



More Than S'mores:

Successes and Surprises in Girl Scouts' Outdoor Experiences

A Report from the Girl Scout Research Institute

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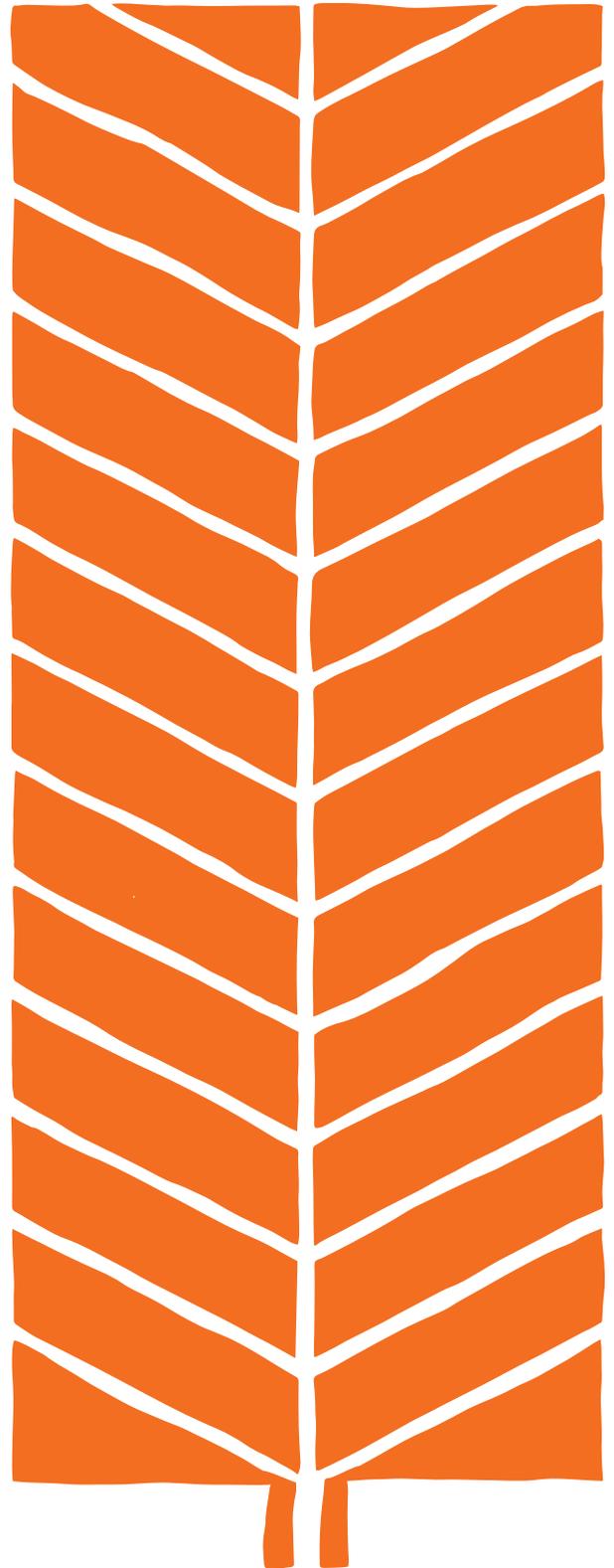
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Overview

Girl Scouting has a long, storied, and successful history of getting girls outdoors and one that can claim responsibility for much more than popularizing the delightful campfire treat called the “s’more.” In a recent study of nearly 2,000 Girl Scout alumnae, 49 percent described “camping trips” as one of the most positive aspects of their Girl Scout experience—ranking it just behind “fun” and “friendships with Girl Scouts.” Alumnae also said that “exposure to nature” was one of the foremost benefits of belonging to Girl Scouts (GSRI, 2012a).

However, parental protectiveness, increased use of technology devices, and a host of structured activities competing for children’s time have led to girls spending less and less time outside. Both parents and policy makers have expressed concern that girls are getting outdoors less, and the lack of sufficient exposure to nature and the outdoors could cause girls to suffer physically, emotionally, and cognitively.

Girl Scouts and the Great Outdoors: Are Girl Scouts Still Getting Outside and What Difference Does It Make?

In 2012 the Girl Scout Research Institute (GSRI) conducted a study to better understand the kinds of outdoor experiences that girls are having in Girl Scouts and to learn how girls’ participation in the outdoors through Girl Scouts supports their leadership development—how it helps them become girls of courage, confidence, and character, who make the world a better place. We explored six key questions:

1. How and in what ways are girls getting outdoors in Girl Scouts?
2. What’s fun about the outdoors for girls in Girl Scouts?
3. How do outdoor experiences vary among different groups of girls?
4. What are the key drivers of impact in terms of leadership and satisfaction for Girl Scouts?

5. How do Girl Scouts compare with girls at large in the United States on environmental stewardship—that is, connection with, concern for, and conservation of the environment?
6. What is the role of camp—both resident and weekend—in girls’ outdoor experiences and outcomes?

In looking at variations among different groups of girls, we hypothesized that both demographic factors, like socioeconomic status (SES), and personality characteristics, like self-esteem, might affect girls’ experiences. For example, we thought that girls with less economic means might have fewer opportunities to get outdoors, both in Girl Scouts and in general, because of the costs of doing so. As such, having outdoor experiences in Girl Scouts might be new and differentially impactful for these girls. Similarly, we thought that girls’ levels of self-esteem could be associated with their outdoor experiences. Outdoor experiences are frequently seen as self-esteem-boosting ones for girls. However, girls with low self-esteem might experience outdoor education opportunities in Girl Scouts differently. They might be less likely to seek challenges and take on problems, because doing so might threaten their self-esteem even further. We were interested in learning about the Girl Scout experiences that especially “worked” for these unique groups of girls.

The findings in this report are cause for both celebration and reflection. Among the successes to celebrate is the fact that girls are getting outdoors through Girl Scouts more than we anticipated, and they enjoy their outdoor experiences a great deal. Moreover, they say that outdoor experiences in Girl Scouts provide them with unique opportunities to try new things, improve skills, overcome fears, and help other girls. They are highly involved in environmental volunteering through Girl Scouts, and they report levels of environmental stewardship much higher than national averages. Finally, girls with monthly exposure to the outdoors in Girl Scouts are stronger challenge seekers, better problem solvers, and more satisfied customers, and they say that Girl Scouts has a greater impact on their lives. Girls of lower SES seem to derive some of the greatest benefits from outdoor time in Girl Scouts.

Despite these successes, data from this study also suggest areas for reflection and improvement. Of foremost concern is the fact that girls' outdoor experiences in Girl Scouts are linked to their demographics. For example, even though girls of lower SES report greater benefits of Girl Scouting—especially those related to exercise, academics, and learning to recognize their strengths—they have fewer outdoor experiences in Girl Scouts. These girls and African American girls participate less than others in outdoor programming overall, and specifically in camp-related activities and those activities that require specialized equipment and training, such as archery and canoeing/kayaking.

Additionally, though regular, monthly outdoor exposure is a key to realizing many of the benefits of Girl Scouting, only about 40 percent of Girl Scouts are getting outdoors on a monthly basis in Girl Scouts. Finally, Girl Scouts appears to be most successful at supporting girls of moderate to high self-esteem. Girls with low self-esteem are much less likely to experience the benefits of Girl Scouting. We need to do more to develop the leadership potential of these girls, and this report offers some insights about where to best place our efforts in terms of outdoor programming. Other Girl Scout experiences may also offer support to such girls.

What's So Special About the "Outdoors"

Spending time outdoors in nature is *different* from playing or learning inside. Here's how . . .

- **Outdoor spaces support physical play.** Unlike most indoor environments, the outdoors offers open space where children are able to be messy, make noise, and move in more physically intense ways. This allows them to develop their **movement capability and confidence**—both of which create foundations for physically active lifestyles and general health (Little & Wyver, 2008; SPARC, 2009).
- **Time in nature promotes attention restoration.** Spending time in nature (even just a walk in a park) has been shown to **improve concentration** and **creative reasoning** among children and adults, including those with attention deficits (Atchley, Strayer, & Atchley, 2012; Taylor & Kuo, 2009; Berman, Jonides, & Kaplan, 2008).
- **Nature provides novelty and challenge, which enhance leadership.** Outdoor experiences often place girls in new physical, psychological, and social situations that motivate **curiosity** and foster a **sense of discovery**. Authentic challenges in nature (think . . . starting a fire in the rain or negotiating a set of whitewater rapids) require girls to become more **self-aware** and to **cooperate, communicate, and solve problems** more effectively (Rickinson et al., 2004).

Research Methods

This study involved one online survey that was completed by nearly 3,000 girls (n=2,862) in the spring of 2012. The girls represented 15 Girl Scout councils and 16 states. They ranged in age from 8 to 14 years, with an average age of 10.8 years. Among those who completed the survey, 84 percent were white, 6 percent African American, 6 percent Asian, and 7 percent Hispanic. About one-quarter of girls (27 percent) said that their mothers had less than a college education and were classified as having lower SES; another 26 percent were identified as higher SES. Interestingly, SES was associated with other demographic characteristics: Girls of lower SES were more likely to be Hispanic or from rural communities and less likely to be African American or from urban communities. Finally, about one-quarter (24 percent) of girls in the study were categorized as having low self-esteem. These girls did not possess the Self-Esteem Developmental Asset, as defined by criteria from the Search Institute¹ (P. C. Scales, personal communication, May 24, 2013). See Appendix for more details on research measures and methods.

In this study we were most interested in two outcomes—leadership and environmental stewardship. Leadership was defined as girls' progress toward four Girl Scout Leadership Experience (GSLE) outcomes: (1) developing a strong sense of self, (2) seeking challenge in the world, (3) cooperation and team building, and (4) resourceful problem solving. Environmental stewardship was defined as connection with, concern for, and conservation of the environment. It was assessed with multiple items, three of which were borrowed from The Nature Conservancy's 2011 Youth Poll (TNC, 2011).

Additionally, we measured girls' exposure to and enjoyment of the outdoors in Girl Scouts, their fitness, and their perceptions of the impact of Girl Scouts and the role of Girl Scouts in their most memorable outdoor experiences. To better understand the information, we used a variety of statistical techniques (descriptive, correlation, and multiple regression analyses), and we conducted thematic analyses of girls' comments.

To interpret findings and develop actionable insights from this study, we worked closely with an advisory group that included staff from Girl Scouts of the USA and councils as well as external advisors.

Girl Scout Leadership Experience Outcomes Defined

Girls **seek challenges** in the world. They develop positive attitudes toward learning, seek opportunities for expanding their knowledge and skills, set challenging goals for themselves, and take appropriate risks.

Girls are **resourceful problem solvers**. They can use their knowledge and skills to set up and implement creative and effective "action plans," locate the tools and resources they need, and know when, where, and how to enlist help from others.

Girls **promote cooperation and team building**. They recognize the value of working together and learn to make decisions that benefit the whole group. They can build effective teams, learn to be accountable for shared goals, and show recognition for others' contributions and accomplishments.

Girls **develop a strong sense of self**. They have confidence in themselves and their abilities, feel they are able to achieve their goals, and form positive gender, social, and cultural identities.

¹ Survey items were taken from *Profiles of Student Life: Attitudes and Behaviors*, copyright © 2012 by Search Institute, Minneapolis, MN. Used by permission.



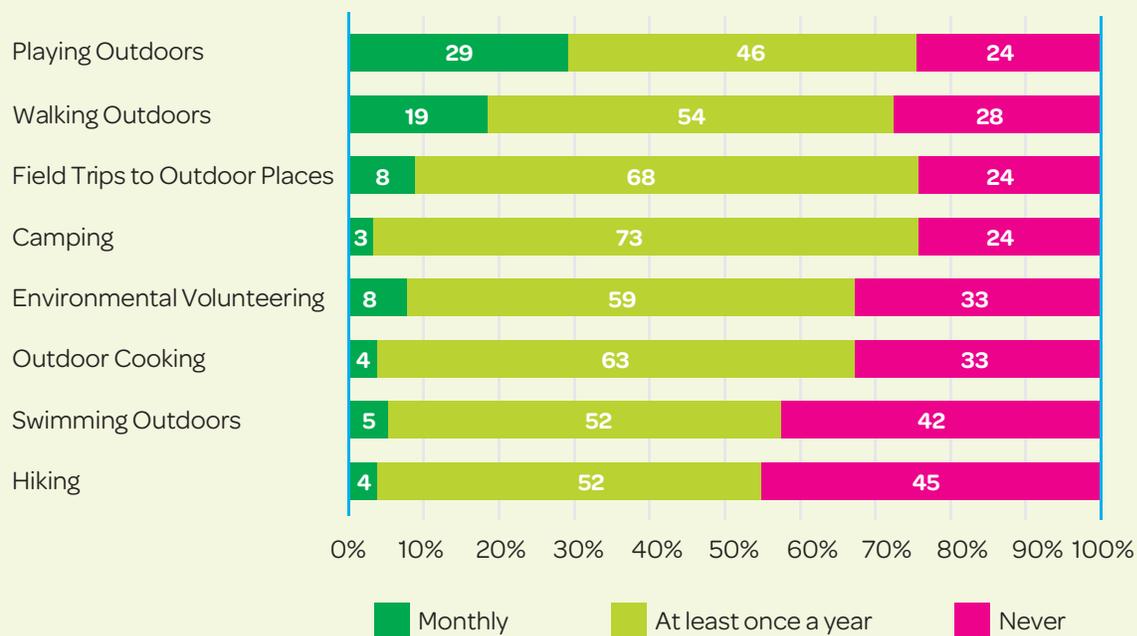
Key Findings

1. Girl Scouts helps girls get outdoors.

Overall Exposure. One of the big surprises coming out of this study was that 97 percent of girls who responded to our survey said that they had done at least one outdoor

activity in Girl Scouts during the last year. The activities they did most frequently were playing outdoors, walking outdoors, field trips to outdoor places, camping, and volunteering for causes related to the environment. Figure 1 describes how often girls participated in these activities.

Figure 1: Outdoor Activities Girls Do Most Often in Girl Scouts



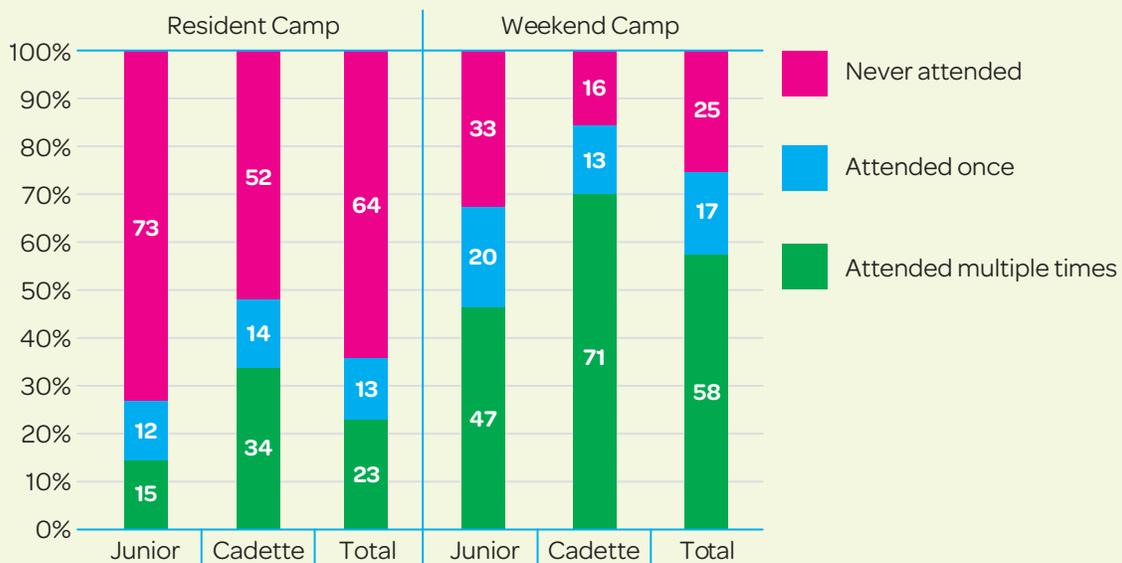
High Overall Outdoor Exposure. Nearly 4 out of 10 girls (39 percent overall, consisting of 41 percent of Cadettes and 38 percent of Juniors) participated on a monthly basis in outdoor activities in Girl Scouts. These girls—with high outdoor exposure in Girl Scouts—participated in the same types of outdoor activities as other girls, such as playing outdoors and going on outdoor field trips, but they did so much more often. For instance, overall, 8 percent of girls went on outdoor field trips in Girl Scouts at least once a month, whereas 22 percent of girls with high outdoor exposure did the same.

High-Adventure Experiences. More than half of the girls (56 percent overall, consisting of 64 percent of Cadettes and 50 percent of Juniors) said that through Girl Scouts they had participated in high-adventure programming during the past year. Girls' participation in these outdoor activities varied, with 56 percent having been canoeing or kayaking; 48 percent having participated in a challenge/ropes course; 40 percent having been backpacking; and 37 percent having been climbing.

Interestingly, there was some—but not complete—overlap between girls who had high-adventure experiences in Girl Scouts and those who had high overall outdoor exposure. Among girls who had high overall outdoor exposure in Girl Scouts, 76 percent also had a high-adventure experience. However, among girls who did not have monthly exposure to the outdoors in Girl Scouts, nearly half (47 percent) did participate in a high-adventure activity. For example, a girl might participate in a canoe trip or challenge course once a year but then only do one or two other outdoor activities in Girl Scouts during the year.

Camping or Camp Attendance. A majority of girls also participated in some kind of camp-related outdoor activity through Girl Scouts. Three-quarters (76 percent) of respondents said they had been camping. Additionally, 79 percent indicated they had attended Girl Scout weekend camp, and 36 percent had attended resident camp at least once in their lives (see Figure 2). About two-thirds had participated in Girl Scout day camp. However, because Girl Scout day camps do not necessarily involve outdoor activities, we did not include girls’ attendance at day camp in our analyses of outdoor exposure or impact.

Figure 2: Frequency of Girls’ Attendance at Girl Scout Camp



*I got over my fear of heights!!!!
I climbed the 35 foot tower!!!!*

12-year-old Girl Scout, Florida



Unique Role of Girl Scouts in Outdoor Experiences.

Girl Scouts also facilitates girls' outdoor experiences in unique ways. For example, 50 percent of girls who completed our survey said that Girl Scouts provided them with opportunities to experience the outdoors in ways they could not have otherwise, and about three-fourths said that Girl Scouts gave them

the chance to build their skills or try new outdoor activities. Girl Scouts played an even stronger role in the outdoor experiences of girls with more intense or frequent outdoor exposure in Girl Scouts. Table 1 summarizes the roles of Girl Scouts in girls' outdoor experiences.

Table 1: Role of Girl Scouts in Girls' Most Memorable Outdoor Experiences

Role	% Girls Reporting
Improved skill at an outdoor activity in Girl Scouts	72
First tried an outdoor activity in Girl Scouts	71
Increased enjoyment of an outdoor activity through Girl Scouts	64
Would not have been able to do an outdoor activity if not for Girl Scouts	50
Helped other girls do an outdoor activity in Girl Scouts	48
Overcame fear of an outdoor activity in Girl Scouts	29



2. Girls really enjoy outdoor activities in Girl Scouts.

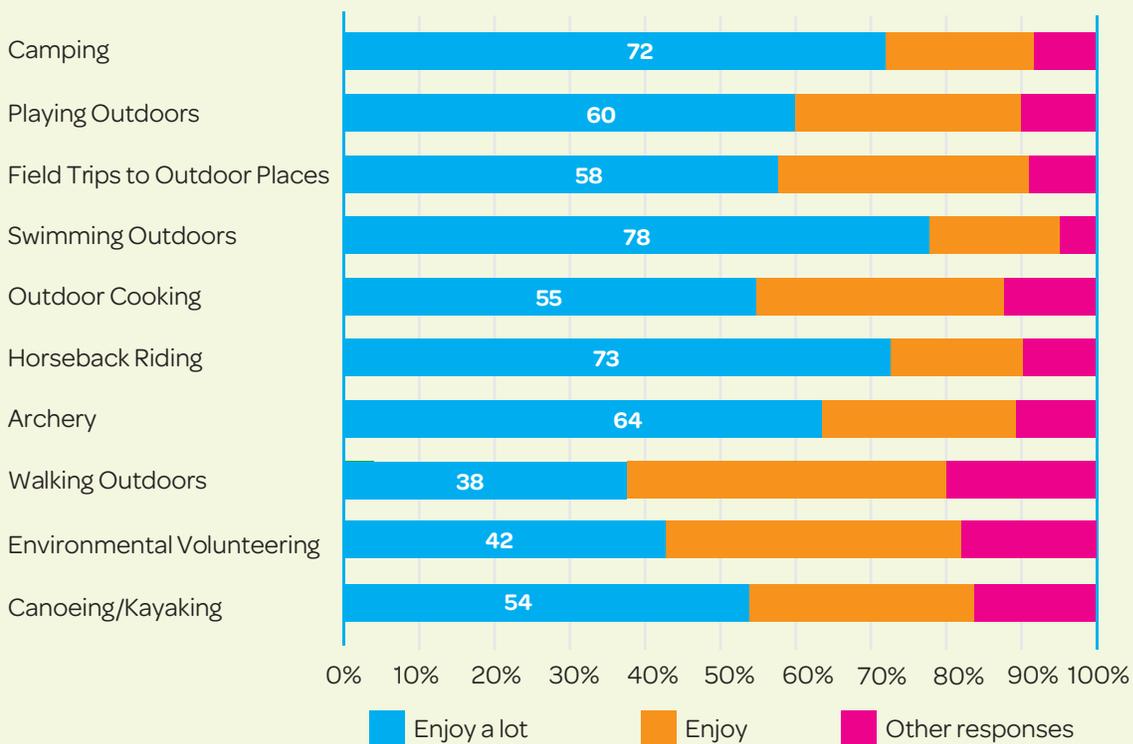
Nearly two-thirds of girls (62 percent) said they either “enjoyed” or “enjoyed a lot” almost all of the outdoor activities they participated in through Girl Scouts. Their top 10² most enjoyed outdoor experiences were (1) camping, (2) playing outdoors, (3) outdoor field trips, (4) swimming outdoors, (5) outdoor cooking, (6) horseback riding, (7) archery, (8) walking outdoors, (9) environmental volunteering, and (10) canoeing/kayaking (see Figure 3).

Surprisingly, girls who did not get outdoors much in Girl Scouts enjoyed their outdoor experiences as much as or more than

other girls, and Hispanic girls enjoyed outdoor activities even more. These findings suggest that lack of enjoyment is not driving girls’ lack of involvement in outdoor activities. In other words, it is not the case that girls without regular outdoor exposure in Girl Scouts and Hispanic girls are avoiding outdoor activities because they don’t enjoy them.

Enjoyment is typically thought to involve three components—engaging in an activity, experiencing positive emotions such as contentment or satisfaction, and feeling fulfilled (Warner, 1980). However, children often describe this complex blend of activity and emotion in simpler terms. Girls in our study who highly enjoyed an outdoor experience generally described it as being “fun.”

Figure 3: Girls’ Ratings of Their Top 10 Most Enjoyable Outdoor Experiences in Girl Scouts



² To arrive at the top 10 most enjoyed activities, we took into account girls’ enjoyment ratings of an activity and the number of girls who rated it. (If a girl did not participate in an activity in Girl Scouts, she did not rate her enjoyment of it.) As such, some activities may have a higher proportion of “enjoy a lot” ratings but appear lower on the list. Fewer girls participated in and rated their enjoyment of these activities.

To better understand what makes an outdoor experience “fun” for girls, we borrowed ideas from the entertainment industry and examined girls’ comments for evidence of “hard fun,” “easy fun,” “serious fun,” and “people fun” (Lazzaro, 2012). We found that when girls mentioned fun or enjoyment, they mostly described “hard fun” or “people fun.” “Hard fun” provides opportunities for challenge, mastery, and feelings of accomplishment. It involves goals, strategies, and obstacles. “People fun,” on the other hand, provides opportunities to build and strengthen social bonds and to hang out with friends. In this sort of fun, girls cooperate, communicate, and compete. We also identified a few new categories of outdoor fun related to nature and to camp activities. Personal testimonials to each type of fun are:

Hard Fun

- “It was my first time on the water, in a lake. I was scared at first but when I started to paddle I got the hang of it. I really loved it.” (10-year-old Girl Scout, Missouri)
- “I was afraid because I don’t like heights, but I tried and was able to do the zip line. I really had fun!” (10-year-old Girl Scout, California)
- “I go camping with Girl Scouts every year and every year we get more responsibility, which makes it more fun! This year we did most of the cooking ourselves and we also had more responsibility in cleaning our cabins.” (11-year-old Girl Scout, Massachusetts)

People Fun

- “I like camping because you can talk with your friends and do fun things and get to know everyone better.” (9-year-old Girl Scout, Texas)
- “I enjoy being outside and being active with my Girl Scout troop because it is simply fun to get together and play games with good, healthy competition.” (14-year-old Girl Scout, Washington)
- “I got to have fun with my friends. And I have never done a ropes course so it was awesome. Some of my friends were kinda scared so I helped them and that made me feel good.” (9-year-old Girl Scout, Illinois)

Nature Fun

- “It was really fun to be out in nature.” (12-year-old Girl Scout, Texas)
- “I enjoyed walking to our ‘special’ spot in the woods. I liked seeing different birds and turtles on our canoe trip.” (10-year-old Girl Scout, Massachusetts)



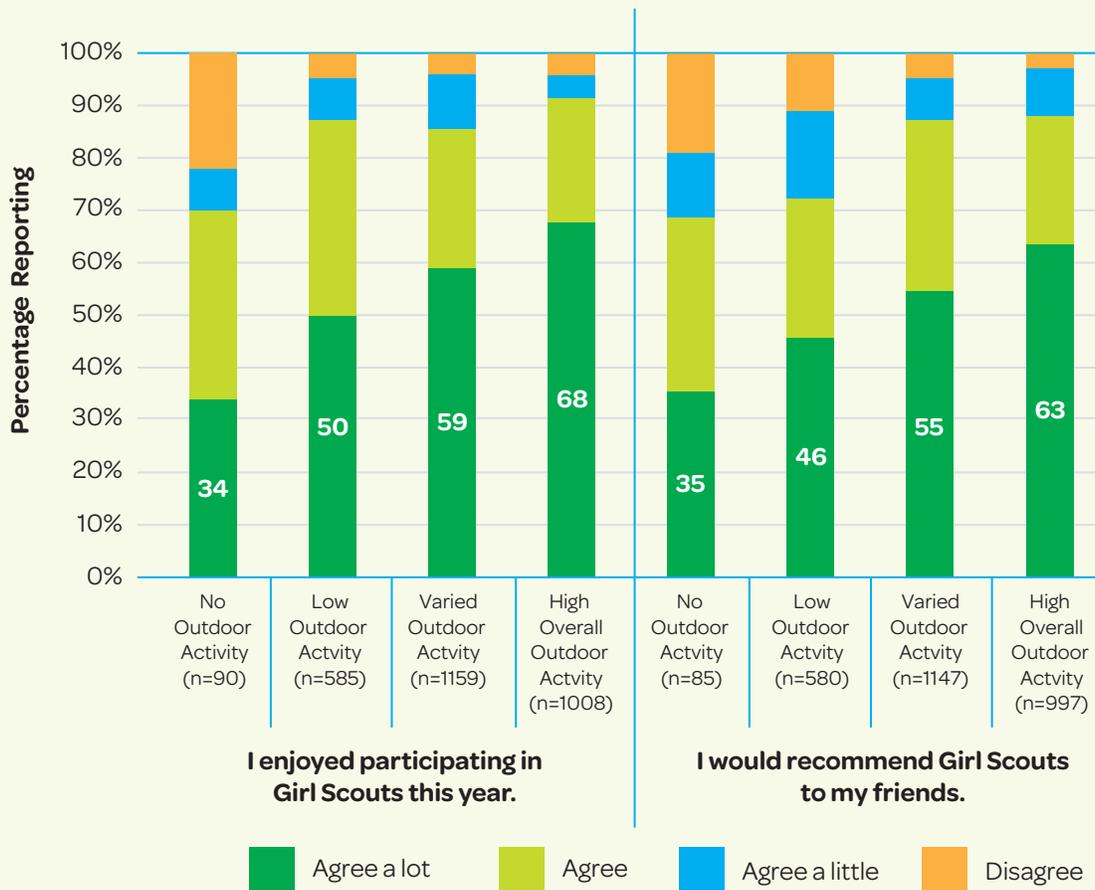


3. Monthly exposure, high adventure, and repeat camp attendance are key drivers of girls' leadership development and satisfaction.

In this study, we used statistical techniques to identify the factors that contributed to girls' leadership development and satisfaction. For both Juniors and Cadettes, we found that Girl Scout factors—outdoor experiences in Girl Scouts, the role

of Girl Scouts, and perceptions of the impact of Girl Scouts—played a much stronger part in the seeking challenge and problem solving outcomes than in the other GSLE outcomes we measured. These two outcomes are particularly important, as they have been linked with academic success (GSRI, 2012b). Challenge seeking is also a key characteristic of mastery goal orientation (Dweck, 1986; Grant & Dweck, 2003), which is associated with a number of positive and adaptive behaviors, including persistence, strategic help seeking, use of deeper learning strategies, ability to better negotiate decisional ambiguities, and ability to experience positive emotions (Senko, Hulleman, & Harackiewicz, 2011).

Figure 4: Girls' Satisfaction with Girl Scouts As Related to Outdoor Exposure in Girl Scouts

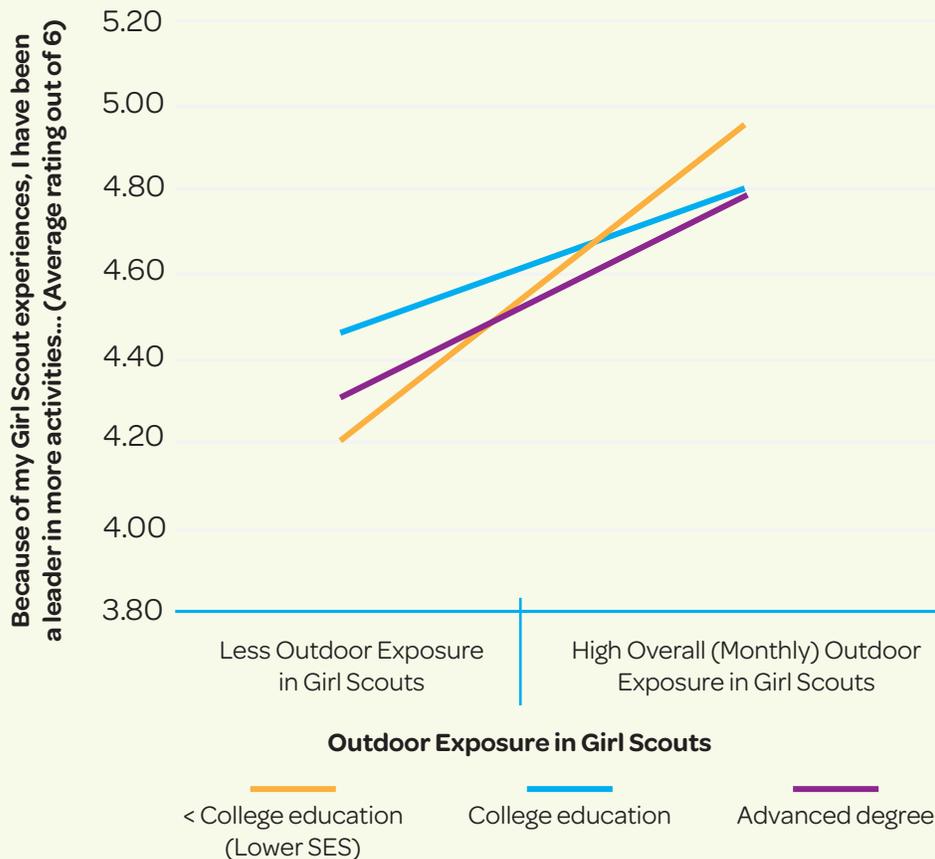


When we controlled for girls' ages, SES, and self-esteem, we found that certain factors rose to the top as the strongest predictors of both leadership and satisfaction. These factors were:

High Overall Outdoor Exposure in Girl Scouts. Girls who participated in outdoor activities in Girl Scouts on a monthly basis were stronger challenge seekers and problem solvers. They also reported greater positive impact from and higher satisfaction with Girl Scouts (see Figure 4). Girls did not gain the same benefits from dabbling—doing a variety of outdoor activities on an occasional basis.

The effects of monthly outdoor exposure were even more pronounced for less advantaged girls. When lower-SES girls had regular exposure to the outdoors in Girl Scouts, they were significantly more likely to say that they had been a leader because of Girl Scouts. Figure 5 displays the average ratings for this impact statement based on girls' SES and level of exposure to the outdoors in Girl Scouts. In the graph, take note of the orange line (which represents the lower-SES girls) and observe how much it climbs. Though all girls benefit, these girls appear to benefit the most.

Figure 5: Effects of Outdoor Exposure on Girls' Perceptions of the Impact of Girl Scouts, by SES





Repeated Attendance at Girl Scout Resident Camp. Both Juniors and Cadettes who attended Girl Scout resident camps more than once were stronger at seeking challenges than their Girl Scout peers. Girls who attended resident camp only one time did not report the same level of benefit and were not significantly different from girls who had never attended Girl Scout resident camp. Similarly, attendance at weekend camp did not seem to confer such benefits.

High-Adventure Experiences in Girl Scouts. Participating in high-adventure activities strengthened Girl Scout Juniors' challenge seeking and helped them develop a strong sense of self. It did not have the same effect for Cadettes. Given that Juniors tended to have fewer and less varied outdoor experiences, the physical, psychological, and cognitive novelty of high-adventure experiences may have enhanced their impact for these younger girls.

Participation in Casual Outdoor Activities in Girl Scouts. Casual activities—playing outdoors, walking outdoors, and going on outdoor field trips—were among the most common outdoor experiences that girls had in Girl Scouts and the mainstay of high overall outdoor exposure. Participating more often in these activities gave girls an edge in problem solving and also supported challenge seeking for Juniors.



The effects of monthly outdoor exposure were even more pronounced for less-advantaged girls. When lower-SES girls had regular exposure to the outdoors in Girl Scouts, they were significantly more likely to say that they had been a leader because of Girl Scouts.



4. Different groups of girls report different outdoor experiences and outcomes.

We looked across our data to see if there were differences in girls’ experiences in or outcomes from Girl Scouts related to their age, grade level in Girl Scouts, race, ethnicity, community type, and self-esteem. We found a number of differences, which are described below.

Outdoor Exposure. Girls’ participation in outdoor programming in Girl Scouts was related to their demographic

characteristics and their levels of self-esteem. As expected, we found the most prominent differences between older and younger girls (Girl Scout Cadettes versus Juniors), with older girls participating in most outdoor activities on a more frequent basis. However, we also saw differences based on self-esteem, race, and ethnicity. Many of these differences clustered around camp-related experiences and attendance at Girl Scout camp. Here, girls of lower SES and girls of color tended to participate less. In contrast, girls with low self-esteem participated more in these activities—suggesting that perhaps their parents encouraged them in these activities to help them build their self-esteem.

Table 2: Summary of Differences in Outdoor Activity Participation, by Girls’ Characteristics

Outdoor Exposure	Significant Differences by ...			
	Grade Level in Girl Scouts	SES	Race/Ethnicity	Self-Esteem Group
High Overall Outdoor Exposure (Monthly)	Cadettes do more.	<i>No differences</i>	<i>No differences</i>	<i>No differences</i>
High Adventure Activities	Cadettes do more.	<i>No differences</i>	<i>No differences</i>	<i>No differences</i>
Casual Activities	Juniors do more.	<i>No differences</i>	<i>No differences</i>	Girls with low self-esteem do less.
Service-Related Activities	<i>No differences</i>	<i>No differences</i>	<i>No differences</i>	<i>No differences</i>
Camp-Related Activities	Cadettes do more.	Lower-SES girls do less.	Black girls do less.	Girls with low self-esteem do more.
Weekend Camp Attendance	Cadettes are more likely to have attended multiple times.	Lower-SES girls less likely to have attended multiple times.	Black girls attend less overall.	<i>No differences</i>
Resident Camp Attendance	Cadettes are more likely to have attended multiple times. Juniors attend less overall.	Lower-SES girls have attended less overall. Higher SES girls are more likely to have attended multiple times.	Hispanic girls are less likely to have attended multiple times.	Girls with low self-esteem are more likely to have attended multiple times.

Interestingly, aside from the age differences, girls in all demographic categories appeared to have equivalent opportunities to participate in high-adventure experiences and high overall outdoor experiences as well as to engage in casual and service-related outdoor activities in Girl Scouts (see Table 2).

Role of Girl Scouts. We observed interesting and important demographic differences in the roles that Girl Scouts played in girls’ most memorable outdoor experiences. On the positive side, through Girl Scouts, Hispanic girls are getting opportunities to try new outdoor activities and do things they would not otherwise be able to do. Similarly, both Hispanic and African American girls were more likely than their peers to say they overcame a fear of the outdoors through Girl Scouts.

Additionally, girls with low self-esteem were more likely to say that through Girl Scouts they did outdoor activities that they could not have otherwise done.

Of more concern, girls with lower SES and those with low self-esteem appeared to have fewer opportunities to improve their skills in Girl Scouts—which may be important in building confidence and leadership. Lower-SES girls also reported that Girl Scouts played less of a role in enhancing their enjoyment of the outdoors. See Table 3 for a summary of these differences. In this table, cells with percentages in bold italics indicate areas in which the particular group of girls is significantly different from others.

Table 3: Differences in the Role of Girl Scouts in Girls’ Outdoor Experiences

Role of Girl Scouts in Outdoor Activities	Race		Ethnicity		Self-Esteem Group		SES		
	Black	Non-Black	Hispanic	Non-Hispanic	Low	Higher	Low	Mid	High
Improved skill at an outdoor activity in Girl Scouts	66%	73%	69%	73%	68%	74%	69%	73%	76%
First tried an outdoor activity in Girl Scouts	71%	71%	79%	71%	71%	71%	70%	71%	71%
Increased enjoyment of an outdoor activity through Girl Scouts	68%	64%	66%	64%	62%	65%	61%	64%	68%
Would not have been able to do an outdoor activity if not for Girl Scouts	54%	50%	59%	50%	54%	49%	52%	49%	52%
Helped other girls do an outdoor activity in Girl Scouts	48%	48%	47%	48%	44%	49%	47%	49%	49%
Overcame fear of an outdoor activity in Girl Scouts	40%	28%	38%	28%	29%	29%	31%	28%	26%

Perceptions of the Impact of Girl Scouts. In this study, girls rated how strongly they agreed that Girl Scouts had affected six different aspects of their lives (see Appendix). Girls agreed most strongly that Girl Scouts helped them learn to do things they thought they could not do and to recognize their strengths. About 60 percent “agreed a lot” or “agreed” with each of these statements. The next thing they most strongly agreed with was that Girl Scouts had affected their leadership and school-related skills. Girls were least likely to agree that Girl Scouts impacted their health and fitness. However, compared with their non-Hispanic peers, Hispanic girls said that Girl Scouts had more impact on their exercise habits and their health. Additionally, lower-SES girls reported significantly higher benefits regarding exercise, academics, and support in recognizing their strengths.

Role of Self-Esteem. Surprisingly, girls’ self-esteem was the strongest and most significant predictor of all of the outcomes we assessed. In short, girls with low self-esteem scored lower than girls with higher self-esteem on all GSLE leadership outcomes and environmental stewardship, and they rated Girl Scouts as being less impactful.

Recall that our criteria for assessing self-esteem were borrowed from the Search Institute (P. C. Scales, personal communication, May 24, 2013). The Search Institute’s widely used framework of developmental assets provides a guide to the attributes and supports required for positive and healthy youth development. Self-esteem, in this framework,

represents the extent to which a young person likes and/or is proud to be the person she is. In our sample, self-esteem was not associated with any demographic characteristics—race, ethnicity, SES, or community type (urban, rural). It was related to age, with younger girls reporting higher self-esteem.

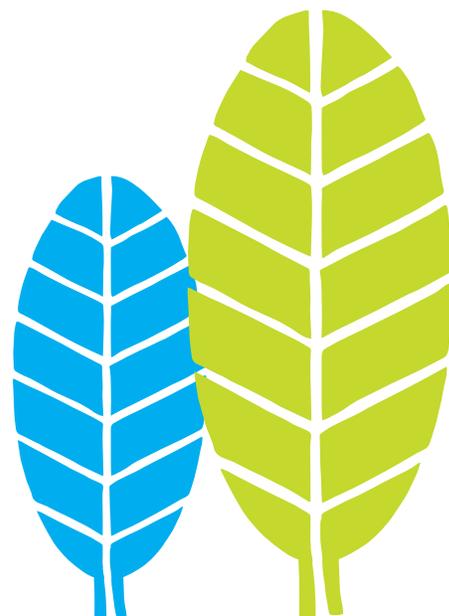
For girls with low self-esteem, however, some experiences in Girl Scouts stood out as being especially supportive of leadership. In particular, when girls with low self-esteem experienced high overall outdoor exposure in Girl Scouts or when they felt Girl Scouts afforded them opportunities to become healthier or to take on leadership roles, they had leadership outcomes on par with girls who had higher self-esteem. For the challenge-seeking outcome, attending Girl Scout resident camp multiple times and helping other girls learn provided support to girls with low self-esteem. For the problem-solving outcome, low self-esteem girls did better when Girl Scouts gave them opportunities to recognize their strengths, do things they thought they could not do, and learn skills that could help them do better in school.

In considering these findings related to self-esteem, it is important to keep in mind that other types of Girl Scout programming may also support girls with low self-esteem. The results of this study take into account girls’ outdoor experiences; additional research is needed to establish connections with other types of experiences girls may have in Girl Scouts.



“Some of my friends were kinda scared so I helped them and that made me feel good.”

9-year-old Girl Scout, Illinois





*I got to dig holes to plant trees.
They taught the right way to do it and
why. We also planted flowers and it was
neat to see them bloom this spring.*

10-year-old Girl Scout, Oklahoma



5. Girl Scouts helps girls connect with and care for the environment.

Using comparison data from The Nature Conservancy's (TNC) 2011 Youth Poll, we examined the connection with, concern for, and conservation of the earth among Girl Scouts

and girls at large in the United States. As a whole, Girl Scouts reported much higher environmental stewardship than girls at large (see Figure 6).

Much of this difference may be due to the Girl Scout organization's dedication to environmental service. (Notice in Figure 1 that more than two-thirds of Girl Scouts volunteer for environmental causes through the organization and that

A Closer Look at Environmental Volunteering

Girls have a variety of environmental volunteering experiences in Girl Scouts. Here's a sample of girls' own words about their volunteer work.

Shorter-Term Environmental Volunteering

- "My troop and I cleaned up a beach so it would be cleaner and safer for animals and people." (8-year-old Girl Scout, Massachusetts)
- "For Earth Day we went out and planted trees to help a plain littered park look soooooo beautiful." (10-year-old Girl Scout, Florida)
- "We had a stretch of road that we cleaned up and it always made me feel good when it was clean." (14-year-old Girl Scout, Illinois)

Longer-Term Environmental Volunteering

- "I did the *Breathe!* Journey with my friend. We handed out trees to people. We worked hard on our Take Action project and we were proud with our result." (14-year-old Girl Scout, Washington)
- "Our troop has signed up to clean a local park. We take a field trip there monthly. It is neat to see the sign that the city put up saying we cleaned it. It feels like that park is a part of us and makes us want to keep it nice." (11-year-old Girl Scout, Florida)
- "We helped a cancer patient take care of the animals on her farm. We would go twice a week to feed and clean stalls at the farm while she was in the hospital. We drove 45 minutes one way, twice a week to do this . . . I wouldn't have traded it for anything! This is one year that I will never forget!" (12-year-old Girl Scout, Indiana)

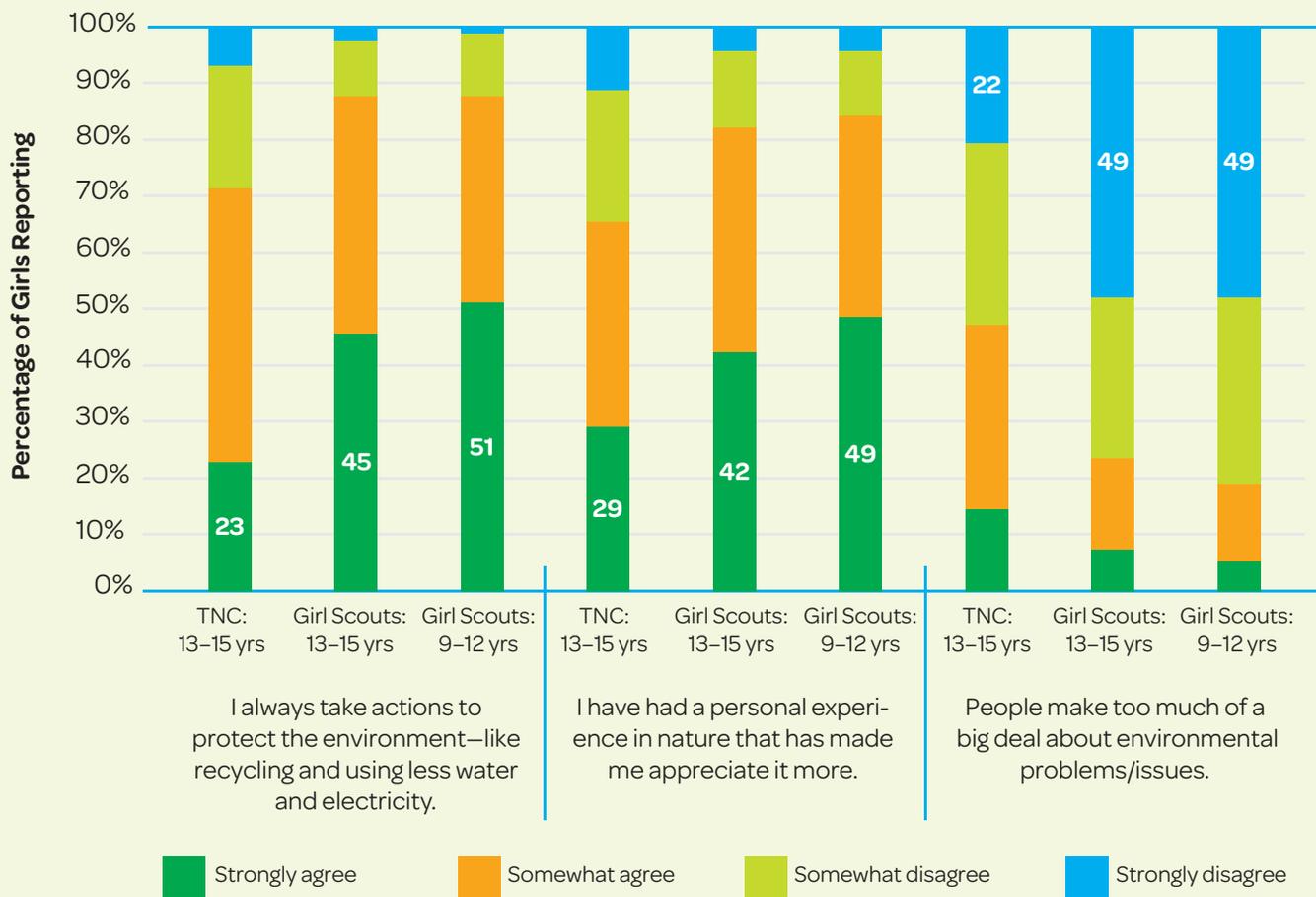
Identity-Forming Environmental Volunteering

- "Through Girl Scouts I have found little ways to help protect and conserve our very fragile ecosystem. So last Saturday when me and my troop went out to pick up garbage, I personally felt like I was part of the help that keeps this earth spinning." (10-year-old Girl Scout, Idaho)
- "I'm very concerned about our earth and how we take care of her. I collect old batteries so they don't go into landfills." (10-year-old Girl Scout, Florida)
- "We clean up the creek at least twice a year and I like knowing that I am making a difference and like walking through the creek in my boots to pick up the trash. I even pick it up on the way if I am walking somewhere. I don't like litter." (10-year-old Girl Scout, Texas)

8 percent do so every month.) In our analyses, participation in environmental volunteering through Girl Scouts was the strongest and most significant predictor of girls' environmental stewardship.

The commitment of Girl Scouts to the environment was also visible in their comments about most memorable outdoor experiences. Girls described gratifying and eventful experiences of volunteering for environmental causes.

Figure 6: Comparison of Environmental Stewardship Among Girl Scouts³ and Girls at Large in the United States



³ Because girls in this sample may have been slightly more apt to participate in outdoor programming than Girl Scouts in general, their ratings were adjusted down to better represent the Girl Scout membership in this national comparison. Despite the adjustment, their responses to environmental stewardship items were still much more positive than those of same-aged girls in the United States.



Attending Girl Scout resident camp multiple times also played a strong role in developing girls' environmental stewardship and challenge seeking. Cumulative opportunities to interact with nature, work with others in a positive social environment, try new things, and improve skills over time may be responsible for these benefits.

To better understand the phenomenon, we examined what girls said they "liked best" about attending Girl Scout resident camp. On the survey, girls who had attended resident camp ranked nine possible camp attributes. Among all resident camp attendees including those who had attended multiple times, the top four choices for "liked best about camp" were:

- Being outdoors
- Relaxing and having a good time
- Making new friends
- Trying new things

Other choices included "being independent and away from home," "challenging myself," "spending time with old friends," "learning things I wouldn't learn other places," and "being part of a team."



Discussion

What These Data Tell Us and What They Don't

This study employed a cross-sectional research design, rather than a pre/post or control/comparison group design. As such, there are limits to the conclusions we can draw from the data presented. In particular, we cannot make definitive statements about causality. In other words, we cannot claim that participating in Girl Scout outdoor programming necessarily caused girls to seek more challenges in their lives.

Additionally, though we examined girls' comments, we lacked quantitative data on the social and experiential nature of their outdoor experiences, such as how the Girl Scout processes of learning by doing, cooperative learning, and girl-led activities were enacted during their experiences. We also did not have direct information on barriers to their participation in outdoor programming in Girl Scouts. In future studies we hope to collect more of this information to better elucidate the roles, successes, and challenges of outdoor programming in Girl Scouts for different groups of girls and to propose appropriate interventions.

Despite these limitations, our findings present strong support for the positive influence of Girl Scouts on girls' leadership development and environmental stewardship. They also reveal profound differences in the ways that different types of outdoor experiences contribute to such beliefs and behaviors.



I got to learn how I can really make a difference in the ecosystem by just taking small steps and being a team player in my troop.

10-year-old Girl Scout, Massachusetts



Getting Girls Outdoors

Overall, findings from this study about girls' outdoor exposure in Girl Scouts are encouraging. A majority of girls in Girl Scouting are participating in outdoor experiences. Moreover, most girls are also getting opportunities to try a variety of outdoor activities in Girl Scouts—including casual, camp-related, sports-related, and service-oriented activities.

Recent concerns about the decline in children's outdoor play and the increase in time spent sitting in front of computer or TV screens (Louv, 2005) led us to expect far less outdoor involvement. Thus, we were pleasantly surprised to learn that 97 percent of girls participated in at least one outdoor activity during the year in Girl Scouts, and 39 percent participated in outdoor activities on a monthly basis through Girl Scouts.



Outdoors Once a Month in Girl Scouts: A Key to Leadership Development

Monthly involvement in the outdoors contributes to girls' leadership development. Experiences such as playing and walking outdoors and taking outdoor field trips do not demand much specialized equipment or training, but they may provide girls with a very low-stakes, socially supportive context in which to improve their health, practice cooperation and teamwork, and try things they thought they couldn't do. Environmental service also seems to provide girls with a sense of purpose and to socialize them into an environmentalist mindset—one that promotes connection with, concern for, and conservation of the environment.

However, only about 40 percent of Girl Scouts participate in monthly outdoor activities through Girl Scouts. What about the other 60 percent? Why are the majority of Girl Scouts not getting outdoors regularly in Girl Scouts?

In the study, we did not directly probe for barriers to girls' outdoor participation. We did, though, ask girls who never participated in outdoor activities through Girl Scouts—about 3 percent of the sample—to describe what types of activities they would like to do. Three-fourths of these girls (74 percent) submitted comments, expressing interest in outdoor activities ranging from scavenger hunts to hiking to swimming to zip lining. Some girls also hinted that their troops might need help in prioritizing outdoor activities. For example, one 10-year-old said, "I would do ANYTHING. My troop doesn't participate in that kind of stuff." Another 11-year-old Girl Scout commented, "Many of the ones [activities] you listed. I do them on my own, because my troop has not organized any of this." And a 12-year-old noted, "[I would like to do] things that help the environment or community. Like cleaning the beach. We don't do anything at our monthly meetings but crafts."

Role of Adult Volunteers. Because everything girls do outdoors in Girl Scouts must be supported by an adult, these results speak indirectly to adult volunteers and their preparation. To get girls outdoors more regularly, Girl Scouts needs adult volunteers who encourage and promote outdoor experiences. Anecdotal data suggest that adult volunteers in Girl Scouts have very high expectations of perfection in the outdoors. Furthermore, their fears of not succeeding at providing a perfect and memorable outdoor activity can discourage them and, in turn, lead them to discourage girls' participation in the outdoors.

Because of its noncompetitive, no-grades context, Girl Scouts is uniquely positioned to provide girls the benefits of outdoor experiences—even those that are less than "perfect." Communicating to volunteers and parents that casual outdoor experiences are effective ways of giving girls opportunities to build competencies and try new things may be the key to opening the gateway for all Girl Scouts to participate in the outdoors on a more regular basis.

Celebrating Girl Scouts' Environmental Stewardship

Girl Scouts report levels of environmental stewardship at rates almost double the national average for girls their age. They are concerned about, connected to, and committed to conserving the environment, and they are making a difference. This news is worth sharing!

It is also noteworthy that girls' outdoor experiences in Girl Scouts strengthen their environmental stewardship. In particular, girls who participate more in environmental service through Girl Scouts and those who attend Girl Scout resident camp multiple times report significantly higher levels of environmental stewardship. These findings have broad implications—suggesting ways to socialize young people into a positive culture of environmental leadership.

Ensuring That All Girls Are Served Through Outdoor Programming in Girl Scouts

Data from this study revealed striking differences in outdoor experiences and outcomes for different groups of girls. Most pronounced were differences based on girls' SES and self-esteem.

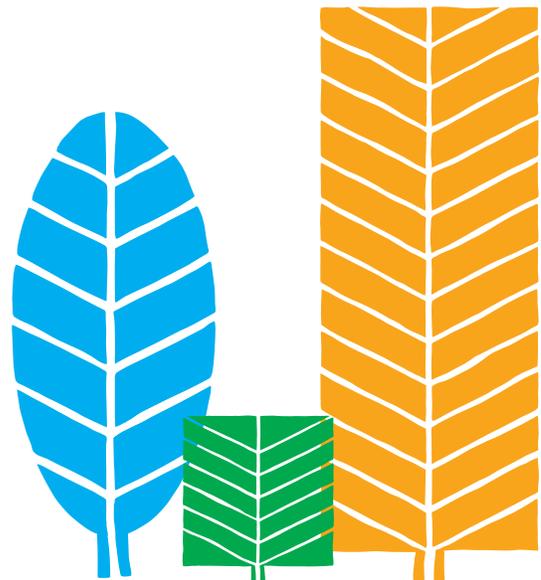
Differences by SES. Girls of lower SES experienced less outdoor exposure in Girl Scouts than their higher-SES peers, and they reported having fewer camp-related outdoor experiences. These girls were also significantly less likely than girls of higher SES to report that they had improved their skills or enhanced their enjoyment of outdoor activities because of Girl Scouts.

Despite having less opportunity to experience the outdoors through Girl Scouts, girls of lower SES reported significantly higher benefits from Girl Scouts related to regular exercise, academics, and support for recognizing their strengths. Furthermore, girls of lower SES who get regular exposure to the outdoors report the greatest impact of Girl Scouts on their lives (see Figure 5).

This dilemma presents the Girl Scout Movement with a challenge—to find ways to increase access and participation for girls of lower SES, especially Hispanic and rural girls. In some cases, increasing access may involve providing financial assistance to reduce the costs of participation. In other cases, it may involve creating more culturally appealing avenues of participation, such as opportunities for family camping or for greater family involvement in outdoor experiences. Finally, marketing messages may need to be adapted for these groups by, for example, focusing on health benefits. Recall that girls of lower SES were more likely than others to claim that Girl Scouts impacted their exercise habits and their health. Specifically, they were more likely to say that “Because I am a part of Girl Scouts, I exercise more regularly than I would otherwise.”

Differences by Self-Esteem. As noted previously, we thought that girls with low self-esteem might avoid situations that could further threaten their esteem, such as outdoor experiences. They might also be less likely to seek challenges and take on problems. We found that, for the most part, girls with low self-esteem experienced levels of outdoor exposure in Girl Scouts on par with their Girl Scout peers who reported having higher self-esteem. However, they benefitted far less from these experiences in Girl Scouts than their peers. This is worrisome. While only 24 percent of girls in this study were classified as having low self-esteem, 48 percent of girls nationally receive this designation (P. C. Scales, personal communication, May 24, 2013). Therefore, if Girl Scouts strives to positively impact all girls with its outdoor programming, it must address these discrepancies.

As previously discussed, certain types of experiences tended to boost the leadership benefits for girls with low self-esteem. High overall outdoor exposure in Girl Scouts, opportunities to become healthier or to take on leadership roles, opportunities to recognize their strengths or do things they thought they could not do, and occasions to help other girls learn all supported these girls' leadership development. Many of these experiences point to the Girl Scout processes—girl-led, learning by doing, and cooperative learning—and suggest that emphasizing them in non-graded, socially supportive outdoor contexts can truly make a difference for girls with low self-esteem.



For example, the Girl Scout process of learning by doing inherently teaches volunteers and girls to praise effort and value the iterative process leading to mastery. Girls are offered the opportunity to try new experiences which they may find difficult, and they are encouraged to reflect about what they learned, to consider what went right, and to make a plan for what they might try next time. Through this “debriefing,” girls gain the understanding that failure is just an opportunity to try again or to learn something new; and they discover that strategy and effort are the keys to success. As such, learning by doing in Girl Scouts gives girls the confidence they need to face the next challenging experience.

Other Girl Scout programming that involves the Girl Scout processes may also support girls with low self-esteem. While this study focused only on girls’ outdoor experiences, future research may reveal additional types of Girl Scout experiences that promote positive outcomes for girls with low self-esteem.

Role of Camping and Camp Attendance

Camping was girls’ number-one most memorable outdoor activity in Girl Scouts. What does it mean, though, for something to be memorable? And why does it matter that it is?

Memorability. As a concept, memorability is rather ambiguous. A memorable experience may be described as one or many of the following: relaxing, pleasurable, stimulating, freeing, sociable, happy, meaningful, challenging, adverse, growth-oriented, unexpected, service-related, personally relevant, novel, or familiar. Additionally, memories of an experience tend not to perfectly reflect the experience itself. Instead, both negative and positive aspects may be exaggerated (Wirtz et al., 2003), and memories may be distorted by expectations as well as post-experience information.

Despite its ambiguity, “memorability” remains important for both consumer choice and for learning. In marketing, the memories of an experience have been shown to inform future choices and transactions around similar experiences (Alba, Hutchinson, & Lynch, 1991). In learning, memories form the basis of personal narratives about power, potential, and meaning. Therefore, memorability may serve as a compelling indicator of girls’ future choices in Girl Scouts and in life.

Cumulative Effects. In addition to the memorability of camping experiences, repeat attendance at Girl Scout resident camp supports girls’ leadership development. Proponents of outdoor learning have long pronounced the positive effects of cumulative experiences—those that incrementally build on girls’ successes in overcoming challenges, learning skills, and working together effectively. Data from this study provide some evidence for this hypothesis.



I started camping with my troop when I was a Brownie and have since improved my skills... I have learned how to cook outside, hike, leadership skills, do archery, tie dye, animal studies, and many more just from going camping. Everything that I learn during camping with my troop will help me later in life.

12-year-old Girl Scout, Illinois



Actionable Insights

Through a series of conversations with council partners, GSUSA staff members, and colleagues enthusiastic about the outdoors and interested in the future of Girl Scouts, we have developed actionable insights from this research. The insights are organized around four themes: the girl experience, volunteer preparation, membership development, and fund development.

Girl Experience

Findings from the study suggest some immediate steps that may be taken to enhance girls' leadership development through outdoor experiences:

- Provide girls with opportunities to get outdoors at least once a month in Girl Scouts
- Promote casual outdoor activities—playing outdoors, walking outdoors, going on outdoor field trips—as ways to both get girls outdoors and help leaders feel more comfortable with facilitating less-than-perfect outdoor experiences
- Promote environmental service using the *Breathe!* and *GET MOVING!* Journeys and through partnerships with other organizations, such as The Nature Conservancy
- Emphasize the Girl Scout processes in outdoor experiences—learning by doing, cooperative learning, and girl-led activities—to increase the impact of outdoor experiences on all girls, but especially those with low self-esteem
- Develop ways to highlight the girl voice—through online memory collections or contests for best letters home, for example—in order to continue the camp spirit and to inspire girls to attend resident camp multiple times



I love being in the woods. I love to hear the animals in the woods and find different animal foot prints.

10-year-old Girl Scout, Texas



Volunteer Preparation

As discussed earlier, adult volunteers are often the gatekeepers of girls' outdoor experiences in Girl Scouts, and the Movement needs volunteers who value and encourage girls' participation in outdoor activities. To increase the likelihood that volunteers will be active in or open to taking girls outdoors, Girl Scouts needs to focus on increasing the value and decreasing the social and emotional costs of outdoor participation for adult volunteers by:

- Immersing volunteers in progressive, fun, adult-oriented outdoor experiences that help them develop friendships as well as skills in Girl Scouts
- Providing volunteers with opportunities to receive outdoor training or experiences alongside girls, for example in situations where girls and adults participate in separate activity tracks but also come together to share their experiences and what they've learned
- Educating volunteers about the benefits of outdoor exposure for girls—including those detailed in this report

To reduce the costs of participation, especially those related to low confidence, discomfort, and inconvenience, Girl Scouts might provide adult volunteers with easy access to other volunteers who demonstrate how outdoor proficiency can be attained and who inspire persistence even when things don't go perfectly. Another way to increase participation is to provide external facilitators or other adults specifically trained for troop camping or other outdoor activities.





Membership Development

Results of this study may be especially useful in building membership. To most effectively leverage the study, improve brand loyalty, attract adult volunteers, and create an environment in which girls would enthusiastically recommend Girl Scouts to their friends, the organization can:

- Capitalize on the finding that girls' customer satisfaction increases dramatically with monthly outdoor exposure by increasing the number and quality of girls' outdoor experiences
- Emphasize that outdoor programming in Girl Scouts provides girls with experiences they often cannot get in other places
- Utilize girl testimonials about both the "hard fun" and the "people fun" they're having through Girl Scout outdoor programming

Fund Development

Finally, data from this study offer immediate support for fund development efforts. Girl Scout development teams are encouraged to:

- Highlight the success of Girl Scouts in building girls' environmental stewardship
- Capitalize on the findings about lower-SES girls in order to provide more regular outdoor access to economically disadvantaged girls
- Obtain support for helping girls get more regular exposure to the outdoors in Girl Scouts—support which might be requested for adult training
- Partner with local community organizations, parks, and other youth-serving outdoor organizations to provide programming
- Explore opportunities to combine STEM and the outdoors, as the two fit together naturally and could be highly fundable



Conclusions

This research report spotlights six key findings about girls and the outdoors in Girl Scouts.

1. *Girl Scouts helps girls get outdoors.*
2. *Girls really enjoy outdoor activities in Girl Scouts.*
3. *Monthly exposure, high adventure, and repeat camp attendance are key drivers of girls' leadership development and satisfaction.*
4. *Different groups of girls report different outdoor experiences and outcomes.*
5. *Girl Scouts helps girls connect with and care for the environment.*
6. *Camping experiences create memories and build leadership.*

The report discusses these findings and their implications for the girl experience, volunteer preparation, membership development, and fund development.

Though more research is needed to better understand barriers to girls' outdoor program participation, to identify bright spots in girls' outdoor experiences, and to clarify how the Girl Scout processes are most effectively enacted in outdoor settings, this study represents a solid first step. Moreover, it provides evidence that, despite some challenges, Girl Scouts remains an organization that provides girls with numerous impactful and memorable experiences in the outdoors, and is about so much more than just s'mores.



References

- Alba, J. W., Hutchinson, J. W., & Lynch, J. G. (1991). Memory and decision making. In T.S. Robertson & H. H. Kassirjian (Eds.), *Handbook of consumer behavior*, (pp. 1–49). Englewood Cliffs, NJ: Prentice Hall.
- Atchley, R.A., Strayer, D.L., & Atchley, P. (2012). Creativity in the wild: Improving creative reasoning through immersion in natural settings. *PLOS ONE*, 7 (12). Retrieved March 28, 2013 from: www.plosone.org.
- Berman M.G., Jonides J., & Kaplan S. (2008). The cognitive benefits of interacting with nature. *Psychological Science*, 19 (12): 1207–1212.
- Bradley, R.H., & Corwyn, R.F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53, 371–399.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41 (10), 1040–1048.
- Ensminger, M.E., Forrest, C.B., Riley, A.W., Kang, M., Green, B.F, Starfield, B., & Ryan, S.A. (2000). The validity of measures of socioeconomic status of adolescents. *Journal of Adolescent Research*, 15, 392–419.
- Girl Scout Research Institute (2012a). Girl Scouting works: *The alumnae impact study*. New York, NY: GSUSA. Retrieved July 22, 2013 from: www.girlscouts.org/research/pdf/girl_scouting_works_the_alumnae_impact_study.pdf.
- Girl Scout Research Institute (2012b). *Linking leadership to academic success: The Girl Scout difference*. New York, NY: GSUSA. Retrieved July 22, 2013 from: www.girlscouts.org/research/pdf/linking_leadership_to_academic_success_report.pdf.
- Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. *Journal of Personality and Social Psychology*, 85, 541–553.
- Lazzaro, N. (2012). The four keys to fun. Retrieved January 28, 2013 from: <http://www.nicolelazzaro.com/the4-keys-to-fun/>.
- Little, H., & Wyver, S. (2008). Outdoor play—does avoiding the risks reduce the benefits? *Australian Journal of Early Childhood*, 33 (2), 33–40.
- Louv, R. (2005). *Last child in the woods: Saving our children from nature deficit disorder*. Chapel Hill, NC: Algonquin Books.
- Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M. Y., Sanders, D., & Benefield, P. (2004). *A review of research on outdoor learning*. Shrewsbury, UK: Field Studies Council. Retrieved April 4, 2013 from: www.fieldstudies-council.org/documents/general/NFER/A_review_of_research_on_outdoor_learning.pdf.

Senko, C., Hulleman, C.S., & Harackiewicz (2011). Achievement goal theory at crossroads: Old controversies, current challenges, and new directions. *Educational Psychologist*, 46 (1), 26–47.

SPARC (Sport and Recreation New Zealand) (2009). *An introduction to active movement*. New Zealand Government. Retrieved April 4, 2013 from: www.sportnz.org.nz/Documents/Young%20People/An_Introduction_to_Active_Movement_Koringa_Hihiko.pdf.

Taylor, A.F., & Kuo, F.E. (2009). Children with attention deficits concentrate better after a walk in the park, *Journal of Attention Disorders*, 12 (5), 402–409.

The Nature Conservancy (TNC) (2011). *Kids these days: Why is America's youth staying indoors?* Available online at www.nature.org/newsfeatures/kids-in-nature/kids-in-nature-poll.pdf.

Warner, R. (1980). Enjoyment. *The Philosophical Review*, 89 (4), 507–526.

Wirtz, D., Kruger, J., Scollon, C. N., & Diener, E. (2003). What to do on spring break? The role of predicted, online, and remembered experience in future choice. *Psychological Science*, 14, 520–524.



Appendix: Research Methods

Key Terms and Constructs

Environmental stewardship. Connection with, concern for, and conservation of the environment.

Girl Scout Leadership Experience (GSLE) outcomes. The study assessed 4 of the 15 leadership benefits girls are expected to gain from Girl Scouting: Girls seek challenge in the world, girls are resourceful problem solvers, girls develop a strong sense of self, and girls promote cooperation and team building. These particular outcomes were selected because there is evidence that they are associated with outdoor exposure and adventure experiences (Rickinson et. al, 2004).

Self-esteem. The extent to which a young person likes and/or is proud to be the person she is. Measured in this study by four items from the Search Institute's *Profiles of student life: Attitudes and behaviors survey*.

Socioeconomic status (SES). SES refers to the kinds of resources or "capital" a child has access to through her family. It consists of financial capital (material resources), human capital (nonmaterial resources such as education), and social capital (resources achieved through social connections). Higher SES has been linked with greater health, well-being, and academic achievement (Bradley & Corwyn, 2002). While SES is generally measured by a series of questions about family income, mother's level of education, and family structure, we focused on a question that children would reliably be able to answer (Ensminger et al., 2000)—mother's education. In a previous study, mother's education was found to correlate in the expected direction with girls' eligibility for free or reduced-price school lunches, another indicator of SES (GSRI, 2012b).

Index of Survey Measures

Environmental stewardship ($\alpha = .782$)

strongly disagree; somewhat disagree; somewhat agree; strongly agree; or don't know/don't want to say

- 1) I always take actions to protect the environment—like recycling and using less water or electricity.
- 2) People make too much of a big deal about environmental problems/issues. [reverse coded for scale score computation]
- 3) I have had a personal experience in nature that has made me appreciate it more.
- 4) We can improve the environment and conserve natural resources if we take action now.
- 5) I would spend time after school working to fix problems in the environment.
- 6) I would give some of my own money to help save wild animals or the planet.
- 7) I try to get my friends and other people to do what is right for the environment.

Self-esteem ($\alpha = .718$)

A self-esteem index score was computed as the mean of four items. These items were borrowed from the self-esteem subscale of the Search Institute's Positive Identity measure and included statements such as "All in all, I am glad to be me." Girls responded using a 5-point agreement scale, and an "I don't know/don't want to say" response option was also provided.

Girl Scout Leadership Outcome Measures

Cadette: Seeking Challenge ($\alpha = .653$)

All items standardized to a six-point response scale.

- 1) I like to try new things, even though I might not do them well at first.
- 2) Even when I am good at something, I keep trying to do it even better.
- 3) I avoid doing things that are hard for me. [reverse coded for scale score computation]
- 4) I am interested in learning about people, places, or things I am not familiar with.

Junior: Seeking Challenge ($\alpha = .441$)

All items standardized to a six-point response scale.

- 1) I like to try new things, even if I might not do too well at first.
- 2) I choose to play with kids who are better than me (for example, at sports or dance) so that I can get better.
- 3) I avoid doing things that are hard for me. [reverse coded for scale score computation]

Cadette: Problem Solving ($\alpha = .620$)

All items standardized to a six-point response scale.

- 1) I look to books or the Internet to provide the information I need for my Girl Scout projects.
- 2) When working on a Girl Scout project, I create a plan to make sure all the parts are covered.
- 3) When I can't solve a problem, I try to get input from different people in my community, not just my friends.
- 4) I am willing to ask others for help when I need it.

Junior: Problem Solving ($\alpha = .421$)

All items standardized to a six-point response scale.

- 1) I look to books or the Internet to provide the information I need for my Girl Scout projects.
- 2) When I am working on a project, I make a plan on paper (or my computer) for how to get it done.
- 3) I ask an adult for help when I need it.

Cadette: Develop a Strong Sense of Self ($\alpha = .359$)

All items standardized to a six-point response scale.

- 1) I can do most things I try, even if they are hard.
- 2) I really like who I am, no matter what other people think.
- 3) When kids pressure me to be a certain way, I just do what I want to do anyway.
- 4) Even if I don't agree, I usually go along with my friends' opinions. [reverse coded for scale score computation]
- 5) I like being a girl.

Junior: Develop a Strong Sense of Self ($\alpha = .416$)

All items standardized to a six-point response scale.

- 1) I can do most things I try, even if they are hard.
- 2) I like who I am, even when other people make fun of me or tease me.
- 3) I like being a girl.

Cadette: Promote Cooperation and Team Building ($\alpha = .392$)

All items standardized to a six-point response scale.

- 1) When my teammates disagree, I try to help them consider each other's point of view.
- 2) If it helps my team finish a project, I am willing to do more than my "fair share" of the work.
- 3) When working in a team, it is a good idea if each person is responsible for a task.

Junior: Promote Cooperation and Team Building ($\alpha = .570$)

All items standardized to a six-point response scale.

- 1) When people in my group don't agree, I try to get them to work together.
- 2) When working on a group project, I try to figure out the best way I can help my team.
- 3) I listen to other team members' ideas even when it means we don't finish our project as quickly.

Girl Scout Experience Measures. Perceptions of the Impact of Girl Scouting. Girls rated how strongly they agreed that Girl Scouts had affected different aspects of their lives. disagree a lot; disagree; disagree a little; agree a little; agree; agree a lot; or don't know/don't want to say

- 1) Because of my participation in Girl Scouts, I am a healthier person.
- 2) Because I am a part of Girl Scouts, I exercise more regularly than I would otherwise.
- 3) Because of Girl Scouts, I learned to do things that I thought I couldn't do.
- 4) Girl Scouts helped me recognize my strengths.
- 5) In Girl Scouts, I learned skills that will help me do better in school.
- 6) Because of my Girl Scout experiences, I have been a leader in more activities with my friends, class, or community.

Outdoor Exposure. The frequency of girls' participation in 21 different types of outdoor activities in Girl Scouts was assessed using a six-point Likert scale ranging from "never" to "weekly." These activities were: archery; backpacking; biking; camping; canoeing/kayaking; challenge/ropes course; climbing; environmental volunteering; field trips to outdoor places; hiking; horseback riding; learning about how to protect and preserve the environment (conservation); learning about plants and wildlife (ecology); learning about rocks and the earth (geology); learning about stars (astronomy); learning about weather (meteorology); outdoor cooking; playing outdoors; snow sports; swimming outdoors; and walking outdoors.

Two indices were created from these data.

- *Outdoor Exposure Group.* This was assigned based on the number of different outdoor activities girls were involved in (variety) and the number they participated in on a monthly basis (intensity). Girls who participated in at least one outdoor activity through Girl Scouts on a monthly basis and four or more different activities throughout the year were classified as having "High Overall Outdoor Exposure." Girls participating in four or more different activities but nothing on a monthly basis were coded as having "Varied Exposure," and those with experience in one to three different activities were "Low Exposure." Girls who had never participated in an outdoor activity through Girl Scouts were noted as having "No Outdoor Exposure."
- *High-Adventure Experience.* Girls who participated in backpacking, climbing, challenge/ropes courses, and/or canoeing/kayaking through Girl Scouts at least one time a year were coded as having had a High-Adventure Experience.



Camp Participation. Participants reported how many times they had attended Girl Scout resident camp and weekend camp: never, one time, or two or more times.

Role of Girl Scouts in Most Memorable Experiences.

Girls selected up to three outdoor experiences as being most memorable. They described each experience and indicated which (if any) of the following six roles Girl Scouts had played in that experience:

1. First tried activity in Girl Scouts
2. Improved skill at activity in Girl Scouts
3. Increased enjoyment of activity through Girl Scouts
4. Would not have been able to do activity if not for Girl Scouts
5. Helped other girls do activity in Girl Scouts
6. Overcame fear of activity in Girl Scouts

Multiple selections were possible, and “none of the above” was also an option. For each role, a dichotomous (yes/no) score was created indicating whether a girl had experienced it.

Outdoor Enjoyment. Using a five-point Likert scale, girls rated their enjoyment of each outdoor activity they participated in through Girl Scouts. If they did not participate in an activity, their enjoyment of that activity was entered as a missing value. “Overall Outdoor Enjoyment” was computed as a mean score across all the outdoor activities in which a girl participated.



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