

The Influence of Challenging Outdoor Recreation on Parent-Adolescent Communication

January 15, 2003

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*This study was supported by the generous contributions of the
ANASAZI Foundation of Mesa, AZ.

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Introduction

Adolescence brings a variety of challenges for youth as they seek to establish an autonomous identity. These challenges are often most evident in adolescent's relationships with parents and siblings, frequently resulting in increased negativity across all levels of the family system (Paikoff & Brooks-Gunn, 1991; Smetana, 1989; Furman & Buhrmester, 1992). Excessively negative communication within the family produces additional strain for both individual family members and for the emotional climate of the entire family (Barnes & Olson, 1985). Research has well established the importance of constructive or responsive communication in facilitating healthy family relations and adolescent development. For example, findings indicate a strong link between conflicted spousal or parent-adolescent relationships and adolescents evidencing higher depression, delinquency, substance and alcohol abuse and sexual promiscuity, and lower school performance (Brody, Flor, Hollett-Wright, McCoy & Donovan, 1999, Buehler, Krishnakumar, Stone, Anthony, Pemberton, Gerald & Barber, 1998; Cohn, Cowan, Cowan & Pearson, 1992; Miller, Benson & Galbraith, 2001; Shagle & Barber, 1993).

Improving family communication should produce a number of important benefits. These benefits may include happier individuals and families, moderation of at-risk behaviors, and better non-familial relationships. Communication between parents and adolescents becomes an essential factor in the family's ability to adapt to changes (Olson & DeFrain, 1994). A family that uses healthy communication processes provides adolescents with a context to learn appropriate interpersonal behaviors. These youth will be better prepared to build healthy relationships, resolve conflict, and become responsible adults.

Therapeutic recreation is an excellent modality for promoting healthy communication within families, particularly when therapy involves placing families in naturally challenging outdoor recreation. This setting is believed to create unique opportunities for family interaction. Successfully completing challenging outdoor recreation is often dependent on the family's ability to interact as a team. As family members work together and support each other, positive communication should increase (Orthner, Barnett-Morris & Mancini, 1994). Enhancing family communication is clearly a valuable goal in therapeutic recreation programming. Only a limited number of studies, however, have examined outdoor recreation as a novel way for families to enhance communication and, in turn, enhance relationships (Bandoroff & Scherer, 1994; Gillis & Gass, 1993; Hill, Freeman, & Huff, 2001).

In this study we examined the effectiveness of shared challenging outdoor recreation on the ability of families with at-risk youth to maintain a more positive atmosphere. More specifically, families' involvement in different levels of challenging outdoor recreation were compared regarding the extent they positively enhanced parents' and adolescents' perceptions of their quality of communication with one another.

Review of Literature

Systems Theory

The quality of the communication between any two individuals within the family will generally impact the emotional climate of the entire family. Conversely, the emotional climate of the family is likely to have a dramatic effect on the dynamics of any relational dyad within it. As a result, one potentially beneficial way of improving the communication between parents and adolescents is to consider effective means of impacting the entire family climate. Family systems theory provides potentially critical assumptions for understanding how to facilitate and maintain

effective family functioning. Family systems theory is based on the notion that family members strive to maintain a sense of equilibrium in their relationships with each other. When change occurs within the system—such as young people moving into adolescence, a new equilibrium must be established. As equilibrium within the family is achieved, a series of unspoken rules are formed by the family and roles are created for each member within the family. As long as all members of a family abide by these self-defined rules and roles, equilibrium will be maintained. Communication is critical to maintaining a healthy family system because it allows family members to better identify collectively those dysfunctional aspects of the system and eases the transitions back to equilibrium when change does occur (Ingoldby, Smith and Miller, in press; Olson & DeFrain, 1994).

The quality of communication in families is dependent upon the transfer or flow of information, the presence or absence of positive relationship characteristics, and the constraints or barriers to communication within families. Transfer or flow of information consists of the pattern and quantity of information exchanged within the family. Examples of positive relationship characteristics include trust, affection, support, love, and appropriate boundaries. Constraints to family communications occur when members engage in any destructive behavior. These behaviors may include criticism, violence, abuse, and neglect. The interplay of these factors determines whether family communication environments are open or represent problem communication (Barnes & Olson, 1982).

Open communication consists of the free flowing exchange of factual and emotional information and positive relationship expressions within the family. Families that have open communications experience minimal or limited constraints. This type of communication is vital

if the family system is to adapt to environmental and personal change (Barnes & Olson, 1982). Adaptability is foundational to healthy families.

Problem communication is distinguished by the unhealthy restriction of information within the family caused by the distortion and denial of individual expression (Barnes & Olson, 1982; Rosenblatt, 1994). Family members exhibit problem communication when they are unable or unwilling to express thoughts and feelings. Their communication is constrained. Extreme examples of problem communication involve neglect, yelling, arguing, and blatant attempts to harm or abuse other family members.

Systems theory helps clarify how family communication is an important part of effective family functioning (Beavers & Voeller, 1983; Bloom, 1985; Olson & DeFrain, 1994; Stinnett & DeFrain, 1985). Open communication within families creates an environment of positive change, understanding, and growth. Therefore, facilitating open family communication should encourage the development of stronger relationships within families. Among those who may benefit most from improved family communications are children in their adolescence.

Parent-Adolescent Communication

Families with adolescents are faced with a number of challenges. Developing adolescents seek to increase personal independence, while parents attempt to negotiate for control (Grotevant, 1998). During this time of change, communication is critical for healthy adjustment (Hart, Olsen, Robinson, & Mandelco, 1997). Research suggests that parent-adolescent communication impacts family functioning and adolescents' psychosocial well-being (Shek, 2000).

Studies indicate that open communication plays a vital role in adolescent development (Hart, et al., 1997), specifically role and identity exploration (Grotevant & Cooper, 1985, 1986;

Noller & Bagi, 1985; Papini, Sebby, & Clark, 1989), self-esteem improvement (Jackson, Bijstra, Oostra, & Bosma, 1998; Lanz, Iafrate, Rosnati, & Scabini, 1999) and depression prevention (Marta, 1997; Shek, 2000; Slesnick & Waldron, 1997). Open communication not only facilitates adolescent adjustment, but also impacts their behavior. As parents encourage the expression of personal interests and aspirations, their children are more likely to develop trust and turn to them for guidance and support (Caprara, et al., 1998; Noack, Kerr, & Olah, 1999).

Trust and family support have a positive cyclical relationship with open parent-adolescent communication. Parent-adolescent trust based on open communication fosters freedom and autonomy allowing adolescents to feel self-directed and confident (Kerr, Stattin, & Trost, 1999). Open communication between parents and adolescents can safeguard youth against delinquent behaviors (Clark & Shields, 1997) leading to lower levels of substance abuse (Hartos & Power, 2000; Kafka & London, 1991) and fostering more responsibility for sexual behavior (Pistella, & Bonati, 1999). Research suggests that youth from families that exercise open communication are happier, healthier and more satisfied with their lives (Jackson, et al., 1998). Considering the emphasis in therapeutic recreation on promoting well being and quality of life, understanding and promoting healthy family communication could be a worthy treatment goal in a variety of TR settings.

Problem communication is common in dysfunctional families (Barber & Olsen, 1997; Hart, et al., 1997). Therapeutic recreation may hold a unique potential to help families with special needs by promoting open communication (Gass, 1995; Orthner et al., 1994). More attention is needed regarding the types of activities that foster positive communication within the family. Research in this area may increase understanding and provide direction to therapeutic recreation specialists who hope to include families in treatment programs.

Family Leisure

Family leisure has been viewed as a means to strengthen family relationships (Orthner 1998; Zabriskie, 2001). A number of studies have focused on the effects of leisure experiences on family functioning (Hill, Freeman, & Huff, 2001; Orthner 1998; Orthner & Mancini, 1990). Leisure scholars believe that family leisure activities can promote positive communication, leading to changes in family systems (Baldwin, Ellis, & Baldwin, 1999; Orthner, 1975; Orthner & Mancini, 1991; Smith, 1997).

Much of the family leisure literature focuses specifically on couples (Baldwin, Ellis, & Baldwin, 1999; Orthner & Mancini, 1991; Shaw, 2001). Findings from these studies suggest that leisure activities play an important role in promoting marital satisfaction and strengthening marriages (Baldwin, Ellis, & Baldwin, 1999; Holman & Jacquart 1988; Orthner 1975; 1976). Recently, however, a number of studies have focused on the entire family's perspective (Zabriskie, 2001). These studies examined different types of communication occurring during family leisure time, such as parental support, social interaction and conflict management (Mactavish & Schleien, 1998; Orthner & Mancini, 1991; Robertson, 1999; Smith, 1997). In one study, delinquent adolescents reported feeling more connected to and valued by their family when they participated with their parents in recreational activities (Robertson, 1999). It is important to note that although these studies examined "families," they have generally neglected to collect information from both parents and adolescents in relationship to their experiences.

Family Outdoor Recreation

Outdoor recreation is a unique form of leisure that provides exceptional opportunities for families to interact. Research over the past 30 years suggests that improved family functioning results from participation in outdoor recreation (Hawks, 1991; Holman & Epperson, 1984;

Zabriskie, Potter, & Duenkel, 1998). Studies in this area have examined family cohesion (West & Merriam, 1970), satisfaction (Zabriskie & McCormick, 2000) and communication (Kugath, 1997). The benefits of outdoor recreation may be the result of engaging in unfamiliar environments and the type of interaction required to succeed in these activities (Orthner & Mancini, 1980; Zabriskie, et al., 1998).

Outdoor recreation may sometimes lead to increased conflict, resentment, and negative feelings within families because these activities may naturally force families to resolve conflict and work through problems (Orthner & Mancini, 1991). One study demonstrated increases in parental perceptions of communication, negotiation and conflict resolution skills (Bandoroff & Scherer, 1994). In addition, Hill, Freeman and Huff (2001), considering both parental and adolescent perceptions of family communication, found that higher levels of challenging activities provided an opportunity for increased communication to occur within the family. Although conflicts arose between parents and adolescents throughout the study experience, participants believed their ability to solve family problems increased (Hill, et al., 2001). This suggests that the level of challenge in outdoor recreation is positively associated with healthy communication and problem solving.

Challenge is a critical component of outdoor recreation and has been theorized to play an important role in the development of healthy psychological growth (Csikazentmihalyi, 1997; Erikson, 1959). Outdoor recreation often requires clear communication, trust, cooperation and mutual respect among family members. Kugath (1997) found that parents perceived increases in positive communications after completing a family outdoor recreation activity. Parents also indicated that family trust and love improved.

It is likely that most families will find a number of important benefits from participating in outdoor recreation. Research on the effects of outdoor recreation on families has led to a greater understanding of the impact outdoor recreation has on the family system, and on individual members (Gillis & Gass, 1993; Orthner, 1998; Shaw, 2001; Zabriskie, et al., 1998). Numerous family wilderness therapy and adventure programs have been developed (Gass, 1995; Gillis & Gass, 1993) but few studies have examined parent-adolescent communication outcomes as this study does.

Summary

Systems theory provides a method for understanding family interactions. It also explains the importance of open communication in establishing and maintaining healthy parent-adolescent relationships. One potential means of encouraging open communication within this system is family leisure, particularly challenging outdoor recreation. Although outdoor recreation appears to be an effective environment for improved family interaction (Orthner, et al, 1994), studies that measure both parents' and adolescents' experiences are limited (Shaw, 2000).

The natural challenge inherent in outdoor recreation provides unique opportunities for families to interact. Higher levels of challenging outdoor recreation may temporarily intensify family interactions (Hill, et al., 2001). Although family cohesion and adaptability have been examined in relationship to levels of recreation challenge, studies on family communication are lacking in this area. An examination of the influence of challenge on communication between parents and adolescents is warranted, particularly using experimental and qualitative approaches (Gillis & Gass, 1993; Orthner & Mancini 1990, 1991). This would allow researchers to better explore causal relationships regarding the importance of recreation for families. Two hypotheses were formulated and tested in an effort to study these causal relationships. The study was

operationalized by using three levels of challenge. Families with at-risk youth were recruited to participate in a four-day challenging outdoor experience. One group completed a survival trek in the high desert mountains of Arizona. A second group completed a hand-cart trek in the mountains of northeast Utah. A third group participated in a rustic family camp at a ranch in the mountains of Arizona. A fourth group served as a control.

Hypotheses

Hypothesis 1. Individual family members participating in a challenging family outdoor experience (high, medium, and low levels of challenge) will demonstrate significant ($p < .05$) improvements in communication measures between pre and post tests. The control group will demonstrate no significant ($p < .05$) change between pre and post tests on communication measures.

Hypothesis 2. Individual family members participating in the survival experience (high challenge) will demonstrate the highest significant ($p < .05$) improvements in communication measures between pre and post tests. Individual family members in the handcart experience (medium challenge) will demonstrate the second highest significant ($p < .05$) improvements in communication, followed by the base-camp (low challenge) in comparison to the control group ($p < .05$).

Methods

Participants

Thirty-two families participated in the study. Twenty-three families completed the challenging recreation activities (survival trek=7; handcart trek=8; family camp=8) and nine families served as control participants. For this study, a family consisted of at least one parent and one at-risk adolescent. Identified risks included opposition and defiance, substance abuse,

poor school performance, negative family and peer relationships, and depression. Families were predominantly of Caucasian origin. Two families had one parent of Latino origin. Although ages of the children ranged from 2 to 26, only individuals 12 and older completed questionnaires and interviews (survival trek n=21; handcart trek n=34; family camp n=31, control n=35). The average age of youth who contributed data was 15.3 (survival =15.1, hand cart =16.7, family camp=13.9, control group =15.6). The average age of the parents was 46.0 (survival =42.1, handcart =51.1, family camp =42.2 , control =46.5). Average family size for each of the groups was 3.9 for the survival trek, 4.4 for the handcart trek, and 5.9 for the family camp. This included a total of five single-parent and three blended families. Twenty-five mothers, 22 fathers and 67 adolescents completed the research instruments. A total of 114 participants completed the quantitative measures (survival trek n=21, handcart trek n=32, base camp n=30, control group n=31). Seven participants were under the age of 12, and did not complete the PARCS. Parents and one adolescent from each family participating in the challenging camps were interviewed.

Measures

The objectives and design of this study required substantial time, effort, and money. Yet, due to logistical limitations, the sample size was rather small. Consequently, to ensure the best possible measurement and analysis, a strategy was adopted that employed both quantitative and qualitative methodology to measure parent-adolescent communication. This multi-method measurement approach allows researchers to test hypotheses by collecting empirical data. In addition, the gathering of qualitative data adds rich information that can shed light on the qualitative data and allow for the enlightened development of theory.

A revised Parent-Adolescent Communication Scale (PACS) was utilized to measure communication within the family by asking parents and adolescents the same set of questions

(Barnes & Olson, 1982). Some items on the PACS contained wording that was difficult for adolescents. In addition, a few items were added to more fully represent family communication. These changes were based on a study and recommendations conducted by Bloom (1985). The revised questionnaire employed the same broad categories of open and problem communication but also included questions that focused on support, trust, affection, blame, and conflict resolution. These elements of parent-adolescent relationships were considered important in understanding parent-adolescent communication. The new questionnaire, therefore, was called the Parent-Adolescent Relationship/Communication Scale (PARCS). The revisions were reviewed by an expert panel to evaluate content validity. The PARCS was administered to 102 college students and analyzed for reliability. Strong evidence of internal consistency was found ($\alpha=.94$).

The PARCS includes 40 items: 16 items on open communication and 24 on problem communication. Items were mapped into these two categories and evaluated by an expert panel (Suen, 1990). Participants respond to a 5-point Likert scale. Response choices include “almost,” “never,” “rarely,” “sometimes,” “often,” and “very often.” See Table 1 for sample questions.

In addition to quantitative data, researchers collected qualitative data from systematic in-depth interviews. The interviews focused on communication patterns within families during the challenging family outdoor programs. Interviews were recorded, transcribed and coded following grounded theory methodologies (Babbie, 2001; Strauss, & Corbin, 1990).

Procedures

This study employed a single factor, four group, quasi-experimental design. A therapeutic wilderness program recruited participants by advertising three dates for challenging family outdoor camps. Families, unaware of the challenge level, self-selected the camp experience by

choosing the week they were available to attend. A control group was formed from a waiting list. Participants completed pre and post PARC questionnaires. The parents and one adolescent from each family participating in the camps were interviewed the morning of the last day at the camp.

Prior to the challenging family programs, the staff received over 100 hours of training in safety, camp procedures, survival skills and data collection. Experts provided instruction in skills such as starting fires with bow drills, cooking with Dutch ovens, and Native American crafts. Staff then learned how to teach these skills using modeling and specific feedback (Bandura, 1997). Specialized training on proper interviewing techniques was provided by an expert in interviewing adolescents.

The primary intervention was outdoor challenge. As the independent variable, levels of challenge were directly manipulated in this study. The therapeutic wilderness program that collaborated in facilitating the various different levels of outdoor experience employs a strong philosophy of non-intervention. This program operates on the belief that change must come from within the individual and therefore, agency, or freedom of choice is critical. The basic philosophy espoused by this wilderness program comes from the work of Warner (2001), founder of the Arbinger Institute. Their staff is trained by the Arbinger Institute (2000) to lead through non-coercive methods. Basically, the therapeutic wilderness staff teaches people outdoor skills, and provides them with the opportunity to use these skills, offering support only when requested. No traditional forms of therapeutic intervention (e.g., behavioral or cognitive therapy) are employed. They believe that nature is the best teacher: the outdoor environment and inherent challenge are the most effect mechanisms of change. To train our staff in these non-coercive methods, they read *Leadership and Self-deception* (Arbinger, 2000). In addition, the staff attended a two day seminar by The Arbinger Institute.

The three challenging outdoor programs were designed to include a number of similarities. One staff member was assigned to each family in each program. Participants in all three programs learned a variety of Native American crafts including arrowhead chipping, leather crafting, and flute carving. On the last night of each program families were provided with a Dutch oven and the ingredients for beef stew. Each family worked together to gather wood and build a bow drill fire.

In addition, each program was designed to include distinct features that would vary the level of challenge experienced by participants. The survival trek provided the highest level of challenge. These families spent four days hiking and camping in the Arizona wilderness. Participants carried minimal food and equipment in handmade backpacks over rough, mountainous, desert terrain. Meals consisted of a few grains and pastas with dried vegetables. In addition, edible plants, grubs, grasshoppers, and ants were eaten by participants. Food was cooked in tin cups, over fires started with bow drill sets. Families slept directly on the ground. Water was obtained from pools in a dry riverbed and purified using chlorine. No bathrooms or outhouses were available during the trek.

The handcart trek provided an intermediate level of challenge. Over a four day period, participants pulled their food and gear in handcarts over 16 miles of dusty dirt roads in the mountains of northeast Utah. Families were provided with ingredients for their meals. Breakfasts included fruit, bagels, and pioneer hash. Lunches consisted of sandwiches, carrots, and cookies. For dinner, participants used Dutch ovens to cook enchiladas, barbequed chicken, and stew. Fires were made with matches. Families slept on the ground. Clean water and portable outhouses were readily available.

The base camp provided the lowest level of challenge. Participants stayed in rustic cabanas with wooden bunk beds at a ranch in a remote mountainous area of Arizona. Families were able to participate in water relays, canoeing, challenge initiative games, orienteering, sunrise hikes, and astronomy. Meals were prepared for the families by the ranch staff. Breakfasts included pancakes, biscuits and gravy, scrambled eggs, toast with jam and cereal. For lunches participants ate sandwiches, Navajo tacos, fruits, juice. For dinners, spaghetti, corn chowder, meatloaf, with breads and vegetables were provided. Each dinner was followed by a dessert. Participants had access to outhouses, hot showers, and fresh water.

Each program lasted three nights and four days. Staff included 3 graduate students, 13 undergraduate students, and 6 full time employees of a therapeutic wilderness program. Three of the therapeutic wilderness professionals provided emergency back up and risk management support, shadowing the groups from a distance with communication equipment, 1st aid supplies, and water. Each family was assigned two 'trail walkers.' These trail walkers provided support and instruction to the families throughout the 4 day excursion. They also were responsible to administer the PARCS and conduct the interviews. Upon arrival families were met at the turn off to the ranch, fed lunch and then data was systematically collected before they hiked to the ranch, or began the treks. On the last day, as families prepared to leave, the interviews were conducted and PARCS administered. Two copies of the PARCS were mailed to the control group with instructions regarding administration. Participants completed the PARCS on a 5 day interval. Interviews were not conducted with the control group.

Analysis

Quantitative data analysis. Data was collected from both parents and adolescents in order to fully represent the family. The purpose of the study, however, is not to compare parents and

adolescents, but to include both perspectives in a single model in order to capture total change within the family. As a result, all analyses are composed of both parent and adolescent responses. Hypotheses were tested using two steps of a mixed model analysis of covariance (ANCOVA). The mixed model method accounts for both the fixed effects of different challenging contexts and the random effects created when multiple individuals within families provide information as independent respondents (Littell, Milliken, Stroup, & Wolfinger, 1996). This method controls for pre-existing differences between individual participants within the same family. Prior to testing the hypotheses, reliability of the PARCS was analyzed by examining the internal consistency of the scale.

Qualitative data analysis. Qualitative interviews were conducted to assist in the interpretation of findings from the quantitative data. At the end of each camp, participants answered five open ended interview questions regarding their experience. These questions were designed to help the interviewer explore participants' general feelings about the camp and specific feelings about communication within their family during the experience (see Table 2). Responses were recorded and transcribed into manuscript and electronic formats. Grounded theory method was used to organize the interview responses and group concepts into categories (Babbie, 2001; Strauss, & Corbin, 1990). Emergent themes were identified from these categories and utilized to develop a conceptual map. (see Figure 1).

Three researchers analyzed the qualitative data to improve consistency. Data processing procedures recommended in grounded theory methodology were employed, this involved memoing, coding, and concept mapping, (Babbie, 2001; Glaser & Strauss, 1967; Strauss, & Corbin, 1990). Independently the three researchers used the constant comparative method to identify reoccurring concepts (Babbie, 2001). Researchers then compared the conceptual labels

they had created and agreed upon specific categories. Researchers used open coding, which “pertains specifically to the naming and categorizing of phenomena through close examination of the data” (Babbie, 2001, p. 366). Sentences and paragraphs were coded into specific categories. Once the categories were developed, researchers continued to compare and examine the phenomenon for relationships and emergent themes. These themes and their relationships to one another created the conceptual map.

Results

The primary goal of this study was to determine whether challenging family recreation would enhance parents’ and adolescents’ ratings of their ability to communicate with each other in families with at-risk youth.

Quantitative Data

Prior to testing the hypotheses, the reliability of the PARCS was analyzed. An alpha of .93 resulted, suggesting the scale has very little error variation. Descriptive statistics of the PARCS pre and post tests were analyzed (see Table 3). A Levene’s test was conducted on the PARCS pre-tests to determine homogeneity of variance between the groups. The test was not significant ($p=.075$).

Hypotheses 1 and 2 were tested empirically. Hypotheses 1 suggested that significant increases would be found between the pre and post test scores on the PARCS across all three outdoor recreation experiences. No changes were hypothesized in the control group. Hypotheses 2 suggested that greater level of challenge would promote increases in the quality of communication among families.

Hypothesis 1. To test the first hypothesis--that a significant gain in communication ratings by participants would occur across all three outdoor recreation experiences--a mixed

model ANCOVA was generated using respondents' pretest-posttest change scores for the PARCS as the outcome of interest. The three levels of challenging recreation and the control group served as the between-group variable, the respondents' pretest ratings on the PARCS served as a covariate, and the family ID served as the within-group variable to account for any shared error-variance resulting from multiple respondents being in the same families. These ANCOVA models revealed a significant treatment effect ($F_{3,28}=8.67, p=.0003$) on communication gain scores. Individual t-tests from the ANCOVA model revealed that PARCS scores significantly increased following the survival trek ($p=.0001$), the handcart trek ($p=.0001$), and the base camp ($p=.0006$) (see Table 4). The results indicate that family members from all three challenging recreation contexts experienced significant increases in open communication. As hypothesized, no change in scores was found in the control group ($p=.3886$).

Hypothesis 2. To test the second hypothesis—that the change in participants' PARCS scores would differ based on the level of challenge confronted by families in different outdoor recreation—Tukey's post-hoc comparisons were generated within the mixed-model ANCOVA analysis. Gain scores for the PARCS were compared between participants in the different levels of challenging recreation and between each of these groups and the control group. The findings reported in Table 5 support the hypothesized differences in level of change between the treatment groups and the control group, but not the predicted relationship between level of challenge and magnitude of change. As expected, participants in the handcart trek demonstrated less gain in communication than did those who participated in the survival trek. What was not expected was the finding that the base camp participants' PARCS gains scores were not significantly lower than the gain scores for survival trek or handcart trek groups.

Qualitative Data

Grounded theory was used to organize the interview responses and create a conceptual map (Babbie, 2001). Nine categories emerged from the qualitative analysis. They include: impact of the staff, extended time together, working together, increased trust and support, increased communication, increased affection and kindness, conflict, new perceptions, and family cohesion. These nine categories were systematically compared with one another and grouped into four broader themes (Babbie, 2001). The themes developed from this process were new environment, increased communication, new perceptions, and family cohesion.

New Environment. The first theme, combined the three categories of “working together,” “the impact of staff,” and “extended time together as a family.” Each of these categories played a role in establishing a different environment at the camp than the families experienced at home.

Working together. The category “working together” was important in creating this unique atmosphere. For example one teenager from the family camp talked about learning as a family to start a fire with a bow drill, “it wasn’t really forced bonding, I mean, it wasn’t pushed on you, it was just like through the experiences would bring you closer and learn new things together.” This teenager’s comment suggests that working through this activity together helped the family become closer. Parents also recognized the impact of the activities, one mother from the survival camp said, “We’ve faced a lot of things that we had to pull together, we couldn’t have done it as easily as we did if we hadn’t worked together.” This mother felt the activities during the camp necessitated family cooperation for successful completion. Many other participants commented about how the challenging activities encouraged them to work together and grow closer.

Impact of staff. Several participants identified the positive impact the staff had on the experience. One adolescent said, “They [the staff] bring a good atmosphere and it spreads on others; it is contagious and so it falls on us.” This adolescent’s statement suggests that the staff’s

attitudes and behaviors had a positive impact on the atmosphere that the participants experienced. A father made a similar statement. He said, “these are exceptional young people...I know my kids just love being with the staff...they were willing to help.” This father was impressed with the staff’s willingness to help and their sincere concern for the family. This fathers report suggests that the staff’s presents and example had an impact on this family’s experience.

Extended time together. The program was specifically designed to give the family members extended time together. One adolescent from the handcart trek summed it up by saying “ I think just the time itself has been nice just because we usually can’t spend this much time together because we are so busy.” This adolescent not only enjoyed spending time with her family, but also felt this type of extended time together rarely happened at home. She also felt the camp created opportunities for interaction and building family bonds. This was a common theme in the data. This domain suggests that time together as a family, the staff, and working together as a family all appear to provide an environment conducive to open communication.

Increased Communication. The second theme centered on the four categories of “increased communication,” “increased trust and support,” “increased affection and kindness,” and “conflict”. These categories represented elements of communication including the amount and different types of communication participants expressed to one another during the family outdoor recreation.

Increased communication. Participants felt their families talked more at the camps. One father who participated in the family base camp said regarding his daughter, “It’s been a little bit easier to just focus, just to talk to Jean, just talk to her and compliment her and give her a hug, something Beth [her mother] and I usually don’t do.” This statement suggests that parents were

able to focus more on family interactions. It also indicates that the camps created parent-adolescent communication opportunities that would not have normally happened. Several participants said they felt more comfortable talking with each other during their camp experience.

Increased trust and support. The theme of improved communication also incorporates categories that focus on types of open communication. The category “increased trust and support” is part of this theme. One teenager from the handcart camp said, “I thought it was cool how my family always made sure that we were all in comfort.” This teenager appreciated how members of her family expressed support by looking after each other. Similarly, a father from the survival camp stated:

I think we’ve learned to rely on each other a little bit more and support each other a little bit more...We were encouraging each other that we could do this. That’s new for us. We always encourage each other at home, but I mean that really stood out.

The support spoken of by this father was in the form of encouragement. Participants felt that the different activities provided opportunities to give and receive help within the family.

Increased affection and kindness. Another category included in the improved communication domain is “increased affection and kindness”. A father from the family camp described the affection his teenage son was willing to express when he stated, “he has come up and put his arm around me and hung on.” One adolescent from the handcart camp commented:

I can be more intimate with them. Like, I feel comfortable just going up and giving my dad a hug now just because we have had to work shoulder to shoulder so much so we have had that close contact.

This teenager, like many other participants expressed that the camp environment created an atmosphere where they felt comfortable showing affection toward their family members. Other participants were also surprised by the increased affection displayed toward them by family members.

Conflict. The final category in the improved communication domain was “conflict” among family members. The increases in communication brought about more attention to family conflict. The majority of the participants reported a reduction in family conflict. A mother from the survival camp said, “I’ve learned that we can work together with less contention.” Another mother stated:

I really enjoyed being able to work together without complaining and bickering and pushing. Last night we didn’t have any of that at our campfire. Cause we asked somebody to go get wood, they’d go do it... They didn’t say no, it wasn’t my turn to start the fire, they would work on it together and it was very peaceful and that was nice.

Both of these mothers expressed that their families were not only willing to help one another but that family members fought or argued less. Several of the youth also recognized having less contention with their parents. Several teenagers indicated that many of the things their parents usually “nag” them about were forgotten for at least a few days while they were at the camp. A limited number of the participants talked about increased family conflict. One adolescent said:

We had a conflict while we were walking on the trek. My brother exploded and started yelling at everyone and so how my parents handled it I didn’t think was the best solution. So me and my sister told my mom how we think it should be handled.

For this family, the conflict started with the brother but soon grew to encompass the whole family. Her statement also suggests that she and her sister felt that they could confront their parents with their own perceptive.

New Perceptions. This category was able to stand alone as a theme that focused on the new characteristics and perceptions that parents and adolescents learned about their family while at the camps. For example, one adolescent from the family base-camp described her step-father in the post-camp interview by saying:

He just seems different now that he is here. Like he cares more about what I feel like with the fire thing...I think that he has changed in a way that he understands more of what is happening like what I am feeling than before. He used to say, "you're so sweet."

Now he is like, he really means it.

This teenager saw that the experience had changed her step father, allowing him to understand her better and be more understanding and caring. After the handcart trek another adolescent also saw her parents differently, stating, "I have realized some of their philosophy and the way they think. It's kind of cool that we're all different." This participant indicated that she was able to learn more about how her parents think. Many of the responses focused on the new perceptions participants gained from other family members. This new perspective about their family and the improved communication both appear to have contributed to building family bonds.

Family Cohesion. This category seemed to be the result of most of the other themes. Parents and adolescents from all three challenging camps expressed the feeling that their family was closer and more unified. A father from the survival camp said, "I know we've all grown closer together for having done it." One adolescent from the handcart trek stated, "I think we feel more unified than before, it seems that way." Both of these statements suggest that parents and

adolescents felt that the camp experience had brought their individual families closer together. Another example of the impact this experience had on different families is from an adolescent in the base-camp that was a member of a blended family. She stated:

We were one family [during the experience], not like Jill, Joe, Bill, Kristy, Kate, Heather, Paul whatever, we are all together, we all [were] like a family. We are just the Black-Tanner family, a family. I think that it has brought us closer together too. I like it a lot.

As this teenager suggests, this experience provided an opportunity for individuals to feel unified as a family. Parents and adolescents from all of the treatment groups expressed that these experiences worked to build family bonds.

The relationships between these themes and categories were placed in a graphical format called a conceptual map (Babbie, 2001). This map provides a systematic interpretation of some of the elements, processes, and outcomes identified here as part of a family outdoor recreation experience. The conceptual map has been named the Family Outdoor Recreation Model or FORM (see Figure 1).

Discussion

The present study attempted to expand the knowledge of parent-adolescent communication experiences in relationship to challenging outdoor recreation. This study is unique in a variety of ways. First, it measured parent-adolescent communication by collecting data not just from parents as in previous research, but also from the adolescents. Second, entire families participated in the quasi-experimental study, and took part in 4-day, challenging outdoor programs. Third, both quantitative and qualitative data were gathered and analyzed. The purpose of this study was to examine the effect of different levels of challenge in family outdoor recreation on communication between parents and adolescents.

Researchers have hypothesized that outdoor recreation positively influences family communication (Orthner et al., 1994; Gass, 1995). A number of studies have found correlations between recreation and communication (Bandoroff & Scherer, 1994; Gillis & Gass, 1993; Kugath, 1997). Limited research however, has employed experimental designs to test the causal nature of this relationship. In addition, the majority of studies have examined communication from the parents' perspective, failing to collect data from adolescents' perspectives. In the present study, a quasi-experimental design was used with data being collected from both parents and adolescents. Results supported the hypotheses that challenging outdoor recreation can positively influence family communication, and in turn strengthen families.

This study also explored the hypothesis that higher levels of challenge would generate larger positive effects on communication within families. Quantitative results did not fully support the hypothesized effect. Participants in the most challenging program experienced greater changes in open communication than the participants in the middle level of challenge. But the highest and lowest challenging programs were not significantly different. These findings were somewhat puzzling. However, a number of possible explanations for these dissimilar findings seem reasonable.

One explanation could be that higher levels of outdoor challenging activities simply do not have a greater effect on positive family communication than lower levels of challenge. It may be that just participating in outdoor recreation provides families with opportunities that are different from their everyday lives providing opportunities for communication to occur. Some of these opportunities include having extended uninterrupted time together as a family. Another possible explanation would be that the number of family members and their ages creates

increases in challenge to any type of outdoor recreation. The families in the lowest level of challenge had the largest families and the youngest ages of youth.

The mixed results in the relationship between challenge and magnitude of change led the researchers to another alternative explanation. Based on the staff's experiences with the families and the qualitative data, researchers speculated that the assigned level of challenge did not correspond with the perceptions of challenge among participants. The study employed three distinct hierarchical levels of challenge. Participants, however, may not have perceived this challenge in the same way. For someone who has never camped out in their life, the family base camp would have been highly challenging. For someone with extensive wilderness experience, the survival trek may have only been moderately challenging. Thus, perceived challenge, rather than actual challenge level, may be a better predictor of the magnitude of change. Research in self-efficacy clearly indicates that efforts to increase efficacy may be undermined if the activity is perceived as requiring little effort, or if substantial external aid was introduced (Bandura, 1997). Therefore, individual perceptions of difficulty are an important factor in changing efficacy beliefs. It may also be central in affecting family's collective belief about their ability to communicate and communication behavior. Future research should address this issue of perceived difficulty. Although the impact of intensity level is unclear from the findings, this study provides evidence that families who participate at any level in challenging outdoor recreation can improve their communication.

Theory Development

Beyond enhancing quantitative results, the qualitative data provided possible explanations as to why challenging activity or recreation is a tool for change. These possibilities emerged in the conceptual themes of the qualitative analysis. Family systems theory was applied

in order to understand how the themes and categories work together in bringing about change. Past research utilized systems theory to explain the changes families experience in the outdoors (Orthner & Mancini, 1991). Using system concepts, the relationships between the themes and the categories were organized into a conceptual map.

In this model, the theme “new environment” serves as the beginning of the process. The categories within this theme include: “working together”, “the impact of the staff”, and “extended family time.” These characteristics are common elements in most challenging outdoor family activities. In addition, these elements provide the critical foundation for the therapeutic process of change to begin. According to systems theory, changes in families’ context, as a result of outdoor recreation, created inputs that changed the communication within the family system (Constantine, 1986; Orthner & Mancini, 1980). Open communication, therefore, improved as parents and adolescents negotiated these new inputs and changes to their system. As is demonstrated in the model (see Figure 1), changes to the environment bring improvements in family communication and provide new perspectives about other family members.

Over the past few years, a number of therapeutic wilderness agencies have recognized the value of family involvement in treatment. In some of these programs, parents are required to spend 4 or 5 days in the wilderness with their children. This study provides initial support for the efficacy of these programmatic trends. Shaw and Dawson (2001) found that family recreation is highly valued by parents and that it is often goal directed (e.g., promoting healthy lifestyles and moral behavior). Parents reported that one primary goal of family recreation was to enhance family functioning by improving communication (Shaw & Dawson, 2001). Therapeutic recreation specialists who serve individuals with illnesses and disabilities might consider the potential therapeutic benefit of involving client’s families in programs and promoting healthy

communication. The PARCS may serve as a valuable tool in client outcome evaluation and research as therapeutic recreation specialists seek to assess and evaluate family communication.

The second theme “increased communication,” represents the changes in family communication (see Figure 1). Increased communication was represented by “increased trust and support”, “increased affection and kindness”, and “conflict”. Constantine (1986) suggests that new environments and inputs into family systems may change the flow of information among members. This opens the system’s boundaries allowing more communication to occur. As families engage in challenging activities, established boundaries are temporarily changed. With these changes family members became more comfortable, thereby conveying support, affection, and kindness to one another. This change brings more willingness to work through problems and disagreements, thus reducing conflict.

The new environment theme in the FORM also impacts the third part of the model, “new perceptions of family members”. Outdoor recreation provide a means for individual family members to see each other in unusual situations. Family members with illnesses and disabilities may be appreciated in new and meaningful ways in these settings. As suggested by Constantine (1986), the new environments can lead to changes in roles and structures within the family system. The altered roles and family structures allow new characteristics of individual members to emerge. Families in each of these experiences reframed their view of family members and the family as a whole. This is important information because these new perceptions may help the family system maintain the changes that occur during the outdoor experience. These new definitions of family members serve as means of developing family cohesion, which may be invaluable to the clients we serve in therapeutic recreation settings.

Using systems theory, Olson and DeFrain (1994) suggest increases in open communication facilitate family cohesion. The FORM indicates this by linking the increased communication theme to the theme of increases in family cohesion. Parents and adolescents grew closer together as they talked, supported one another and avoid or deal with conflict.

Practical Implications

Outcomes from this study suggest that challenging family outdoor programs provide therapeutic recreation practitioners a unique resource to help strengthen families and provide therapeutic benefits. Challenging outdoor recreation can improve communication between parents and adolescents. Healthy parent-adolescent communication can serve to moderate delinquent behaviors (Clark & Shields, 1997). Therapeutic recreation specialists working in therapeutic wilderness agencies, adventure programs, or even community based programs could benefit by the incorporation of the family unit into their treatment programs.

Qualitative data suggests that keeping families working together is important. The process of working together is the critical agent in promoting open communication. Another interesting finding from the qualitative data was the influence of the staff on the participants. A common and strong theme in the data was the positive example of the staff and how that influenced families. It is important to recognize the staff as a significant variable influencing change in communication among participants. These findings may also influence therapeutic recreation professionals and family therapists to consider utilizing challenging outdoor recreation as an alternative means of improving family functioning over traditional therapeutic techniques. Parents seeking to build and sustain family relationships through positive communication might consider seeking out challenging outdoor experiences.

The relationships and processes identified in the FORM can help practitioners understand how to create an environment of change. Practitioners may examine their program designs to ensure maximum opportunity for change in the family system. For example, if improved communication is the objective, family outdoor programs should be designed to have activities that keep families together and compel them to work as a team. These experiences will provide time and opportunities for parents and adolescents to communicate.

Future Research

The findings from this study are an initial step in understanding the relationship between challenging outdoor family activity and communication. Future research can be guided by the limitations of this study. For example, during registration, randomization was attempted by having families select one of three camp dates rather than pick the type of camp. Each camp, however, had different age limits that may have resulted in self-selection. Children's ages or level of functioning may increase or decrease the degree of challenge to the family regardless of the activity. Future researchers can avoid this type of problem by controlling for age or functioning, or both. Our goal, however, was to include as many members of families as possible in an effort to represent entire family systems in our study.

Including entire families in treatment can present a logistical quagmire. Clearly, clients in therapeutic recreation programs are often removed from their system to be "fixed" and including the family is often an unrealistic alternative. Systems theory suggests that promoting system wide interventions may bring about greater lasting individual change (Ingoldsby, Smith, & Miller, in press). Having conducted this study we clearly recognize the difficulties in designing and operationalizing family interventions. Yet, the potential benefit of system wide change is

intriguing. In the future, researchers should seriously consider examining the value of including families in therapeutic recreation programs across diverse populations.

In addition, this study focused on families with at-risk youth. Future research may investigate techniques to strengthen families with other unique characteristics or even families who have not reported any difficulties. Research with families of diverse racial and economic backgrounds would also be valuable in understanding the generalizability of these findings.

Participants in this study may have judged the level of challenge differently depending on their abilities and prior experiences. The base camp may have been overwhelming for families with little to no camping experience, while more experienced families may view the survival as easy. Future research should include perceived challenge as a covariate to test if perceived challenge is a better predictor of change than actual level of challenge. Answering this question will be critical to effective programming and theory building in the future.

Conclusions

Results from this study supported the hypothesis that challenging outdoor recreation can improve parent-adolescent communication and thus strengthen families. The model derived from the qualitative analysis can help therapeutic recreation practitioners recognize the mechanisms and processes within challenging outdoor recreation that improves family communication. This information provides direction to researchers, practitioners, and families as they utilize challenging activities to maintain and improve healthy family communication. Further research on family outdoor recreation is still needed to explore how these experiences may impact various types of families (Gillis & Gass, 1993; Bandoroff & Scherer, 1994). Both therapeutic recreation professionals and parents can then use these types of experiences to help bridge the communication gap between parents and teenagers and promote healthy adolescent development.

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Table 1

Sample Questions from the Parent Adolescent Relationship Communication Scale (PARCS)

Parent questionnaire

_____ 1. My child works with me to solve our disagreements.

_____ 2. I feel that my child listens to me.

Adolescent questionnaire

_____ 1. I do not trust what my parents tell me.

_____ 2. My parents enjoy talking with me.

Table 2

Sample Questions from the Qualitative Interviews

-
1. What, if anything, did you find to be frustrating about your experience here?
 2. What, if anything, did you find enjoyable about your experience here?
 3. Is there anything you and your parents have done or talked about together since coming here that is different from what you would normally say or do with each other?
 4. Is there anything different about how you and your parents have communicated since you have been here? If yes, why?
 5. Has your behavior towards or your feelings about your parents changed at all during your time here? If so, in what way?

Table 3

Means & Standard Deviations of Pre & Post PARCS Scores

PARCS Experience	X Pre	SD	X Post	SD
Survival Trek	161.96	24.37	174.92	20.42
Handcart Trek	155.42	21.17	161.80	19.92
Base Camp	141.95	20.33	154.85	20.39
Control Group	155.82	18.50	156.77	20.27

Table 4

ANCOVA T-Tests of Pre-Post Scores of PARCS

PARCS Experience	Average gains	SD	DF	t-Value	p
Survival Trek	14.75	2.26	28	6.53	<.0001
Handcart Trek	6.86	1.79	28	3.84	0.0006
Base Camp	10.69	1.85	28	5.78	<.0001
Control Group	1.51	1.73	28	0.88	0.3886

Table 5

ANCOVA of Pre-Post Gains on the PARCS Measure

PARCS Experience	Difference	SD	DF	t-Value	p
Survival Trek to Control Group	13.23	2.82	28	4.69	<.0001
Handcart Trek to Control Group	5.35	2.48	28	2.16	0.0396
Base Camp to Control Group	9.18	2.55	28	3.59	0.0012
Survival Trek to Handcart Trek	7.89	2.99	28	2.76	0.0102
Survival Trek to Base Camp	4.06	2.99	28	1.36	0.1850
Handcart Trek to Base Camp	-3.83	2.59	28	-1.48	0.1504

Figure 1

Family Outdoor Recreation Model

