

Research paper

Assessing the Social Effect of Therapeutic Recreation Summer Camp for Adolescents With Chronic Illness

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Abstract

Over 2 million adolescents in the United States have a form of chronic illness and frequently have decreased levels of social self-efficacy and social performance. The summer camp industry and the field of therapeutic recreation have been found to have positive influences upon these social factors. The purpose of this study was to examine the effects of a therapeutic recreation-based summer camp on social self-efficacy levels and social performance with peers among adolescents with chronic illness.

Seventy-nine adolescents with neurofibromatosis participated in two sessions of summer camp. Campers were assigned to either a week of camp following a traditional summer camp model or a week of camp following the therapeutic recreation process. The Social Self-Efficacy Scale and an adapted Social Skills Questionnaire were used for measurements.

The first hypothesis looked at social self-efficacy and was not supported. The second hypothesis looked at social performance and was supported.

Keywords: *Therapeutic recreation, summer camp, chronic illness, social self-efficacy, social performance, neurofibromatosis*

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Introduction

Chronic illness is a term given to a group of health conditions that persists for longer than 3 months and most often will continue throughout a person's lifetime. Examples of chronic illnesses include cancer, heart disease, autoimmune disorders, respiratory tract diseases, diabetes, fibromyalgia, neurofibromatosis, asthma, and arthritis. Over 2 million adolescents in the United States have some form of chronic illness. Repeated doctor visits, medical treatments, and extended hospital stays all combine to limit the adolescent's exposure to various social situations, which in turn can delay or stunt the individual's social growth and drastically limit his or her social development (Bluebond-Langner, Perkel, Gortertzel, Nelson, & McGeary, 1990). This social isolation can lead to an increased occurrence of depression, anxiety, and behavioral problems for the adolescent (Hamlett, Pellegrini, & Katz, 1992). Often in comparison to their peers, he or she feels a lack of ability or control to develop meaningful social relationships, create new friendships, and excel in social settings. All of these issues can lead the adolescent with chronic illness to a lower sense of social self-efficacy (Harrison & McGuire, 2008; Meltzer & Rourke, 2005) or the belief they cannot successfully perform a given social task or a behavior change (Bandura, 1977). Social self-efficacy beliefs can be affected and modified by four different sources of information: performance accomplishments, also known as enactive attainment; vicarious experiences; verbal persuasive message; and physiological signals (Bandura, 1986, 1997). Social self-efficacy can be strengthened or weakened by how the information was received from each source.

Social self-efficacy is vital to the social development of adolescents with chronic illness. Individuals who have an increased sense of social self-efficacy are more adept at various social performances such as (a) instigating social conversations; (b) developing, strengthening, and maintaining social relationships; and (c) functioning in various social groups and social situations than individuals who exhibit low levels of general self-efficacy (Rapley & Fruin, 1999). Social performance is a behavioral manifestation of social self-efficacy (Bandura, 1997).

Research has indicated self-efficacy, including social self-efficacy, is strongly connected with numerous health-related outcomes, such as an increase in life satisfaction (Hampton, 2000), a decrease in both hospital visits and the duration of those visits (Horn, Yoels, Wallace, Macrina, & Wrigley, 1998), and an increase in overall functioning (Rejeski, Miller, Foy, Messier, & Rapp, 2001). Research also indicates both therapeutic recreation (TR) and summer camps are effective sources for increasing social self-efficacy for adolescents with chronic illnesses (Harrison & McGuire, 2008; Meltzer & Rourke, 2005).

Research by Maughen and Ellis (1991) identified TR as the main modality in decreasing depression and increasing social self-efficacy in an adolescent population. Additional research by Tate and Ellis (1997), Wise and Hale (1999), Autry (2001), and Harrison and McGuire (2008) also reported increased self-efficacy levels due to the successful implementation of the TR process: assessment, plan, implementation, and evaluation.

Summer camps for adolescents with chronic illnesses have also been

shown to increase levels of self-worth and social acceptance (Meltzer & Rourke, 2005) and also provide the adolescent an invaluable experience of associating with other individuals in similar situations. In many instances, these associations are the only opportunity adolescents have to interact with other individuals of the same age and with similar medical situations outside of the hospital setting. In addition, summer camps can increase social self-efficacy and social performance by providing positive social situations, fostering independence, and providing opportunities for leadership experience (Thurber, Scanlin, Scheuler, & Henderson, 2007).

Although increased levels of social self-efficacy and social performance have been shown to be outcomes of both TR programs and summer camp settings, it is not known whether the combined effect would provide further increases in social self-efficacy and performance. Therefore, the purpose of this study was to examine the effects of a TR-based summer camp on social self-efficacy levels and social performance with peers among adolescents with chronic illness.

This study was primarily interested in testing two research hypotheses. The first hypothesis was that summer camp programs using TR programming to increase social self-efficacy among adolescents with chronic illness would be more effective at increasing social self-efficacy than summer camp programs not using TR. The second was that, in addition to self-reported social self-efficacy measures, participants in the TR-based summer camp session would exhibit a greater increase in social performance with peers over the traditional summer camp session.

Method

Sample

Seventy-nine campers were attending a specialty summer camp called Camp Kostopulos (Camp K) just east of Salt Lake City, Utah. Camp K is part of the Kostopulos Dream Foundation, a year-round organization that has provided educational, recreational, and cultural opportunities for children, adolescents, and adults with physical and cognitive impairments since 1967. The sample was divided into two sessions: Session 1, the Traditional Camp K Model, with 35 campers, and Session 2, the TR Process Model, with 44 campers. The term *TR Process Model* is used to differentiate between the two weeks of camp and does not refer to a TR model of practice. Thirty-seven participants were female and 42 were male, ranging in age from 11 to 22, with a mean age of 15.87. The adolescents came from across the United States, with diverse socioeconomic backgrounds. Final sample sizes were slightly lower than the 79 study participants for the hypothesis testing as only participants providing complete data sets at all times were included in the analyses.

Participants in this study had neurofibromatosis (NF), a genetic disorder that affects about 1 in 3,500 individuals (North et al., 1997). NF is characterized by small tumors that grow on the ends of nerves throughout the body. NF is a lifelong genetic disorder that is usually diagnosed in early childhood and brings with it a host of secondary complications, such as bone deformities, learning disabilities, café au lait spots, cardiovascular problems, gradual hearing loss, and chronic pain (Noll et al., 2007). Even though its name is not well recognized, it is a more common

chronic childhood illness than cystic fibrosis, Duchenne muscular dystrophy, and Huntington's disease combined. In addition to physical changes, the tumors can also result in various cognitive impairments. This decrease in cognitive functioning adds another barrier to cultivating meaningful social relationships and can lead to a further decrease in social self-efficacy. In many aspects, the social problems and lack of social self-efficacy exhibited by adolescents with NF are closely related to the social problems exhibited by adolescents with other forms of chronic illness.

Consent

Research participants were informed of the nature of this study through an invitational mailing included in the Camp K acceptance letter. This mailing contained all necessary information, including the purpose of the research study, data collection procedures, potential benefits or side effects of the study, provisions in the study to preserve confidentiality, a parental permission form, and a consent to participate form, and was approved by the human subject review board. It also clearly stated participation was voluntary and would in no way affect their camp acceptance. Campers who agreed to participate in the study had this information restated to them on the first day of camp.

Measures

Research data were collected using the Muris Social Self-Efficacy Scale (SSES, 2001) and the adapted version of the Social Skills Questionnaire (SSQ). The SSES asks eight questions about social self-efficacy on a 5-point Likert scale. The answers range from *not very well* to *very well*. The scale was originally designed for classroom settings;

therefore, two questions were slightly altered by changing the term *classmates* to *youth your age*. The SSES Cronbach's alpha was reported at .85 (Muris, 2001). An adapted version of the SSQ (Levinson, 2004) was also used. The SSQ is an observational rating of social performance completed by adult staff. The extent of the adaptation was replacing *child* and *peers* with *camper* and *campers*, as well as replacing *school* with *camp*. The SSQ Cronbach's alpha was reported at .86 (Levinson, 2004).

Study Procedures

The first session of camp served as the control group; this session followed the Traditional Camp K Model. The recreational therapists completed the SSQ daily. No goals or objectives were created for the campers, and programs were designed to provide an enjoyable experience for the campers. No changes were made to the typical camp program, with the exception of administering the SSES upon arrival and immediately prior to departure. The second session of camp, the TR Process Model, followed the TR process throughout the session. This included TR assessments for each participant, measureable goals and objectives, targeted program plans within the same program activities as the first session, and proper evaluation and documentation of all participants and programs.

Assessment. The assessments were conducted using the Camp K assessment, which was a combination questionnaire and interview. Assessments were conducted by two trained recreational therapists who are Utah state licensed (Therapeutic Recreational Specialist, TRS) and nationally certified (Certified Therapeutic Recreation Therapist, CTRS) and seven TR interns from

Kostopulos Dream Foundation. The TR interns were trained in assessment, had completed a skills checklist based upon the National Council for Therapeutic Recreation Certification (NCTRC, n.d.) Job Analysis, and were under the continuous observation of their primary internship supervisor. For the purpose of this study, the term *recreational therapist* refers to both a CTRS and a TR intern.

The interview assessment established a relationship between the camper and the recreational therapist, gathered important information about the campers' social skills, and assessed the campers' physical, mental, social, behavioral, and emotional status, focusing primarily on the social aspect. Topics and questions related to social self-efficacy and social performance were discussed. To ensure the client offered as much information as possible, these questions were open-ended and the interview was conducted in a nonthreatening, comfortable, and safe environment. Assessments were conducted within 2 hours of the camper's arrival and lasted between 30 and 50 minutes. The pretest of the SSES was also collected at this time.

In addition to the interview assessment, the recreational therapist also conducted an observational assessment during the camper's first activity. Observations were conducted on the campers' interactions in social situations, such as whether they initiated conversations or shied away from interactions, whether they could establish relationships, whether their illness held them back in social situations, how they reacted to disagreements, how they reacted to individuals of the opposite sex, and whether they could maintain social relationships. Observation was continued throughout camp

as a part of the ongoing evaluation to identify camper interaction in a variety of social situations and social self-efficacy growth over the course of the entire session.

Planning. Based upon the result of the SSES, the interview assessment, and the observational assessment, the recreational therapist created measurable goals and objectives for each camper. Goals were based upon social self-efficacy. Goals such as "upon completion of this session of camp, the camper will display at least two positive social interaction techniques as judged by the recreational therapist" or "by the end of this session of camp, the camper will identify three new personal social strengths when asked by the recreational therapist" were set for each camper. Each goal was based upon accomplishing certain behavioral objectives that were written to account for multiple sources of social self-efficacy.

Because performance accomplishments are the most powerful source of information to increase social self-efficacy, they were included in most of the behavioral objectives. Examples of behavioral objectives for performance accomplishments included "with prompting from the recreational therapist, the camper will identify at least one situation where he or she overcame his or her social fears to initiate a conversation by session end"; "with aid from the recreational therapist, the camper will discuss how he or she developed a new friendship by the end of the opening weekend of camp"; or "without help from the recreational therapist, the camper will identify at least one new social interaction technique he or she learned while at camp."

Behavioral objectives also used vicarious experiences to strengthen social

self-efficacy. Examples of behavioral objectives for vicarious experiences included “while observing a model express his or her opinion to fellow campers, the camper will identify one strategy that was used by the model to the recreational therapist by activity end” or “the camper will use mental imagery to visualize how he or she would act if he or she encountered an unfamiliar individual and identify to the recreational therapist two social interaction techniques that he or she used.”

Although generally less influential, objectives were also crafted to target verbal persuasion and physiological and emotional signals when appropriate. These included seeking encouragement and feedback as well as interpreting and reflecting on feelings before, during, and after activities.

Implementation. Before each activity, the recreational therapist introduced the activity, discussed the goals and objectives, and discussed with the campers their general views and feelings toward the activity. Safety concerns were reviewed, and the recreational therapist encouraged positive social interactions. Throughout the activity, the recreational therapists worked with groups and individuals to reach their goals and behavioral objectives. The therapist used all four sources of information to strengthen social self-efficacy and social skills in order to decrease negative stressors associated with social situations.

The recreational therapist used performance accomplishments to focus on the social successes of the camper. By focusing on these successes, the camper could begin to understand what it takes to create and cultivate meaningful social relationships. These accomplish-

ments bring about strong feelings of mastery and lead to increased social self-efficacy. As needed, the recreational therapist introduced aids to assist in the successful completion of a desired social task. Aids included note cards, direct guidance from the recreational therapist, and peer models to guide the camper through a particular social situation. The recreational therapist also used debriefing sessions to reflect upon the success of the activity. These debriefing sessions helped the campers connect the camp activity to other life situations.

Vicarious experiences were also used in the implementation of all activities. By observing the other campers, individuals who were the same age, had the same illness, and had similar abilities in social situations began to realize, “if they can create social relationships, then so can I.” They were able to not only witness their peers having positive social interactions, but also initiate those social interactions. This allowed for direct peer modeling. When appropriate, the recreational therapist also acted as a model, demonstrating acceptable social interactions and tactics for dealing with particular circumstances.

Another form of social self-efficacy the recreational therapist implemented in the activity was that of verbal persuasion. The recreational therapist provided targeted, specific, immediate feedback to each camper regarding effort, skill, successes, and future suggestions. Examples of feedback included “You’re really getting to know a lot of people here at camp,” “You have an easy way of making friends with anyone,” “That was awesome how you helped that other camper join the group,” or “I know

it's difficult to make new friends, but I can tell you are really stepping outside of your comfort level and making an effort. Keep it up." Comments such as these created a supportive environment in which the camper felt safe to ask for assistance or continued to have the confidence to create more social successes.

The last form of social self-efficacy information was physiological signals. These physical signals notified the camper that they think either they will fail or they will succeed. To decrease the feelings of failure, it was important that the recreational therapist helped the camper know it is okay to be nervous. It was important the camper knew that even though an activity or social situation might seem difficult, it was a safe activity and a safe environment.

By using these four sources of social self-efficacy information in the implementation stage of the camp session, the recreational therapists helped the campers strengthen their social self-efficacy. They helped them to understand (a) the benefits of social relationships, (b) how to create and maintain those social relationships, and (c) how to conquer the challenges in cultivating meaningful social experiences.

Evaluation and documentation. The recreational therapists conducted evaluation and documentation after every morning, afternoon, and evening activity or program. This included an activity/program evaluation and individual camper progress notes and evaluations for both sessions of camp. During the Traditional Camp K Model, the individual camper evaluations were based upon staff's general observations of camper behaviors,

the daily SSQ, and the SSES at the end of the camp. During the TR Process Model, the individual camper progress notes were directed at progress or lack of progress toward the campers' behavioral objectives, the daily SSQ, the SSES at the end of the camp, and a discharge assessment.

Data Analysis

The data were analyzed using SPSS 19.0 with both descriptive and inferential statistics. A 2 x 2 mixed ANCOVA was used to compare the results from the SSES. The between subjects factor was model with two levels (Traditional Camp K Model and TR Process Model) and the within subjects effect was time (pre and post). Alpha was set at .05. A repeated measures ANCOVA was used to compare the results of the social performance scores gathered from the SSQ. The Day 1 baseline observation was used as a covariate. SSQ scores were coded so that larger numbers for analysis represented improvements.

Results

Hypothesis Tests

The first hypothesis, summer camp programs using TR programming to increase social self-efficacy among adolescents with chronic illness will be more effective at increasing social self-efficacy than summer camp programs not using TR, was not supported by these data ($p > .05$). There was, however, a significant main effect for time, $F(1, 70) = 17.1, p < .001$, indicating Traditional Camp K and TR Process Models resulted in increased social self-efficacy. The descriptive statistics are presented in Table 1.

Table 1*Descriptive Statistics for Hypothesis 1: Social Self-Efficacy Over Time by Treatment*

Groups	Mean Pre SSES (SD)	Mean Post SSES (SD)	N
Camp K Model	3.56 (.79)	3.87 (.78)	32
TR Process Model	3.67 (.82)	4.01(.63)	40

The second hypothesis, participants in the TR Process Model will exhibit a greater increase in social performance with peers over the Traditional Camp K Model, was supported by statistical analysis. The time-model interaction was significant, $F(4, 71) = 9.868, p < .001, \lambda = .643$, indicating improvement in social performance with peers improved more for the TR Process Model than for the Traditional Camp K Model over the days at camp. See Figure 1 for a plot of the social performance with peer's scores plotted for each day by model (Camp K vs. TR Process). This figure shows consistent and significant improvements in social performance observed during the TR Process Model

over time compared to the Traditional Camp K Model.

Discussion

The treatment of a TR-based summer camp appeared to have no greater impact on the participants' social self-efficacy levels than that of a traditional week of camp. These findings are not entirely consistent with existing literature; Harrison and McGuire (2008) found TR was an effective tool for increasing social self-efficacy. However, it may be that camp experiences are well suited to fostering social self-efficacy, and this effect occurs regardless of an intentional TR process. Thurber, Scanlin, Scheuler, and Henderson (2007)

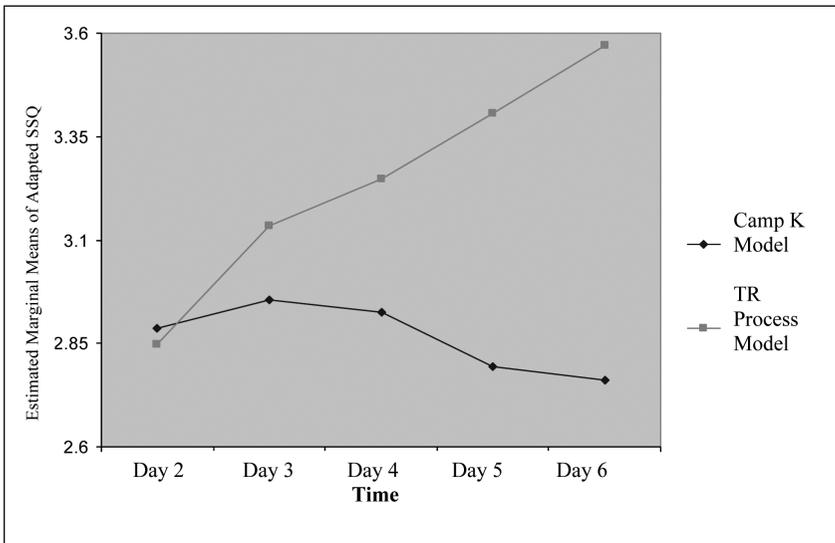


Figure 1. Estimated Marginal Means of Adapted SSQ

indicated summer camps can increase social self-efficacy by providing enriching social encounters, helping campers gain independence, and providing leadership opportunities. Meltzer and Rourke (2005) also found similar results supporting the use of summer camps as a valuable tool to address social self-efficacy. Although not an explicit hypothesis of this study, the findings further support the utility of camp experiences for developing social self-efficacy in campers.

The study showed that over time levels of social performance could be more positively affected through the use of the TR process within summer camp programs. These findings appear to be consistent with existing literature. Winfree, Williams, and Powell (2002) recognized summer camps are valuable tools for addressing social performance issues. Meltzer and Rourke (2005) also found summer camps provide unique opportunities for socialization for individuals with chronic illness. Wise (2008) found TR services can support important health-promoting behaviors, including social performance.

The discrepancy with the existing self-efficacy literature related to TR programs may be due to several factors. The first is the social nature of the camp experience may conceal the effectiveness of the TR process in these inherently social settings. It is also possible the treatment was ineffective or of insufficient dosage to effect social self-efficacy. Additional key differences between this study and those presented in the literature are the duration of time and the focus of the study. This study was limited to two sessions of 7 days each and explored a general understanding of social self-efficacy. Other studies were conducted over several weeks

and months and explored more concise forms of social self-efficacy, focusing more on leadership, social encounters, and social independence. Even though social self-efficacy is more focused than just self-efficacy, it is still broad enough that it is difficult to see significant results in 7 days. In the future, it is advisable to focus social self-efficacy to more specific constructs, such as self-efficacy in leadership situations or social interactions self-efficacy. It is also favorable to use summer camp settings that allow for a longer time period than 7 days.

Although the self-perception did not change as a result of the TR process, the behavioral manifestation—social performance—showed significant and consistent gains over time for the TR model, gains that were not observed in the Traditional Camp K Model despite similar increases in social self-efficacy. The therapeutic process, although not necessary to change self-perceptions, possibly remains essential to changing actual behavior.

Implications for Practice and Research

There are several implications for both practice and research from this study. Those implications include theory-based practice, the value of the TR process, training for recreation professionals, and new ways to assess programs.

Practice. Results from this study support the position that programs that are firmly based in theory can provide significantly meaningful results for participants. Furthermore, programming based upon social self-efficacy and social cognitive theory seems to be effective at addressing social deficiencies, specifically within TR and summer camps, where social out-

comes are targeted. It was evident the use of peer models (other adolescents with NF) and vicarious experiences (a key component in social cognitive theory) was a powerful tool in increasing social performance. Future recreation providers, including recreational therapists, can and should use social cognitive theory, in connection with their own therapeutic methods, to promote positive social change within their clients' lives (Wise, 2008). Recreational therapists should have a sound understanding of social cognitive theory and self-efficacy, as well as the knowledge to incorporate them into their practice. By building a theory-based practice, recreational therapists can help clients achieve greater outcomes.

This study supports the value of the implementation of the TR process. Through the use of TR-based assessments, targeted and specific program planning, proper implementation, and thorough evaluation and documentation, campers were able to achieve a higher level of social interaction (Richeson, Croteau, & Jones, 2004). Future recreation providers, including summer camps, which look to increase specific social skills within the lives of their clients, may find success using the TR process by employing trained and certified therapeutic recreational specialists (Wise, 2002). By doing so, the camp would be better equipped to meet the individual social needs of their participants and provide a more targeted program that shows evidence-based benefit to the participants.

An additional implication from this study is the need for trained, devoted, and educated professionals within the field of recreation. It is vitally important that camps employ staff who are educated and committed to

the camp and to their profession. For programs using TR, whether or not it is within the summer camp industry, it is essential TR professionals are dedicated to the mission of the organization, to the TR process, and to the profession of TR. This dedication begins within universities, is strengthened through the internship process, and is fortified by continuing education throughout the life of the CTRS.

Another implication is evaluating the ways that providers assess or measure recreation programs. In this study, self-reported measures were based upon concepts that were more difficult to capture than the measures based upon observations. It is important to create and use measures that are not based upon self-perceptions. Therefore, future recreation programs in general need to be able to use outcome measurements and assessments that go beyond mere self-reports.

Research. The implications for research align with the implications for practice. It is important that research continues to strengthen programming by expanding the current literature on theory-based programming. It is also important to continue to explore the benefits of TR. Future research should focus on the benefits of partnering TR services and programming with other fields. It is also important to expand the knowledge base associated with program assessments and outcome measures.

Limitations and Delimitations of the Study

In addition to the challenges noted above, there are several other notable limitations of this study. First, the raters of the SSQ were some of the same individuals who implemented the daily programs. The recreational therapists

possibly were not able to compartmentalize the successfulness of their program from the social successfulness of the individual participants within that program. This may have led to inadvertent inflation of SSQ ratings. In the future, it is advisable that the raters be independent of the program implementation or that at least multiple individuals implement a program in an effort to decrease the possibility of rater bias. Second, TR interns were used instead of seasoned, licensed and certified TR professionals during the TR Process Model week of summer camp. Interns were originally chosen to participate in this study because they were experienced and familiar with the camp's policies, procedures, and operations. The students had met basic competence standards through Camp K, their perspective university requirements, and a NCTRC Job Analysis checklist to participate in the TR process. However, an experienced CTRS would have been better able to accurately perform assessments, plan intentional programming, implement activities, and execute critical evaluations and documentation.

Third, due to the partnership with the host summer camp, the Kostopulos Dream Foundation, neither random selection nor random assignment was possible. A convenience sample was used where the participants were assigned to the sessions of camp based upon their individual preference. This required the use of the first day of summer camp SSES and SSQ scores to be used as a covariate. If possible, in the future, random selection and assignment would be preferred.

Conclusion

For adolescents with a chronic illness, a lack of social self-efficacy is a serious problem. TR-based summer camps can help address these issues and provide an effective way to strengthen and support social skills within adolescents with a chronic illness. Through this study, it is clear agencies and organizations that rely on theory-based programming, use the TR process, and employ highly trained staff can have an impact upon the social lives of the individuals they serve.

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