier is a genetic counseling graduate from the University of Utah. Erin Rothwell is an associate professor in the Division of Medical Ethics and Humanities, and College of Nursing at the University of Utah. Rena Vanzo is a genetic counselor and Director of Clinical Genetic Services at Lineagen, Inc. Paul S. Carbone is a general pediatrician at the University of Utah. Please send correspondence to Valerie Collier, valierk1@gmail.com.

Introduction

People with disabilities face barriers to community participation because of ongoing negative stereotypes from people without disabilities (Abbott & McConkey, 2006; Mihaylov, Jarvis, Colver, & Beresford, 2004; Rimmer, Riley, Wang, Rautworth, & Jurkowski, 2004). For example, participation in physical activity among children with developmental disabilities is low, primarily as a result of societal attitudes that overestimate risk and underappreciate the benefits of physical activity for children with disabilities (Murphy & Carbone, 2008; Rimmer et al., 2004; P. E. Wilson, 2002). These societal messages of “you can’t do that” have resulted in lower levels of cardiovascular fitness, higher rates of obesity and more social isolation for children with disabilities compared with typically developing peers (Fernhall, 1993; Grondhuis & Aman, 2013; McConkey, Dowling, Hassan, & Menke, 2013).

Yet, there is evidence that therapeutic recreation programs have many benefits for individuals with disabilities. For example, equestrian therapy has been shown to improve autonomy, directed attention, and social motivation and integration for participants with autism spectrum disorders (ASDs) and intellectual disabilities (Bass, Duchowny, & Llabre, 2009; Borioni et al., 2012). Further, equestrian therapy benefits individuals with physical disabilities and improves gross motor function and muscle symmetry of individuals with cerebral palsy (Benda, McGibbon, & Grant, 2003; Casady & Nichols-Larsen, 2004; Sterba, 2006). Participation in adaptive sports programs increases social competence of individuals with disabilities, helps them feel connected emotionally to others and has an overall positive influence on their quality of life (Baran et al., 2012; Groff & Kleiber, 2001; Groff, Lundberg, & Za-

briskie, 2009). Therapeutic recreation programs can facilitate the development of personal identity as participants build social networks and experience feelings of success (Lundberg, Taniguchi, McCormick, & Tibbs, 2011; Phoenix, 2001). These programs also create a forum to bring together program participants with disabilities and instructors or volunteers without disabilities.

Volunteers are often an integral part of therapeutic recreation programs, and the interaction that takes place between volunteers and participants may improve overall attitudes toward individuals with disabilities. Research evidence suggests that increased personal interaction between typically developing peers and those with disabilities is associated with improved attitudes toward individuals with disabilities (Daruwalla & Darcy, 2005). For example, it has been shown that coworkers of people with disabilities have a more positive perception about disability than individuals without such experience (Biordi & Oermann, 1993). In addition, college students who have a first-degree relative with ASD exhibit greater openness toward people with ASD compared with college students who have no such relationships (Nevill & White, 2011). Finally, Bergman and Hanson demonstrated that extended interactions between volunteers and individuals with disabilities at a two-day camp resulted in more positive attitudes toward individuals with disabilities among the volunteers (2000).

In addition to improving attitudes toward individuals with disabilities through interactions between volunteers and participants with disabilities, there are many other benefits of volunteerism, both for the volunteer and the community. Volunteer work through the act of donating one’s time promotes a positive well-being and enhances a person’s hap-

piness, life satisfaction, self-esteem, sense of mastery and physical health (Thoits & Hewitt, 2001; J. Wilson & Musick, 1999). There is little information, however, whether the experience of volunteering for a therapeutic recreation program could alter the comfort level of volunteers toward individuals with disabilities. The purpose of our study was to describe the factors that motivate individuals to volunteer for therapeutic recreation programs and to evaluate how the volunteer experience affected their comfort level and attitudes toward individuals with disabilities. We hypothesized that volunteers would have a positive change in comfort level and attitudes toward individuals with disabilities after volunteering with a therapeutic recreation program. The project was approved by the Institutional Review Boards of the respective researchers prior to initiating the investigation.

The conceptual foundation for this research was structured around Social Cognitive Theory (SCT) (Bandura, 1986). SCT postulates that individuals' knowledge or understanding can be directly related to observing others within the contexts of social interaction and experiences. Thus, by observing and interacting with individuals with disabilities, volunteers may change how they think about individuals with disabilities in general.

Methods

Study Participants

Study participants were recruited during volunteer training sessions at two therapeutic recreation organizations located within a western state (programs 1 and 2). Volunteer training included information about the types of disabilities for the participants, adaptive techniques for facilitating programs for individuals

with disabilities, and program-specific safety rules. At the beginning of volunteer training, 10 minutes was provided to the volunteers to complete the pre-test if they chose to participate in the study. Individuals who were 18 years or older and were planning to volunteer during June 2013–February 2014 were invited to participate.

Two programs were targeted for this study. The rationale for targeting these programs was two-fold. First, in program 1 the volunteer stays with the same participant for the entire program, and in program 2, the volunteers work with different participants. Second, inclusion of two programs also involves individuals with both physical and intellectual disabilities and captures greater breadth of community programs.

Program 1. Program 1 provides therapeutic recreation programs for individuals with disabilities. Volunteers were recruited from an indoor rock climbing program for children (ages 6 to 18 years) with physical or intellectual disabilities, including ASD. The program was held one hour per week for six weeks, during which participants were able to climb on an indoor rock wall and learn new skills such as knot tying. Volunteers acted as climbing facilitators and were assigned to work with one participant throughout the program.

Program 2. Program 2 provides sport, recreation, and educational programs for individuals with disabilities. Volunteers from this organization were recruited from horseback riding and skiing programs. Volunteers for the ski programs assisted instructors working one-on-one with a program participant, helping with lifting and safety responsibilities. Horseback riding volunteers worked with a recreation therapist and program participant during rides and assisted with activities done by the participant while on the horse.

Instrumentation

The pretest included demographic questions and the Volunteer Function Inventory (Clary et al., 1998) to evaluate the motivations of volunteers. To address the study question of how the volunteer experience affects the volunteer's comfort level and attitudes toward individuals with disabilities, the Interaction with Disabled Persons (IDP) Scale (Gething & Wheeler, 1992) and the Societal Attitudes Toward Autism (SATA) scale (Flood, Bulgrin, & Morgan, 2012) were included on the pre- and posttests. These measures were used to compare volunteer attitudes and knowledge about disability before and after the volunteer experience. The posttest asked volunteers, to the extent possible, to identify the disabilities of the participants with whom they interacted. Both tests were administered anonymously by omitting any identifying information, but pre- and posttests were linked by the same study subject number in order to compare changes in responses over time. Pre-tests were completed prior to their training and volunteer experiences and post-tests were completed six to eight weeks after training in person or by email. Volunteers who completed the follow-up received a \$10 grocery store gift card.

Volunteer function inventory (VFI). The VFI evaluates the motivations of volunteers and consists of 30 statements that query reasons for volunteering among six dimensions: values (e.g., "I feel it is important to help others."), career (e.g., "Volunteering allows me to explore different career options."), understanding (e.g., "Volunteering lets me learn things through direct, hands on experience."), social (e.g., "People I'm close to want me to volunteer."), enhancement (e.g., "Volunteering increases my self-esteem."), and protective (e.g., "By volunteering I

feel less lonely."). The VFI uses a 7-point Likert scale ranging from *not at all important/accurate* to *extremely important/accurate*. The VFI has shown internal consistency and reliability with a test-retest reliability coefficient ranging from 0.64 to 0.78 for each dimension subscale (Clary et al., 1998; Gage & Thapa, 2011).

Interaction with disabled persons scale (IDP). The IDP measures discomfort in social interactions with individuals with disabilities and consists of 20 statements with a 6-point response scale ranging from *strongly disagree* to *strongly agree*. In this study, responses were inadvertently recorded with five categorical responses instead of six (*strongly disagree, disagree, neutral, disagree, strongly disagree*). The IDP has been evaluated with various samples and showed strong reliability with test-retest reliability coefficients ranging from 0.51 to 0.81 (Gething & Wheeler, 1992). The six-item discomfort factor of the IDP has demonstrated stronger internal consistency than the IDP as a whole (Iacono, Tracy, Keating, & Brown, 2009). Although other factors have been identified (such as coping, perceived level of information and vulnerability) the discomfort factor has demonstrated the highest level of consistency and was analyzed in this study to quantify the comfort levels of study participants toward individuals with disabilities.

Societal attitudes toward autism scale (SATA). An autism specific measure was selected because Program 1 and Program 2 commonly serve individuals with ASD. The SATA consists of 26 items that measure comfort level and attitudes toward people with ASD and knowledge about autism, using a 4-point response scale ranging from *strongly disagree* to *strongly agree*. The scale demonstrated sound psychometric properties and showed strong internal consistency ($\alpha =$

.77) and construct validity during previous studies (Flood et al., 2012).

Data Analysis

The data were analyzed using STATA 13.0. Descriptive statistics summarized the pre- and posttest responses. Comparisons between responses to similar questions with ordinal responses on the pre- and posttests were computed with the Wilcoxon signed-rank test. Comparisons between the pretest responses of volunteers who completed all surveys and the volunteers who completed the pretest but not the posttest were performed in order to assess for differences between volunteers who completed their program and those who did not. Ordinal variables were compared with the Mann-Whitney U test and categorical variables were compared with the Chi-square test.

Results

Of the 91 volunteers that were recruited for the study, 63 consented to participate and completed the pretest for a response rate of 69%. Posttest follow-up was completed by 24 individuals. Excluding 19 individuals who chose not to volunteer and thus were not eligible for study participation, the completion rate was 55%. The responses of all of the participants who completed pretests were analyzed to understand the demographics and motivations of volunteers to participate in the programs (VFI scale). Data from those who completed pre- and posttests ($n = 24$) were included in the analysis of the IDP and SATA scales.

Sample

Table 1 shows the demographics of all individuals who participated in the study ($n=63$). The mean age was 31 years, and the majority was white and female. Among all volunteers who enrolled in the study, 85% were interested in volun-

teering because they had an interest in the activity (such as rock climbing) and 84% reported that they were interested in helping others enjoy that activity.

We analyzed demographic information to identify differences between the group of participants who completed the posttest and those who did not. We found no significant differences in age of participants, ethnicity, gender and frequency of professional and social interactions with individuals with disabilities. Of the 24 volunteers who completed the posttests, 67% volunteered with program 1. The total amount of time volunteers were engaged in the program between pre- and posttests was an average of six hours. Over half the volunteers reported that they interacted with program participants with ASD.

Volunteer Function Inventory

The responses to the VFI for all volunteers enrolled in the study ($n = 63$) were analyzed. Scores for items within each of the six dimensions of the VFI were summed and the mean scores are shown in Figure 1. Composite scores for each dimension could range from 5 to 35 with higher scores reflecting a greater motivation for volunteering related to that dimension. In our cohort, relatively higher mean scores were reported for the values (29), understanding (28), and enhancement (24) dimensions. Relatively lower mean scores were reported for the career (19) and protective (18) dimensions. This indicates that volunteers in this study were motivated to participate in therapeutic recreation programs because of a humanitarian concern for others (values), a desire for new learning experiences (understanding) and for a positive impact on self-esteem (enhancement). Volunteers were less motivated by career-related benefits (career) or a desire

Table 1*Volunteer Demographics (n = 24)*

Age	
Mean	31
Range	18 – 72
Male	24 (39%)
Ethnicity	
White	60 (97%)
White and Native American	1 (2%)
Latino	2 (3%)
Asian	1 (2%)
Reasons for volunteering	
I enjoy the activities I will be participating in	52 (85%)
Help others enjoy the activities	51 (84%)
Gain experience as a facilitator	24 (39%)
Learn how to do something new	10 (16%)
Fulfill a class assignment	2 (3%)
Gain experience with people with disability	39 (64%)
Experience with disability	
Family member or close friend with autism, physical or intellectual disability	41 (66%)
No family/close friends with disability	26 (42%)
Unsure about a disability in family member	2 (3%)
Frequency of professional interactions with individuals with disabilities	
Never	24 (39%)
Occasional	19 (31%)
Often or very often	19 (31%)
Frequency of brief conversations with individuals with disabilities	
Never	2 (3%)
Occasional	28 (46%)
Often or very often	31 (51%)
Program volunteer participated in^a	
Rock climbing (Program 1)	16 (67%)
Skiing (Program 2)	4 (17%)
Horseback riding (Program 2)	3 (13%)
Administrative (Program 2)	1 (4%)
Hours of participation^a	
<3 hours	1 (4%)
3-4 hours	4 (16%)
5-8 hours	17 (71%)
<8 hours	2 (8%)
Disabilities of the program participants^a	
ASD	13 (54%)
Physical disability	5 (21%)
Intellectual disability	1 (4%)
Multiple disabilities	2 (8%)
Volunteer was unsure about the disability	5 (21%)

^aData reported includes volunteers who completed both pre- and posttest surveys

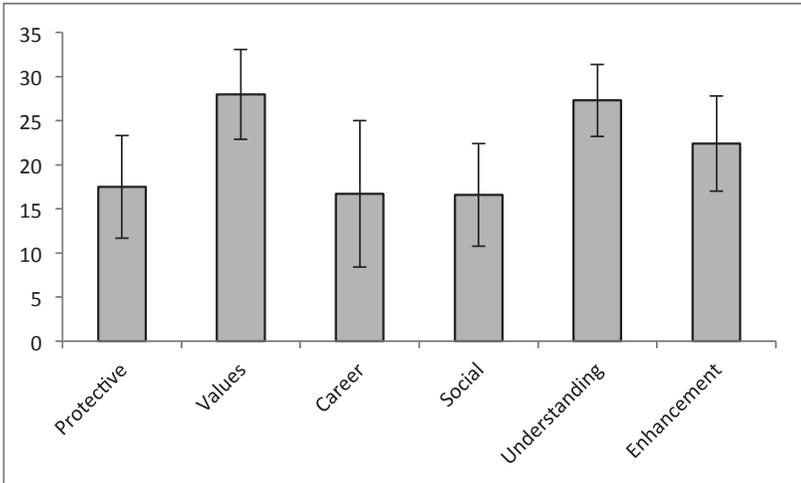


Figure 1. Volunteer Function Inventory dimensions evaluated by study subjects with five questions for each dimension. Responses to each statement were recorded with a 7-point scale ranging from *not at all important/accurate* (1) to *extremely important/accurate* (7). Scores for each dimension were added to create a summary score for each respondent (maximum score was 35). The mean summary score among all volunteers for each dimension is shown, error bars represent standard deviation.

to escape negative personal feelings (protective).

Interaction with Disabled Persons Scale

The responses on the IDP for study participants who completed both pre- and posttests ($n = 24$) are shown in Table 2. There were several items that showed significant improvement from pretest to posttest. For example, participants reported they felt a greater sense of reward when able to help those with disabilities ($p = 0.033$) and felt more comfortable and relaxed with longer interactions ($p = 0.017$). Also, volunteers reported that they were more likely to notice the person more than the disability after their volunteer experience ($p = 0.004$).

We used the 6-item discomfort factor to measure overall discomfort levels with social interactions with individu-

als with disabilities. This factor includes items 8, 10, 11, 15, 16, and 17 listed in Table 2. There was a trend toward decreased scores on the discomfort factor after volunteering ($p = 0.059$). We noticed that several of the responses on the pretest items of the IDP showed that many of the volunteers had high baseline comfort levels during interactions with individuals with disabilities. To adjust for this ceiling effect, a separate analysis included 11 study subjects with higher scores on the discomfort factor (pretest score greater than the group mean of 9). This analysis identified a significant improvement in comfort levels ($p = 0.016$) among individuals with higher discomfort baseline scores. In a comparison of baseline responses of individuals who completed all surveys and individuals who completed only the pretest, we found there were no

Table 2

Percentage of Volunteer Responses on the IDP 5-Point Scale

		% Strongly disagree	% Disagree	% Neutral	% Agree	% Strongly Agree	<i>p</i> - value
1. It is rewarding when I am able to help.	<i>Pre</i>	0	0	5	64	32	0.033*
	<i>Post</i>	0	0	5	27	68	
2. It hurts me when they want to do something and can't.	<i>Pre</i>	10	10	24	57	0	0.323
	<i>Post</i>	10	5	43	38	5	
3. I feel frustrated because I don't know how to help.	<i>Pre</i>	14	23	45	18	0	0.138
	<i>Post</i>	36	27	18	14	5	
4. Contact with a person with a disability reminds me of my own vulnerability.	<i>Pre</i>	14	18	32	27	9	0.589
	<i>Post</i>	9	23	32	27	9	
5. I wonder how I would feel if I had this disability.	<i>Pre</i>	0	9	32	45	14	0.308
	<i>Post</i>	0	5	23	50	23	
6. I feel ignorant about people with disabilities.	<i>Pre</i>	14	27	45	14	0	0.057
	<i>Post</i>	41	18	32	9	0	
7. I am grateful I do not have such a burden.	<i>Pre</i>	18	9	18	27	27	0.496
	<i>Post</i>	5	5	27	45	18	
8. I feel uncomfortable and find it hard to relax.	<i>Pre</i>	41	41	14	5	0	0.017*
	<i>Post</i>	73	23	5	0	0	
9. I am aware of the problems disabled people face.	<i>Pre</i>	19	19	29	24	10	0.055
	<i>Post</i>	5	14	24	52	5	
10. I cannot help staring at them.	<i>Pre</i>	41	36	23	0	0	0.392
	<i>Post</i>	86	9	0	5	0	
11. I feel unsure because I do not know how to behave.	<i>Pre</i>	32	23	23	14	9	0.028*
	<i>Post</i>	45	32	18	5	0	
12. I admire their ability to cope.	<i>Pre</i>	0	5	14	45	36	0.099
	<i>Post</i>	0	0	9	45	45	
13. I don't pity them.	<i>Pre</i>	14	18	36	23	9	0.069
	<i>Post</i>	0	14	50	27	9	
14. After frequent contact, I notice the person, not the disability.	<i>Pre</i>	0	9	23	27	41	0.004*
	<i>Post</i>	0	0	9	14	77	
15. I feel overwhelmed with discomfort about my lack of disability.	<i>Pre</i>	55	18	27	0	0	0.436
	<i>Post</i>	68	9	23	0	0	
16. I am afraid to look at the person straight in the face.	<i>Pre</i>	82	14	0	5	0	0.355
	<i>Post</i>	91	5	0	0	5	
17. I tend to make contacts only brief and finish them as quickly as possible.	<i>Pre</i>	41	36	23	0	0	0.018*
	<i>Post</i>	64	32	5	0	0	
18. I dread the thought that I could eventually end up like them.	<i>Pre</i>	55	14	18	14	0	0.532
	<i>Post</i>	45	9	23	23	0	

Note. "Pre" are the responses give before program participation and "Post" are the responses after program participation. The discomfort factor is represented by items 8, 10, 11, 15, 16, and 17. Bolded numbers show the ranking with the greatest number of responses.

**p* < 0.05, significant difference in responses pre- and post-test.

significant differences in the discomfort factor scores (data not shown).

Societal Attitudes Toward Autism Scale

Responses to the SATA for volunteers who completed both pre- and post-tests are shown in Table 3. Most volunteers reported high levels of knowledge and comfort on the pre-test items, reflecting positive attitudes toward individuals with ASD before the volunteer experience which limited our ability to detect improvement. On item 7, however, study

participants reported a higher comfort level sitting next to an individual with ASD in the community (in a movie theater) after compared with before the volunteer experience. None of the 10 SATA items that were analyzed showed a significant worsening of knowledge of attitudes toward individuals with ASD from the pre- to the posttests.

When we compared pretest responses of the SATA among individuals who volunteered and completed posttests and those who did not complete posttests,

Table 3

Percentage of Volunteer Responses on the SATA 4-Point Scale

		Strongly disagree	Disagree	Agree	Strongly Agree	<i>p</i> -value
1. People with autism require additional support for successful at work.	<i>Pre</i>	0	32	59	9	0.480
	<i>Post</i>	5	18	64	14	
2. People with autism tend to be violent.	<i>Pre</i>	55	41	5	0	0.505
	<i>Post</i>	64	32	5	0	
3. Mainstreaming children with autism into regular education classrooms poses a safety risk...	<i>Pre</i>	73	27	0	0	0.491
	<i>Post</i>	68	27	5	0	
4. People with autism need assistance communicating with others.	<i>Pre</i>	14	50	32	5	0.251
	<i>Post</i>	14	32	41	14	
5. All individuals with autism demonstrate repetitive behaviors...	<i>Pre</i>	55	36	9	0	0.293
	<i>Post</i>	41	45	14	0	
6. I would be comfortable sharing an office with a co-worker with autism.	<i>Pre</i>	0	5	41	55	0.883
	<i>Post</i>	9	5	27	59	
7. I would be comfortable sitting next to a person with autism in a movie theatre.	<i>Pre</i>	0	14	32	55	0.008*
	<i>Post</i>	0	0	27	73	
8. I would be comfortable having a person with autism living in the same building.	<i>Pre</i>	0	0	23	77	0.655
	<i>Post</i>	0	0	18	82	
9. I would be comfortable having a friend with autism.	<i>Pre</i>	0	5	32	64	0.059
	<i>Post</i>	0	0	18	82	
10. People with autism are capable of living normal lives...	<i>Pre</i>	0	0	27	73	0.317
	<i>Post</i>	0	0	18	82	

Note. “Pre” are the responses give before program participation and “Post” are the responses after program participation. Bolded numbers show the ranking with the greatest number of responses.

**p* < 0.05, significant difference in responses pre- and post-test.

we found no significant differences in the responses except for two items. Individuals who volunteered and completed post-tests were less likely to agree with the statements “People with autism need assistance when communicating with others” (*p* = 0.025) and “I would be comfortable having a friend with autism” (*p* = 0.042). Any missing data were excluded from the analyses.

Discussion

This study explored the comfort levels and attitudes toward individuals with disabilities among volunteers of therapeutic recreation programs before and after volunteering. The findings of our study suggest that volunteering improves or maintains (and does not worsen) comfort level or attitudes toward individuals with disabilities.

We found that the baseline comfort level toward individuals with disabilities in our cohort was high. The majority of

volunteers disagreed with the questions related to discomfort about meeting individuals with disabilities, indicating a high level of comfort prior to participating in the programs. In addition, volunteers had high baseline knowledge about ASD and were very comfortable with individuals with ASD. This finding was somewhat anticipated because the study participants were self-selected and chose to volunteer with individuals with disabilities. Other characteristics of the group are also predictive of higher levels of acceptance toward individuals with disabilities. For example, nearly half of the volunteers in our study had a family member or close friend with a disability, over half had occasional or frequent professional interactions with individuals with disabilities and 97% reported having occasional or frequent conversations with individuals with disabilities. Prior experience and contact with individuals with disabilities has been previously associated with a more positive attitude toward individu-

als with disabilities (Bergman & Hanson, 2000; Biordi & Oermann, 1993; Daruwalla & Darcy, 2005; Nevill & White, 2011).

Some of the volunteers in our study, however, did report relatively lower baseline levels of comfort toward individuals with disabilities. About 30% to 40% of the sample reported in the pretest that they felt uncomfortable and were unsure how to behave around individuals with disabilities. However, there were significant improvements of comfort after participation in therapeutic recreation programs. This finding should reassure volunteer recruiters that initial discomfort need not exclude an individual from the pool of potential volunteers. Consistent with SCT (Bandura, 1986), volunteering provides a strong potential for improvement in comfort levels as a result of fostering more observation and interaction through the volunteer experience. As volunteers observe and interact with individuals with disabilities, volunteers will likely have an improved understanding about individuals with disabilities in general.

The primary motivations for volunteering among our participants were that they enjoyed the program activities they would be involved with and they wanted to share this experience with others. In addition, the primary motivation of most volunteers was related to values, understanding and enhancement. This implies that therapeutic recreation programs will find interested volunteers by recruiting among groups of individuals who are passionate about the activities in which they will be involved. In addition, organizations should appeal to the volunteer's sense of humanitarian concern for others (values), desire for new learning experiences (understanding) and desire for a positive impact on self-esteem (enhancement). Previous research has sug-

gested that the effectiveness of volunteer recruitment advertisements are related to the extent that they match the potential volunteer's personal motivations (Clary et al., 1998).

Exposure to a therapeutic recreation program was associated with greater comfort levels during interactions with individuals with disabilities. By improving volunteer attitudes toward individuals with disabilities, therapeutic recreation programs have the potential to remove societal barriers for individuals with disabilities. Perceptions and attitudes of individuals without disabilities have been identified as a barrier for participation in physical activity, recreation, community, and school programs by individuals with disabilities (Abbott & McConkey, 2006; Law, Petrenchik, King, & Hurley, 2007; Rimmer et al., 2004). Therapeutic recreation programs can be an effective method of bringing together individuals with and without disabilities to improve comfort levels and reduce social barriers.

Lastly, a potential unintended consequence of using volunteers is a worsening of attitudes toward individuals with disabilities. This is a potential concern considering that individuals with disabilities may experience a high level of anxiety and display maladaptive behaviors when participating in a new activity within the community. Future research might investigate conditions that could contribute to worsening of volunteer attitudes like inappropriate participant behaviors during initial community activities. While the work of supporting access to recreation activities for children with disabilities is challenging, an important finding of this study is that attitudes toward individuals with disabilities did not worsen among members of our cohort after participation in the program.

Study Limitations

While this is an initial investigation of the attitudes of volunteers of therapeutic recreation programs, there were several limitations to our study. This study was conducted with a relatively small number of study subjects and a larger sample size would be helpful in better understanding of the impact of a therapeutic recreation program on volunteer beliefs and attitudes. In addition, there was variation in the amount of time study participants spent volunteering with individuals with disabilities. Because of the small sample size, we were unable to assess for variation in change in attitudes that may be associated with different intensity levels of volunteering. We were also limited in our ability to follow-up with volunteers. Some individuals who were initially recruited choose not to volunteer and we were unable to follow-up with these individuals to explore their reasons for not volunteering. There were several individuals we were unable to contact for follow-up, and it is possible that those individuals who were not able to complete follow-up had more negative reactions to the volunteer experience.

The interpretation of the IDP data from our study may be limited because of the inadvertent use of a 5-point rather than the 6-point scale with which this measure was validated. As our study used the same 5-point scale for the pre- and posttests and utilized a statistical test designed only to evaluate for within subject changes we do not believe this change in the scale affected the results of our study. With a smaller scale, our ability to detect improvement from pre and post inter-

vention might have been more limited compared with a 6-point scale, which only would underestimate rather than overestimate the degree of change.

Conclusion

Volunteering for therapeutic recreation programs seems to improve or maintain positive attitudes toward individuals with disabilities. Therapeutic recreation programs provide the benefit of breaking down social barriers that allow an enjoyable way for those with and without disability to interact, resulting in greater acceptance of those with disabilities. Further understanding of the impact of volunteering on the volunteer's attitude toward individuals with disabilities may be gathered by surveying a larger sample of volunteers and analysis may focus on volunteers who had lower comfort levels prior to volunteering to identify change in this segment of the sample. Additional qualitative research in this area may further identify volunteers' concerns and attitudes related to interacting with individuals with disabilities before and after the volunteer experience. In addition, research investigating the conditions that could contribute to worsening of volunteer attitudes may address a potential unintended negative change in volunteer attitudes toward individuals with disabilities. Understanding the benefit of a volunteer program in therapeutic recreation programs should further motivate volunteer coordinators to maximize the number of volunteers involved in their programs and provide a positive environment for volunteers that will encourage them to continue volunteering.

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