

An Investigation of Social Development and Demonstration in Preadolescent Girls Within the Context of an Outdoor Adventure-Based Setting

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Abstract

This study investigated social development and demonstration in preadolescent girls within the context of an outdoor adventure-based program. Researchers implemented an 11-week outdoor adventure-based program for seven girls aged 10 to 12. A case study design including pre- and postsurveys, weekly small-group discussion responses, comment box submissions, and researcher observations was used to obtain data on the participants' social approaches and the factors influencing social dynamics within the group. Major themes identified within the group included cohesion, the facilitator's role, participant's perception of role, recognition of growth, independence, and task orientation and group organization. The results and limitations of this study support the need for further exploration of an outdoor adventure-based program for preadolescent girls.

KEYWORDS: outdoor adventure-based programs; adolescence; social development; social dynamics

Preadolescence and early adolescence are widely recognized as critical developmental periods in an individual's life course that comprises a variety of changes and transitions (Healthy People 2020, 2018). During this developmental period, individuals experience enhanced cognition, greater capacities for autonomy, and a shift to the complex social and academic nature of the middle school environment (Gilmore & Meersand, 2013). Because the beginning of adolescence is characterized by a multitude of physical and socioemotional changes, individuals are particularly vulnerable to environmental and other contextual factors present in their daily lives (Healthy People 2020, 2018; Keenan & Hipwell, 2005). Environmental and contextual factors encompass a person's physical, social, and cultural surroundings and can significantly affect how well a preadolescent human adjusts to change and adopts healthy behaviors and practices (Mirkin & Middleton, 2014). In the United States, a downward trend in academic and social adjustment has been identified as commonly beginning in early adolescence (Ryan & Shim, 2008). A comprehensive international review of 11 countries found U.S. middle school students to have the highest rate of emotional problems and most negative views of peer culture (Juvonen, Le, Kaganoff, Augustine, & Constant, 2004).

While girls and boys generally follow a similar developmental course, it is well documented that girls in particular may encounter a specific set of challenges as they approach their adolescent years. One significant difference between genders in early adolescence is the rate of depression (Chen & Simons-Morton, 2009; Keenan & Hipwell, 2005). Prior to early adolescence, depression rates are essentially equal among binary genders; however, between the ages of 10 and 15, the rate is twice as high among girls, with the trend continuing into middle adulthood (Keenan & Hipwell, 2005). Bandura, Pastorelli, Barbaranelli, Caprara, and Vittorio (1999) conducted a 3-year study testing the relations of depressive symptoms among preadolescents. When compared to boys, girls scored lower in the perception of their ability to work cooperatively, manage interpersonal conflicts, refuse unreasonable requests, and voice their opinions. Low scores in these areas were associated concurrently and longitudinally with depressive symptoms in girls only, even when controlling for earlier depressive symptoms (Bandura et al., 1999).

The occurrence of depression also appears to be associated with an overabundance of attention and acceptance-seeking behaviors, particularly when these behaviors overshadow the development of more autonomous behavior (Keenan & Hipwell, 2005). Additionally, girls who exert excessive attention and/or acceptance-seeking behaviors may respond more readily to peer encouragement (Keenan & Hipwell, 2005). For example, they may engage in activities that have potentially unhealthy or harmful consequences, despite their desire to abstain from the behaviors (Healthy People 2020, 2018; Keenan & Hipwell, 2005). The co-occurrence between depression and social behavioral issues in young girls can in part be attributed to this connection (Chen & Simons-Morton, 2009; Keenan & Hipwell, 2005). It is suspected that preadolescent psychological functioning accompanied by physiological and environmental/contextual makeup can largely influence depressive outcomes in females and can indicate whether the challenges of adolescence can be successfully met (Keenan & Hipwell, 2005; Shahar, Henrich, Blatt, Ryan, & Little, 2003).

To improve the social and emotional well-being of today's youth, it is critical to have an understanding of the mechanisms that influence adverse outcomes, such as emotional problems and poor peer perceptions (Mirkin & Middleton, 2014; Ryan & Shim, 2008). It is widely suggested that the skills linked to becoming an independent, healthy adult may be underdeveloped in girls who display an excessive need for approval and acceptance by their peers (Currie et al., 2012; Keenan & Hipwell, 2005; Whittington, Mack, Budbill, & McKenney, 2011). However, less well known are the platforms and approach mechanisms that are most effective for delivering supportive social experiences to preadolescents.

The developmental challenges of adolescents have been addressed through various approaches and intervention methods. These methods are subjects of disagreement among health care and education professionals due to the variety of methods and intervention programs

currently in use, with limited evidence to support outcomes. Despite these disagreements, emerging evidence supports well-designed experiential learning interventions (Dobud, 2016; Eatough, Chang, & Hall, 2015; Galeotti, 2015). These interventions are intentional processes that provide individuals with supports, opportunities, resources, and skills utilized when becoming self-reliant and healthy adults (Eatough et al., 2015; Galeotti, 2015).

The developmental nature of early adolescence is an ideal time to incorporate experiential learning opportunities, as young adolescents are increasingly interested in real-life, authentic experiences to help make sense of the world around them (Kellough & Kellough, 2008; Piaget, 1960). Experience plays a central role in brain development and encourages opportunities to seek new information and refine preexisting knowledge through a variety of environmental and contextual facets (Brighton, 2007; Piaget, 1960). Moreover, during this stage of development, individuals have “an enhanced ability to think about the future, anticipate their own needs, and develop personal goals” (Caskey & Anfara, 2014, Intellectual Development section, para. 3).

Outdoor adventure-based programs with an emphasis on experiential learning have demonstrated successful short-term outcomes for adolescents (Bloemhoff, 2012; Dobud, 2016; Whittington et al., 2011). For girls in particular, these programs show potential to support and facilitate the development and growth of strong social and life skills. Evidence supports the likelihood of these programs helping to cultivate healthy relationships, encourage resilience, and problem-solving strategies while engaging girls in physical activity, further promoting their health and well-being (Bloemhoff, 2012; Dobud, 2016; Galeotti, 2015; Whittington et al., 2011).

Two theories were used to guide this study: the achievement goal theory and the person-environment-occupation (PEO) theory. The achievement goal theory focuses on the types of goals individuals pursue and views behaviors as intentionally focused toward the attainment of these goals. This theory identifies two social interaction strategies: social development and social demonstration (Ryan & Shim, 2008). Social development is the mature interaction strategy that is characterized by a focus on new learning and personal growth while deepening relationships with others. Conversely, social demonstration is the maladaptive strategy of social interaction, in which the goal is to obtain status and to avoid being perceived as incompetent (Ryan & Shim, 2008).

Studies have indicated that social development goals are positively associated with desired outcomes in the preadolescent stage such as positive relationships, self-acceptance, personal growth, social self-efficacy, and social adjustment (Mirkin & Middleton, 2014; Ryan & Shim, 2008). These findings support the idea that focusing on developing social competence creates a positive orientation toward the social world that sets in motion adaptive beliefs and behaviors that facilitate adjustment in a variety of contexts (Mirkin & Middleton, 2014).

Our research was also conducted through the lens of the PEO theory. Law et al. (1996) stated that the PEO theory focuses on how individuals work within their environment to participate in life's occupations. This theory defines an occupation as any activity that holds meaning for an individual (Law et al., 1996). This study used an adventure-based environment to investigate occupational performance from a social achievement perspective. Each week, participants interacted within the adventure-based environment, creating opportunities to employ social goal achievement strategies of demonstration or development. The interchange between the person, environment, and occupation allowed the researchers to investigate social interaction strategies in preadolescent girls (Law et al., 1996).

Motivated by the preexisting literature, as researchers we aimed to investigate social development and demonstration in preadolescent girls within the context of an outdoor adventure-based program. Our hypothesis concerning this purpose had two components:

H1: In the context of an outdoor adventure-based program, participants will shift social engagement patterns from demonstrative (maladaptive interaction strategies) to developmental (mature interaction strategies).

H2: As participants utilized a developmental orientation toward the social world, group cohesion, independence, and skill development will emerge.

Method

Study Design

A case study design including pre- and postsurveys, weekly small-group discussion responses, and comment box submissions was used to obtain data on the participants' social approaches and the factors influencing the group social dynamics within the context of an outdoor adventure-based setting. The researchers obtained approval from James Madison University's Institutional Review Board (IRB) prior to participant recruitment.

Participants

Participants were recruited through purposive and convenience sampling via mass e-mail distribution to James Madison University (JMU) employees. During recruitment, the caregivers of the potential participants completed an intake form to determine eligibility for the study, with nine of 15 applicants meeting eligibility criteria. Seven of the nine eligible applicants were selected for this study for maximum homogeneity and group dynamics. The seven selected participants were between the ages of 10 and 12, biologically unrelated, students within the local school district, and children of JMU employees.

To limit confounding variables, inclusion criteria required participants to

- be typically developing with no identified intellectual disability,
- have adequate control of motor functions,
- have limited sensory processing difficulties,
- speak English as their primary language, and
- read at a minimum of a fifth-grade level.

It should be noted group size was determined via evidence-based best practice guidelines proposed in *Group Dynamics in Occupational Therapy* for task-oriented groups (Cole, 2012). Task-oriented groups focus on the process of accomplishing tasks via a shared working experience wherein group members view and explore their productivity and the relationships between feeling, thinking, and behavior (Fidler, 1964). Recommendations for an ideal, synergistic group include the following: Groups should be as small as possible (5 to 7 participants) yet large enough to offer a diverse set of perspectives with equal participant involvement. Groups of this nature are small enough to be informal and spontaneous and large enough to allow for a facilitator and a scribe (Cole, 2012). Scribing involves the documenting of comprehensive notes, including conversation exchange, observed behaviors, and comments on context by an independent observer during a group facilitation.

Measures

Qualitative data were derived from group discussions at the end of each session, researcher observations, and weekly comment box submissions. The group processing discussions were captured through audio digital recording and then transcribed manually by the researchers. All of the discussion transcriptions were then analyzed by each researcher. Analysis included identifying themes from the discussions that aligned with themes used to describe task-oriented groups within the Group Environment Scale (GES). Each researcher organized the discussion responses and comment box submissions into themes. The researchers then amalgamated their findings and further organized their interpretations into agreed upon themes.

The comment box allowed participants the opportunity to share anonymous comments and thoughts each week by placing written notes into this box. Only the researchers read the comments from the box each week. The researchers then transcribed the qualitative data from group discussions, comment box submissions, and observations, and documented recurring themes.

Additional data were collected through pre- and posttesting via the modified version of the Social Achievement Goals survey and the GES. The Social Achievement Goals survey assesses changes in social approach goals in contexts such as outdoor adventure-based programs (Mirkin & Middleton, 2014). The survey comprises the two social approach strategies of the achievement goal theory: demonstrative and developmental social interaction strategies. Nine questions of the survey represent social demonstration and four represent social development. Additionally, the Social Achievement Goals survey was chosen because the questions target perceptions of social acceptance, individual behaviors as a result of group dynamics, and perceptions of the importance of group roles. The survey was developed for individuals ranging from elementary to college age. Mirkin and Middleton (2014) modified the survey to include 13 of the original 18 items so that it more closely aligned with the parameters of their study; this modified version was used in the current study. A sample demonstrative question from this modified version is, "My goal is to show other kids how much everyone likes me." A participant response of yes, indicating agreement with this statement, would signify a demonstrative or maladaptive social response. This current study used yes or no answers to replace the 5-point Likert-type scale used in the original survey, to simplify participant comprehension.

The GES comprises 90 true-or-false items that aim to assess 10 subscale factors within the social environment of a group. The subscales include cohesion, leader support, expressiveness, independence, task orientation, self-discovery, anger and aggression, order and organization, leader control, and innovation. Once the scale was administered, raw group scores were tabulated for each subscale item and converted to standardized scores via the *Group Environment Scale: Manual, Instrument, and Scoring Guide* (Moos, 2002). Lower scores on the GES represent a deficit or lack of subscale characteristic within the group environment. The GES has been extensively normed and although quite lengthy, it was chosen because of its well-established psychometric properties (Mirkin & Middleton, 2014; Moos, 2002). Furthermore, the GES developer, Rudolph Moos, has used the GES to compare and analyze published data on 305 groups and has identified distinct group profiles according to group type. For example, task-oriented groups, such as the group in this study, tend to be more cohesive and high on leader support and expressiveness, which are positively related to independence, task orientation, and self-discovery (Moos, 2002). Additionally, task oriented groups tend to be well organized and high on leader control, and tend to play down the open expression of anger (Moos, 2002).

Program Design

The outdoor adventure program spanned 11 weeks and entailed a 1.5-hour session once a week at James Madison University's TEAM Challenge Course. The TEAM Challenge Course is a high and low ropes outdoors facility in a wooded area outside of the university's main campus. Each session took place at the TEAM Challenge Course grounds and entailed use of either or both the high and low rope elements. Each session of the intervention consisted of an introduction, warm-up activity, main activity, and reflection. To guide the intervention, the researchers

used five themes around which these activities were structured (Table 1): teamwork, problem solving, communication, leadership and trust. Each week the participants engaged in activities that emphasized the theme for that week. During group discussion, the researchers then asked questions that addressed the theme for that week. An example of a discussion question for the week's theme of teamwork is, "When was a time that you were frustrated by having to work as a team?" An example of a weekly comment box submission prompt is, "Can you talk about a time where you had to take on a leadership role that you may not necessarily have been comfortable with? How did you handle that situation?"

Table 1
Program Design

Themes	Example activities	Example process questions
Teamwork	Shark-Infested Waters	If a strategy did not work, how did you all work together to improve it?
	Group Jump Rope	When was a time that you were frustrated by having to work as a team?
	Team Haul Zip Line	
Problem Solving	Rope Shapes	Why can problem solving as a group be challenging?
	Islands Crossing	
Communication	Bull Ring	How did you all effectively communicate with one another without using words?
	Nitro Crossing	
Leadership	Whale Watch	What are some different ways you saw leadership in our activities today?
	Minefield	
Trust	Zip Line	What game challenged your trust the most? Why?
	Wild Woozy	
		What is something you did that helped one of your fellow Adventure Girls know that they could trust you?

Results

Qualitative Themes

Following joint interpretation, analysis, and organization of the qualitative measures (including group discussion, weekly comment box submissions, and observation), six themes were identified: cohesion, facilitator's role, perception of role, recognition of growth, independence, and task orientation and group organization (Table 2). The six themes are similar to and correspond well with the 10 GES subscales (e.g., cohesion and independence). Within these six themes, further identification of demonstrative (maladaptive social approach) and developmental (mature social approach) tendencies were extracted from the participant data (Table 2).

Table 2*Results from Group Discussions, Comment Box Entries, and Researcher Observations*

Theme	Demonstrative	Developmental
Cohesion	Examples of maladaptive dominance tendencies: Jumping in front, nudging others out of the way, dominantly stating she was going first (Primarily observed in the first few weeks)	<p>“We tried different ideas and together as a group we kept trying each other ideas.” (Week 5 Discussion)</p> <p>“Now that we know each other more, we do more for each other, because we’ve found some good friends and so were more willing to help one another and sacrifice for one another.” (Week 8 Discussion)</p>
Facilitator’s Role	Redirected and reframed conversations, thoughts, and actions when demonstrative tendencies arose. (Primarily observed in the first few weeks)	Provided encouraging feedback when developmental tendencies were displayed. (Observation; most frequent occurrences observed in the later weeks)
Perception of Role	<p>“I’m not the leader and I’m not sure I will figure it out soon enough.” (Week 2 Comment Box)</p> <p>“I didn’t really share all my ideas because there are better leaders in the group than me.” (Week 5 Comment Box)</p>	“Because there are many different types of people and types of leaders and followers and helpers. Um, and some people are followers and some are leaders and that can make a difference.” (Week 6 Discussion)
Recognition of Growth	<p>Avoidance behaviors during group processing (i.e., not sharing thoughts pertaining to the individual participant’s success or group contributions). (Observation; primarily observed in the first few weeks)</p> <p>“If you make a mistake you always feel bad because you feel like everyone is relying on you to do it right.” (Week 5 Discussion)</p>	<p>“We’ve done a little bit, um, more about communicating, like telling each other our ideas instead of saying ‘ohh’ and not telling anyone our ideas.” (Week 8 Discussion)</p> <p>“It was quicker and more efficient and it used more of a team, skill ability.” (Week 10 Discussion)</p>
Independence	<p>Group think strategies displayed. (Primarily observed in the first few weeks)</p> <p>“Well um, hand motions.” (Week 4 Discussion)</p> <p>“They pointed a lot and they used hand motions.” (Week 4 Discussion)</p> <p>“Hand motions.” (Week 4 Discussion)</p>	<p>“When we were doing the rope thing, [participant name] suggested her idea and how everyone like agreed with it and then some people tried to start it and other people thought of ways to make it better.” (Week 6 Discussion)</p> <p>“I was scared sitting on the edge, [references positive self talk] but then you just accomplish it and jump off!!” (Week 7 Discussion)</p>

Table 2 (cont.)

Theme	Demonstrative	Developmental
Task		
Orientation and Group	“We were just kind of yelling at each other, ‘Do this, do that.’” (Week 2 Discussion)	“Communicating with each other.” (Week 6 Discussion)
Organization	“We didn’t have a lot of communication and it was challenging.” (Week 4 Comment Box)	“Knowing what the problem was.” (Week 6 Discussion) “Making a plan together and helping each other, rather than just running around and doing your own thing.” (Week 6 Discussion)

Note. Data found in quotations were derived via direct statements made by participants during group discussion and comment box entries. Data without quotations were extracted from documented researcher observations made during weekly sessions.

Pre- and Postsurvey Outcomes

Social Achievement Goals survey. Results for the Social Achievement Goals survey were measured by the number of yes answers provided for the two social approach goals: social demonstration or social development. Social demonstration outcomes revealed 17 out of 28 yes answers at pretesting compared to 13 out of 28 yes answers at posttesting. These differences in social demonstration answers represent a 14.3% decrease in yes answers from pre- to posttesting. A total of 22 out of 28 yes answers were recorded for questions related to social development at pretesting compared to 21 out of 28 yes answers at posttesting.

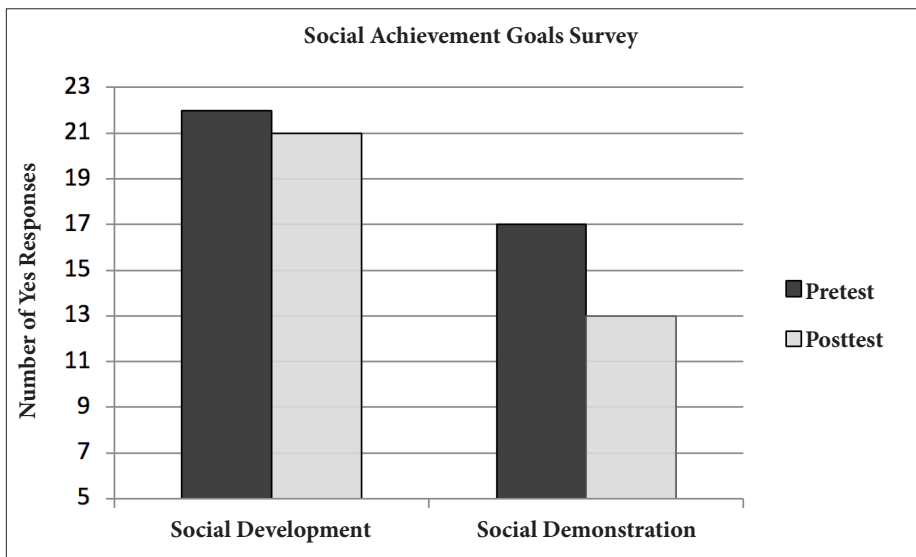


Figure 1. Yes responses at pre- and posttesting in social development and demonstration.

The Group Environment Scale. The GES outcomes from this study may be referenced in Table 3 and Figure 2, as well as the GES score key. The score key (Figure 2) is based on the normative values provided by Moos (2002). At pre- and posttesting, the group was above average on cohesion and innovation, slightly above average on leader support, and below average on anger and aggression. At posttesting only, the group scored above average on order and organization. Additionally, there was an increase from pre- to posttesting in several subscales including independence, order and organization, leader control, and innovation. Conversely, minor decreases were present in expressiveness and self-discovery subscales. Results of the GES largely aligned with the tendencies of task-oriented groups as described by Moos (2002). As expected, task-oriented groups tended to score above average on task orientation, were well organized, and were high on leader control. They also tended to be cohesive, supportive, and oriented toward independence and relatively low in expressiveness, self-discovery, anger and aggression, and innovation (Moos, 2002).

Discussion

The purpose of this study was to investigate social development and demonstration in preadolescent girls within the context of an outdoor adventure-based program. Discussion responses, comment box submissions, and researcher observations revealed that demonstrative tendencies were more prevalent during the initial weeks of the intervention and developmental tendencies were more commonly displayed toward the end of the intervention. The increase in prevalence of developmental tendencies reveals outcomes in support of the researchers' initial hypothesis that in the context of an outdoor adventure-based program, participants will shift social engagement patterns from maladaptive tendencies (demonstrative) to more mature (developmental) patterns.

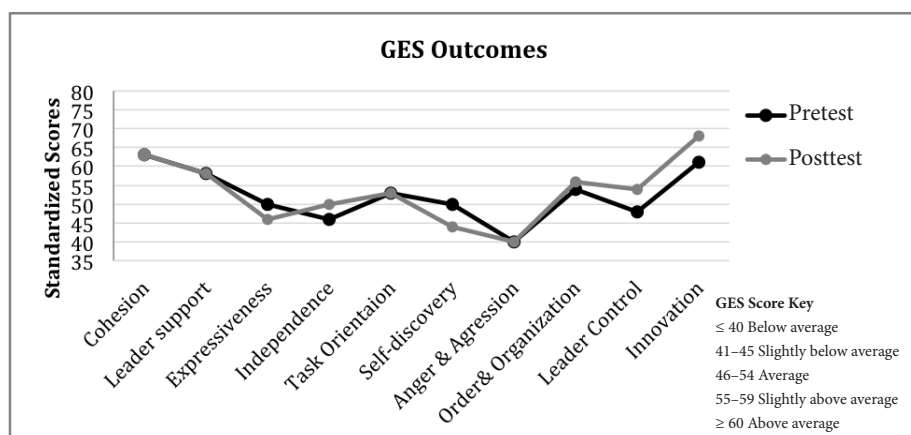
Results of the Social Achievement Goals survey reveal information that the researchers believe indicates clinical significance or relevant information for other practitioners providing services. During posttesting, there was a decrease in responses associated with social demonstration, which is the immature and maladaptive social interaction strategy. This decrease suggests a shift in the participants' identification toward more mature social patterns (social development). Findings that complement research emphasizing experiential learning opportunities can lead to programs that cultivate healthy relationships and help to facilitate the growth of strong social and life skills (Bloemhoff, 2012; Dobud, 2016; Whittington et al., 2011).

The results of the GES provide useful insight regarding the environmental and contextual factors influencing the group dynamics and complement the findings involving the observed shift in social patterns. The PEO theory highlights how performance outcomes, such as the shifts in social patterns, are a result of the dynamic interplay between an individual engaging in a task and the context of the environment (Law et al., 1996). It is also well known that a variety of factors influence the social climate of a group and include aspects such as the type of group tasks and structure, the policies and procedures of the group, and the amount of leader and facilitator involvement (Cole, 2012; Moos, 2002). To create an effective group climate that also promotes mature social patterns, the researchers accounted for many of these influential factors in the program design and during program implementation. Furthermore, research presented by Moos (2002) supports the GES outcomes of this study.

According to Moos (2002), when individuals work together on engaging tasks, they are likely to develop cohesive, task-focused, and well-organized groups—characteristics the GES determined were present in the current study. This finding reinforces the importance of creating experiential learning opportunities for adolescents, as participants were able to actively engage in structured activities that encouraged the utilization of important life skills such as problem solving and cooperation. Additionally, Moos found when groups are average to above average on cohesion and leader support, such as the group in this study, members have shown increased

Table 3*Raw Group Scores for the Group Environment Scale Before and After the Adventure Girls Program*

GES subscales	Pretest		Posttest	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
Cohesion	9.0	(0.49)	9.0	(0.04)
Leader Support	8.0	(0.90)	8.0	(1.00)
Expression	5.5	(1.90)	5.0	(2.50)
Independence	6.0	(1.63)	6.5	(1.38)
Task Orientation	7.0	(1.35)	7.0	(1.35)
Self-Discovery	5.0	(1.78)	4.0	(1.00)
Anger and Aggression	1.5	(1.11)	1.5	(1.39)
Order and Organization	6.5	(1.27)	7.0	(1.77)
Leader Control	4.5	(1.13)	5.5	(1.71)
Innovation	6.0	(0.69)	7.0	(0.82)

**Figure 2.** Group profiles on the Group Environment Scale at pre- and posttesting.

learning of specific skills and intellectual development. Maximal benefits in these areas, however, are associated with groups that tend to have average to above average levels of task orientation and organization, characteristics also present within the group in this study (Moos, 2002). Aspects of this program design that relate to the subscale characteristics of task orientation and organization include the clear establishment of group expectations and rules at the beginning of the program, with additional review as needed. Furthermore, each weekly session followed a similar routine, which assisted in group organization and flow.

A leader can exert influence on the social climate of a group. During group discussion each week, facilitators and leaders encouraged open dialogue between group members, which promotes the exchange of feedback involving the strengths, challenges, and perceived areas of improvement of the group. This aspect of the program design was also supported by the findings of Moos (2002), as he found the highest levels of group cohesion and communication occurred when groups exchanged feedback, which led to the exchange of both positive and negative information among group members.

Limitations

The limitations of this study include a small sample size, the length and sensitivity of the GES, assessment administration procedures, participant attendance, and environmental influences. The length of the GES, which was 90 questions, required sustained attention for the young participants. The need for sustained attention during administration of the GES resulted in what appeared to be one participant looking off another's assessment for answers during pretesting. Additionally, seating arrangements did not provide an ideal testing environment for participants during this lengthy testing process. Given the homogeneity of the small sample size, the scoring criteria for the GES was not sensitive enough to detect or apply quantifiable differences in scores from pre- to posttesting. Attendance was also a notable limitation, as one participant had to leave three sessions early, excluding her from group discussion during those sessions; another participant missed an entire session altogether. The weather was also a potential limitation, as temperatures were near freezing during posttesting. Participants verbally acknowledged discomfort with the temperature, which possibly influenced participants' responses to assessments.

Implications for Future Program Designs and Research

Following these limitations, suggestions for future research include an increased sample size and program length to promote skill transference outside of the intervention. To assess the effects of the intervention at the individual level, future research could analyze individual participant scores alongside group scores and outcomes. A program design incorporating a control group may also enhance the rigor of studies aiming to examine the positive effects of an outdoor adventure-based program.

Conclusion

This study provides preliminary insight into the positive effects of an outdoor adventure-based program on social interaction skill strengthening for preadolescent girls. The cumulative findings of this study provide clinically relevant information and may be of practical use to individuals interested in programs that address preadolescent social development. The findings of this study suggest that an adventure-based program focused on the promotion of group cohesion, independence, and skill development could facilitate a shift toward more mature social interaction strategies within preadolescent girls. Furthermore, this study can be used as a guide for clinicians and educators to replicate a program that promotes social interaction skill strengthening through the use of team-building exercises and group reflection. Continued research of an outdoor adventure-based program for preadolescent girls is needed and encouraged.

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