Linking Leadership to Academic Success:
The Girl Scout Difference

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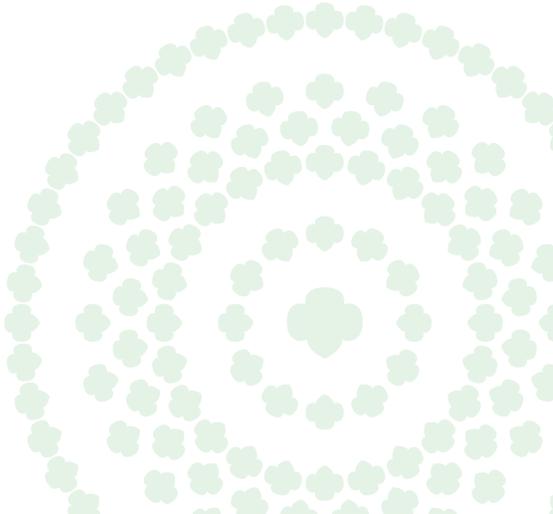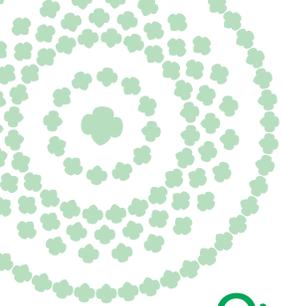
Overview

Girl Scouts of the USA (GSUSA) serves more than 2 million girls each year. Through ongoing programs in leadership development, science and technology, entrepreneurship and financial literacy, community service, and environmental awareness, Girl Scouting provides girls with opportunities to try new things, cultivate friendships, build skills and confidence, connect with their communities, and practice leadership skills.

The Girl Scout mission is to develop girls of courage, confidence, and character, who make the world a better place. The Girl Scout Leadership Experience (GSLE) model makes this possible by engaging girls in three "keys" to leadership: 1) discovering themselves; 2) connecting with others; and 3) taking action in the world. Activities are girl-led and encourage experiential and cooperative learning; these "processes" promote the fun and friendship that have always been integral to Girl Scouting (GSUSA, 2008).

While the Girl Scout mission is not about improving girls' test scores or grades in school, it is reasonable to expect that the leadership experiences girls gain through Girl Scouting help them do well in the classroom. We set out to learn the extent to which this is the case.

This study examined the relationship between Girl Scout experiences and success in school. In particular, it explored the ways in which Girl Scout leadership experiences contribute to girls' academic engagement and achievement. The research found:

- Girl Scout participation has a positive impact on girls' leadership.
- Most Girl Scouts in this study are academically successful.
- Girl Scout factors influence academic success as much as, and sometimes more than, non-Girl Scout factors known to impact academics, such as positive student-teacher relationships.
- Girls who gain experience solving problems and seeking challenges in Girl Scouting are more successful in school than girls who gain less experience in these areas.

- Some Girl Scout experiences, such as those that involve cooperative learning and that position girls at the helm, are more beneficial than others in promoting the GSLE outcomes that influence academic success.
- Girls from families of comparatively low socioeconomic status ("lower-SES" girls) report greater benefits from Girl Scouting than do "higher-SES" girls.

Findings from this study describe how out-of-school-time (OST) experiences that are not specifically focused on academics can still influence girls' success in school. There is evidence that when such experiences help girls gain problem-solving skills and develop a positive orientation toward challenge, including the potential for failure, they can powerfully influence girls' academic engagement and achievement. The findings also suggest directions for the design and effective implementation of Girl Scout programming and for the special role of Girl Scouting and similar programming in the lives of adolescent girls from lower-SES families.

Creating a Common Vocabulary

Academic success refers to both engagement (behavioral, mastery goal orientation, valuation of school) and achievement (perceived scholastic competence, grades).

Girl Scout experience includes supportive adult relationships in Girl Scouting, positive peer relationships, opportunities to build skills, and frequency of participation in programming, as well as girl-led and cooperative learning processes.

GSLE outcomes are the 15 leadership benefits girls are expected to gain from Girl Scouting. In this study, we targeted three benefits/outcomes found to influence girls' academic success: the inclination to seek challenges in the world, problem-solving skills, and skills for developing healthy relationships.

Non-Girl Scout factors known to affect academic success include positive student-teacher relationships and regular participation in outside-of-school-time (OST) activities.

Socioeconomic status (SES) for these research purposes is measured by mother's education.
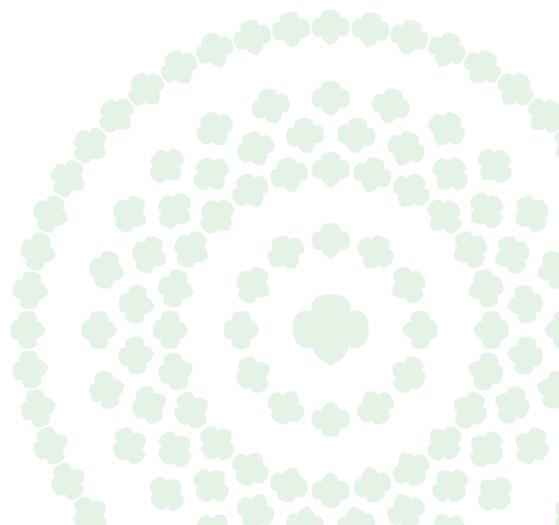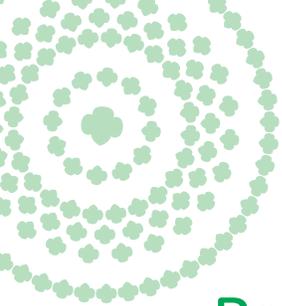
Research Framework

Study design. Our research strategy involved a survey of active Girl Scouts that was administered at a single point near the end of the school year.

Using a variety of statistical techniques including correlation, regression, and mediational analyses, we examined the extent to which Girl Scouting and specific Girl Scout experiences have contributed to girls' academic engagement and achievement. We compared these effects to non-Girl Scout factors known to benefit students' performance in and perceptions of school. By directly questioning girls about their experiences, we sought to answer four research questions:

1. What types of academic success outcomes are associated with Girl Scouting?
2. To what extent do Girl Scout experiences contribute to girls' academic success?
3. Which characteristics of girls' experiences in Girl Scouts are most strongly associated with better academic success outcomes?
4. Do patterns of influence differ for different groups of girls?

Table 1

Demographic Characteristics of Participants

Age — Mean: 10.6 years

8–9	24%
10–11	50%
12–13	24%
14–15	2%

Grade in School

Fourth	32%
Fifth	27%
Sixth	19%
Seventh	13%
Eighth	8%

Race/Ethnicity

Caucasian/White	83%
African American/Black	6%
Asian	5%
Hispanic/Latina	8%

Mother's Education

Less than college	26%
College degree	44%
Advanced degree	23%
Don't know/Don't want to say	7%

Years in Girl Scouting — Mean: 4.9 / 2 or less: 9%

Expected impacts. As indicated by our model of impact (see Figure 1), our hypotheses were:

- Girls who demonstrate greater progress toward achieving the GSLE outcomes exhibit more positive attitudes toward education, behaviors in class, and performance in school.

- Higher-quality Girl Scout experiences (i.e., greater exposure to the Girl Scout processes and more opportunities to build skills and competence) contribute to greater achievement of GSLE outcomes and academic success.

Sample. Data analyzed in this brief represent 2,772 early adolescent girls from 22 states who were active Girl Scouts during the 2010–2011 school year and completed an online survey in spring 2011.[1] See Table 1 for a more comprehensive description of the sample.

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[1] Response rate for this survey was 38 percent.

Figure 1

Conceptual Model of the Impact of Girl Scouting on Academic Success

Girl Scout Experience Factors

Supportive Relationships
- Adult-youth

Positive Peer Relationships
- Expectations to try your best and be responsible
- Values (to be helpful/give service)

Opportunities to Build Skills
- Through community service and Take Action projects
- Camp experiences
- Girl Scout awards
- Badges
- Variety of different activities

Girl-Led Process

Cooperative Learning Process

GSLE Outcomes

Challenge Seeking

Healthy Relationships

Problem Solving

Academic Engagement

Behavioral Engagement

Mastery Goal Orientation

Valuing of School

Academic Achievement

Grades

Scholastic Competence

Mother's Education (SES)

Positive Student-Teacher Relationships

Frequent OST Participation

Other Contributors to Academic Success

Key Findings

The results of this preliminary study provide provocative evidence for the prominent role Girl Scouting and improved leadership skills can play in boosting girls' academic engagement and achievement. They also highlight especially important aspects of the Girl Scout experience and suggest ways to strengthen its impact for participants.

Finding #1: *Girl Scout participation has a positive impact on girls' leadership.*

- On a 1–10 scale, 33 percent of girls rated the impact of Girl Scouting on their leadership a 10 (highest score possible).

- Eighty percent rated it a 7 or higher.

- The average impact score was 8.1.

A Closer Look at Girls' Perceptions of Impact on Leadership

Role of Girl Scout processes. Girls who have had more girl-led and cooperative learning experiences in Girl Scouts were much more likely to say Girl Scouting positively affects their leadership. (See Figure 2.)

Importance of community service. Seventy percent of girls who rated the leadership impact of Girl Scouting a 10 said they had done a community service project in the last six months, compared to 63 percent of girls who reported less impact.

Greater impact for lower-SES girls. Thirty-seven percent of girls whose moms have less than a college education rated the leadership impact of Girl Scouting a 10 (average score 8.3), whereas only 28 percent of girls whose moms have advanced degrees said the same (average score 7.9). Lower-SES girls were also significantly more likely to make positive comments about their personal development and community service experiences in Girl Scouting.

Figure 2

The Role of Girl Scout Processes on Leadership

Average leadership rating

- Girl-led: 8.63 (Girls who have had more experiences), 6.23 (Girls who have had fewer experiences)
- Cooperative learning: 8.93 (Girls who have had more experiences), 5.58 (Girls who have had fewer experiences)

Legend:
- Girls who have had more experiences
- Girls who have had fewer experiences
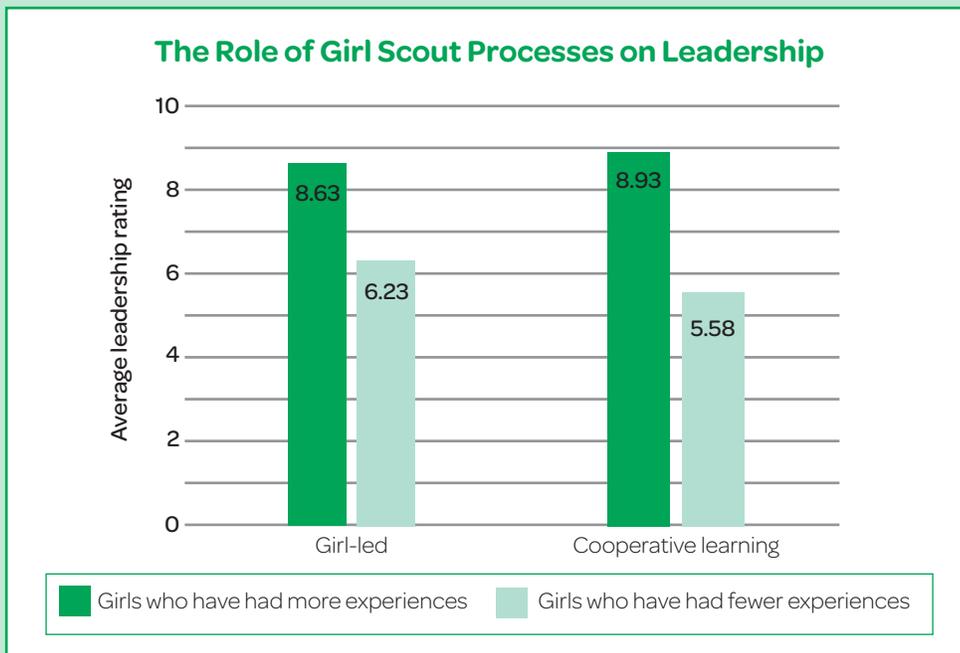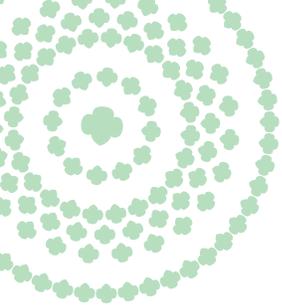
Finding #2: *Most Girl Scouts in this study are academically successful.*

- Girl Scouts are scholastically competent. Seventy-three percent said it's "very true" that they are very good at their schoolwork.

- Girl Scouts are engaged in school. Eighty-three percent said they "always" finish their homework even if it's boring.

- Girl Scouts set mastery goals for learning. Eighty-two percent "agree a lot" that it's important to them to really understand their class work.

- Girl Scouts see the value of school. Seventy-nine percent said it's "very true" that the things they're learning in school will help them later in life.

- Girl Scouts get good grades. Seventy-five percent reported receiving an average of "Mostly As or Bs" or "All As" in the three school subjects measured.

- Lower-SES Girl Scouts reported significantly lower grades and perceived scholastic competence than higher-SES girls. Lower- and higher-SES girls did not differ on indicators of academic engagement.

"I have been a Girl Scout since I was 5 (a Daisy), and I would like to say that I think without Girl Scouts I would not be where I am today. I think I would not get good grades, I don't think I would do well in school, and I don't think I would get along with others as well as I do."
—Destiny, 12, Texas

Finding #3: *Girl Scouting influences academic success as much as, and sometimes more than, non-Girl Scout factors known to impact academics.*

- Girl Scouting explains an average of 12 percent of the variance in girls' academic success.[2]

- It has the greatest impact on girls' behavioral engagement and their perceived scholastic competence. It has the least impact on girls' grades.

- Girl Scouting contributes more to girls' perceptions of scholastic competence, behavioral engagement, and grades than do positive relationships with teachers and regular participation in OST programs. (See Figure 3.)

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[2] *Variance ranges from 0 to 100. A score of 0 means that there is no association between Girl Scouting and academic success, whereas a score of 100 means that Girl Scouting completely explains how well girls do in school. In other words, % variance explained indicates how strongly a set of variables impacts an outcome.*

Figure 3

Relative Role of Girl Scout Versus Non-Girl Scout Factors in Expaining Academic Success Outcomes

% Variance Explained

	Scholastic competence	Behavioral engagement	Mastery goals/ valuing school	Grades
Girl Scout factors	12	16	11	7
Non-Girl Scout factors that impact academics	8	14	17	4

Legend: ■ Girl Scout factors   ■ Non-Girl Scout factors that impact academics
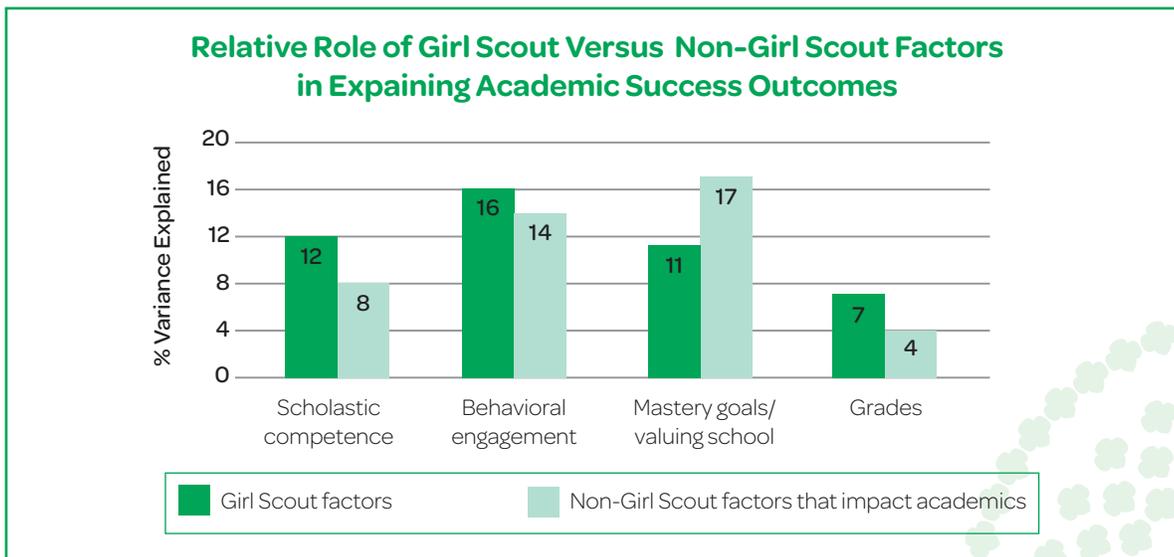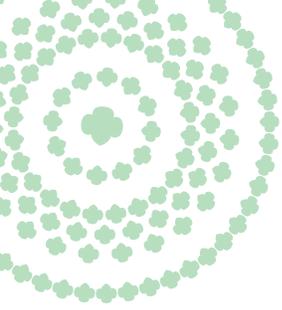
Finding #4: *Girls who gain experience solving problems and seeking challenges in Girl Scouting are more successful in school than girls who gain less experience in these areas.*

- Accounting for the effects of positive relationships with teachers and regular participation in OST activities, Girl Scouts who have made greater progress toward the GSLE outcomes of challenge seeking and resourceful problem solving are better students. They're more academically engaged, value school more, and feel more scholastically competent than do girls who have made less progress toward these outcomes.

- Girls who aren't challenge seekers—who tend to "avoid doing things that are hard for me"—are less likely to feel scholastically competent and academically engaged.

Girl Scout Leadership Experience Outcomes

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 tools and resources they need, and know when, where, and how to enlist help from others.

Girls **develop healthy relationships**. They learn to form and maintain meaningful and caring relationships, communicate effectively, protect their rights in relationships, and know when to seek help from others.

"In Girl Scouts, I have to solve my problems with other girls. In normal life, I sometimes brush them aside, but in Girl Scouts I know that other people are counting on me to collaborate, and that carries on even when we're not at a meeting." —Mia, 11, Washington
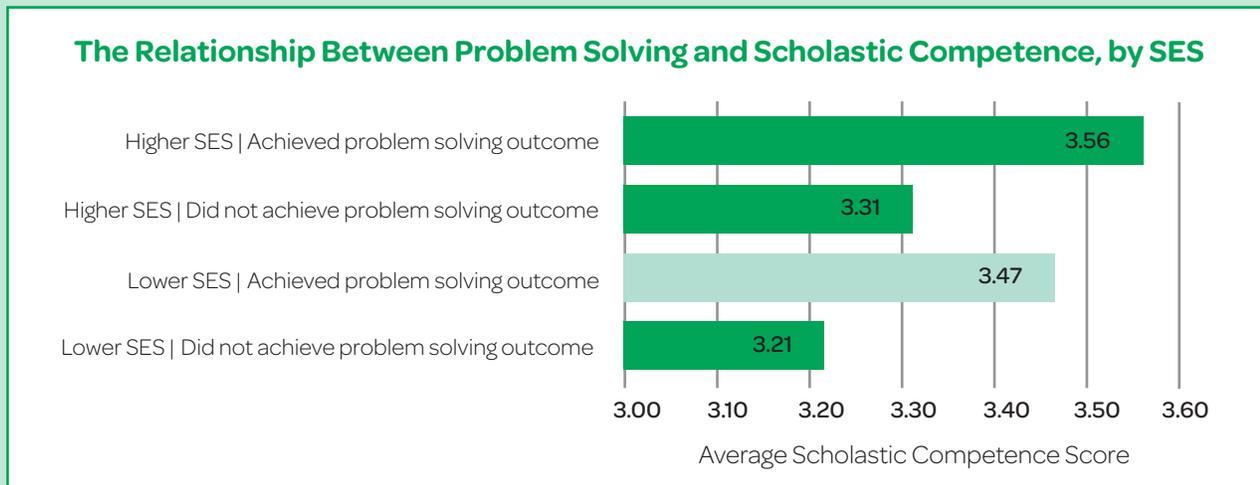
A Closer Look at Resourceful Problem Solving

For girls in grades four through eight, the GSLE outcome of resourceful problem solving consists primarily of learning to create effective plans and seek help strategically from material resources (such as books and the Internet) as well as from other people. To seek help from others, girls must be able to identify helpful peers and adults and they must have the courage and confidence to ask for help. Girls were considered to have "achieved" this GSLE outcome if their average score met or exceeded a criterion value that represented an overall positive response to the outcome items.
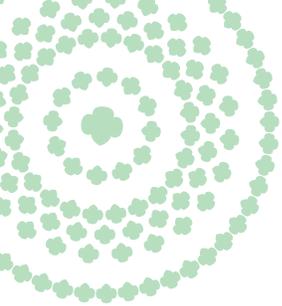
Role of planning in academic success. For both Girl Scout Juniors and Cadettes, there was a solid, positive correlation between girls' experience with planning in Girl Scouts and their behavioral engagement in school (r = .343, p = .000). Girls who gained experience creating plans for their Girl Scout projects were more likely to pay attention in class and demonstrate effort and persistence at schoolwork and homework.

Willingness to ask for help supports academic engagement. Girl Scout Cadettes who are more willing to ask others for help reported greater behavioral engagement and enhanced mastery goals. The Girl Scout factor most related to girls' willingness to ask for help is their cooperative learning experience—in particular, "having opportunities in Girl Scouts to explain our ideas to other girls so we can learn from each other."

Resourceful problem solving in Girl Scouts is especially important for lower-SES girls' academic achievement. As noted previously, girls whose moms have less than a college education reported lower grades and less perceived scholastic competence. (See Appendix for a more detailed discussion of socioeconomic status.) However, lower-SES girls who achieved the resourceful problem solving outcome had levels of scholastic competence equivalent to or higher than those of higher-SES girls. (See Figure 4.)

Figure 4

The Relationship Between Problem Solving and Scholastic Competence, by SES

Category	Score
Higher SES | Achieved problem solving outcome	3.56
Higher SES | Did not achieve problem solving outcome	3.31
Lower SES | Achieved problem solving outcome	3.47
Lower SES | Did not achieve problem solving outcome	3.21

Average Scholastic Competence Score

Finding #5: *Some Girl Scout experiences are more beneficial than others in promoting the GSLE outcomes that influence academic success.*

- Taken as a whole, Girl Scout experiences have a greater effect on girls' problem-solving skills (explaining 25 percent of variance) than on their willingness to seek challenges (13 percent of variance).

- Removing the effects of girls' grades on GSLE outcomes (so that academic proficiency isn't a confounding issue), three Girl Scout factors are most important for increasing girls' ability to solve problems and seek challenges: 1) cooperative learning experiences; 2) perceptions of Girl Scouting's impact on leadership; and 3) girl-led experiences. Factors 1 and 3 are associated with creating active, engaged participants and learners.

- Factors with positive but inconsistent effects on these GSLE outcomes were: earning badges, working toward Girl Scout awards, participating in community service in the last six months, and developing supportive adult relationships in Girl Scouts. Additionally, though girls' participation in overnight camp is positively related to both GSLE outcomes and indicators of academic success, it doesn't have a significant effect when considered in combination with all of the other factors in the model of impact.

- Girl Scout factors with little or no influence on problem solving or challenge seeking were: frequency of attending Girl Scout troop meetings or events, and years spent in Girl Scouting. With regard to the latter, it's notable that the majority of respondents (95 percent of Cadettes and 88 percent of Juniors) said they have been in Girl Scouts for more than three years. With such little variation, it is sometimes difficult to observe an impact.

Finding #6: *Lower-SES girls report greater benefits from Girl Scouting than do higher-SES girls.*

- Girls whose mothers have less than a college education are influenced in particularly positive ways by their Girl Scout experiences.

- They reported greater leadership impact as a result of Girl Scouting than did higher-SES girls.

- Furthermore, lower-SES girls who have achieved the resourceful problem solving outcome reported much higher academic achievement than did their lower-SES peers who have not achieved this outcome. (See Figure 4.)

Comments from lower-SES, "high impact" girls bring to life the benefits of Girl Scouting:

"I feel more comfortable being myself after being a Girl Scout for over 5 years." —*Julia, 11, Georgia*

"My Girl Scout experience has helped me to figure out a positive way to solve a tough issue that I might be having at school or at home." —*Elizabeth, 9, California*

"[Girl Scouts has helped me to be] kind and honest and try to not get in fights." —*Amber, 10, West Virginia*

"I like Girl Scouting because it's fun. We get to do a lot of different things that maybe I wouldn't get to do any other way." —*Sarah, 10, Pennsylvania*

"Girl Scouts has taught me many different things. Also I have met so many different girls with different backgrounds that I have been able to learn from. In Girl Scouts there are so many opportunities and so much to learn." —*Mary, 10, Texas*

"I enjoy being around other girls from many cultures, and learning to work together for the betterment of our schools and community." —*Tatiana, 12, Nebraska*
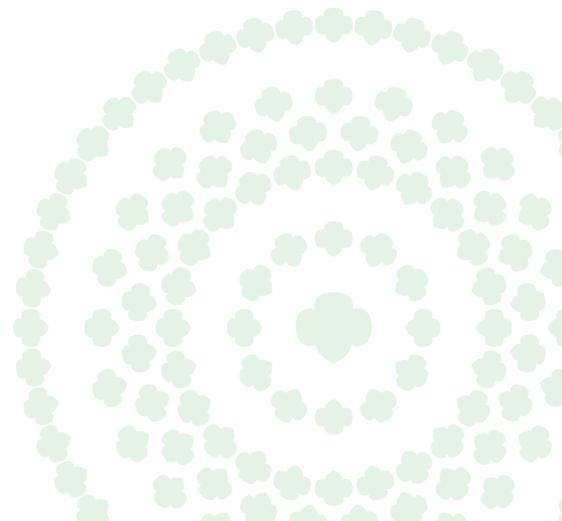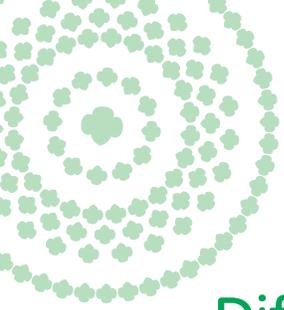
Different Impacts for Different Girls

**Differences in impact for more versus less academically connected girls.** In designing this study, we were interested in whether Girl Scouting might provide a special boost for girls who lack positive relationships with their teachers. Indeed, having supportive adults in Girl Scouts improves academic engagement for girls with lower-quality student-teacher relationships.

- Girls who reported lower connectedness to their teachers (5 percent of Juniors; 9 percent of Cadettes) value school more when they have more supportive adult relationships in Girl Scouts.

- Moreover, less academically connected Juniors are more behaviorally engaged in school when they have supportive adults in Girl Scouts.

Differences in impact for lower- versus higher-SES girls. As noted above, lower-SES girls appear to benefit from Girl Scouting more than do higher-SES girls in some important ways.
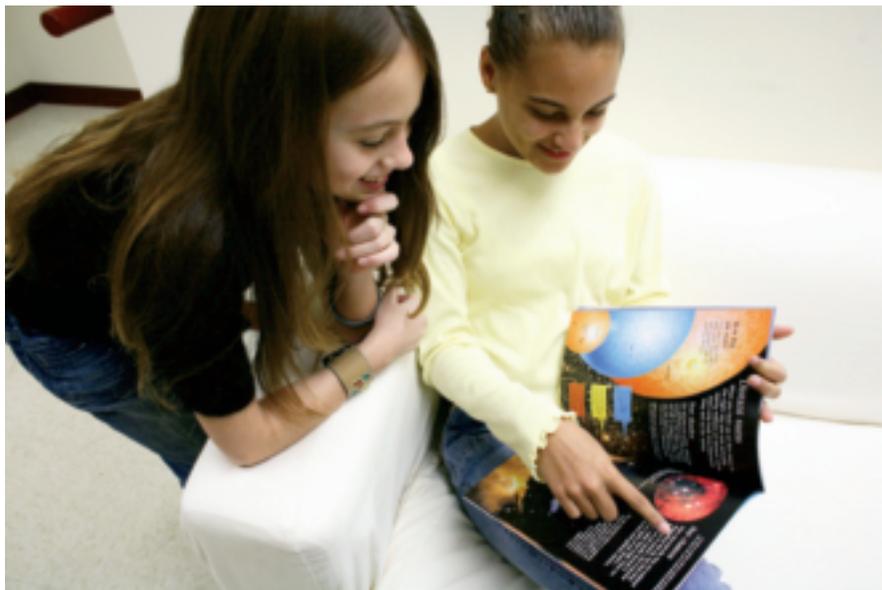
Discussion

**What we can and cannot say with these data.**
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 that can be drawn from the data presented. In particular, we cannot make definitive statements about causality. In other words, we cannot claim that participating in Girl Scouts has caused girls to act in certain ways, hold certain attitudes, or demonstrate particular skills.

Additionally, our sample skewed toward more academically successful girls. Consequently, we cannot claim that the trends we observed will hold true for all girls or that the academic profile of survey respondents accurately represents the larger Girl Scout population.

Nevertheless, our findings present strong support for the positive influence of Girl Scouting on girls' leadership and academic success. The analysis strategy and statistical techniques we used allowed us to control for the influence of girls' academic achievement on their leadership and academic engagement, observe differences in outcomes between girls who have different types ("higher" and "lower" quality) of Girl Scout experiences, quantify the relative influence of different Girl Scout factors on leadership and academic outcomes, and compare the relative influence of non-Girl Scout factors known to impact young people's academic success with Girl Scout factors.

Findings in context. The foundations and findings of this study are consistent with those of a number of other recent research initiatives that demonstrate the power of youth development programs to help students achieve academic success. For example, the National Collaboration for Youth (2011) proposes a "theory of change" regarding how youth development programming can promote educational success that is very similar to the model of impact undergirding this study, describing academic outcomes from several youth programs nationwide that support this theory.

Likewise, Durlak and Weissberg (2007) present a compelling meta-analysis of the effects of OST program participation on students' success in school. They find that regular participation in OST programs with an academic component can explain up to 34 percent of variance in students' academic achievement. In our study, Girl Scout factors explain about half this amount of variance on academics. However, it is noteworthy that Girl Scout programming does not have an explicit academic component and that our sample consisted of more academically successful students than participated in the Durlak and Weissberg research. Furthermore, the fact that lower-SES and less academically connected girls benefit more in some ways than their more advantaged and connected peers suggests that the influence of Girl Scouting on academics might be even higher in the population at large.
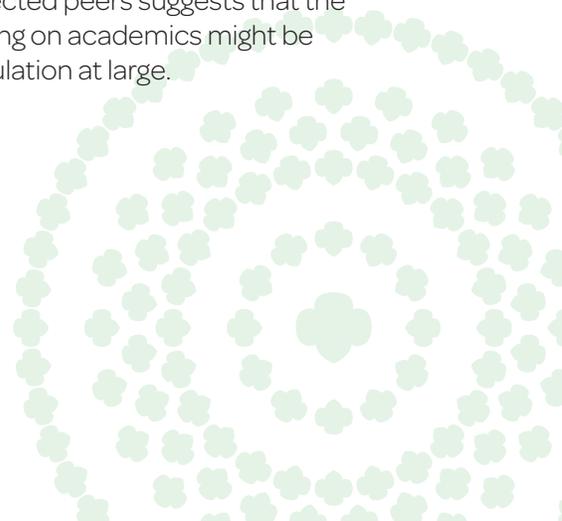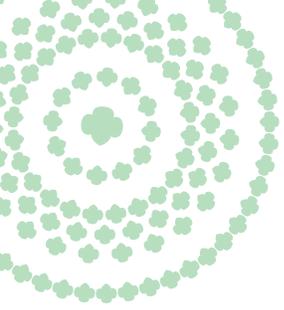
Our research also offers a unique contribution to the field. We consider the experience of early adolescent girls and we specifically examine leadership development as a premise for promoting academic engagement and achievement. The proposition that leadership—defined as discovering, connecting, and taking action—might spark girls to succeed in school is fresh, powerful, and worthy of more systematic study.

The role of leadership in academic success. The mission of Girl Scouting is to develop young women who are capable of and willing to take leadership roles in their homes, schools, and communities. To date, such leadership has not been explored as a key component or contributor to success in school. This study, however, suggests that Girl Scout leadership outcomes such as resourceful problem solving and challenge seeking are closely linked to both academic engagement and achievement.

Furthermore, for early adolescent girls, cooperative learning experiences seem especially critical to developing such skills. Additional elements, such as having supportive adults in Girl Scouts and opportunities to build skills and demonstrate competence through longer-term projects and badges, may be more important for middle school girls. Because of age-related social factors, these older girls may face more threats to their sense of self and may, in turn, benefit more from the reinforcement and validation that Girl Scout experiences provide.
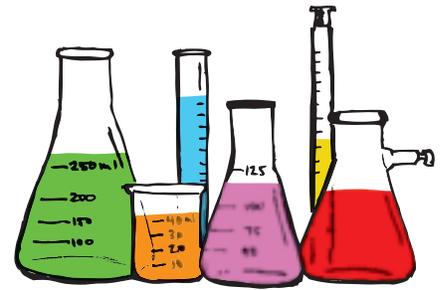
Impacting girls' academic success through Girl Scouting. The results of this brief accentuate the importance of certain Girl Scout factors in supporting girls in school.

1. **The Girl Scout processes**. An unequivocal conclusion from this study is the importance of cooperative learning and girl-led experiences for girls. It is clear from these data that girls who have opportunities to work together in meaningful ways and to take on leadership roles in Girl Scouting perceive that Girl Scouting has a greater impact on their leadership, demonstrate greater problem-solving and challenge-seeking leadership skills, and through these skills achieve greater academic success.

2. **Preparing adult volunteers in Girl Scouting to support these processes.** Supportive adults are key to the success of Girl Scouting and to the development of young women who are strong leaders and strong students. However, effective volunteers are much more than warm bodies; they are the gatekeepers of high-quality Girl Scout experiences. As such, in addition to being inclusive, encouraging, and good models for all girls, they need to be able to facilitate cooperative learning and girl-led experiences. This requires sufficient preparation, feedback, and support.

3. Intentionality in Girl Scout programming.

When girls have experiences in Girl Scouts that improve their problem-solving skills (when they learn to plan and seek help strategically) and that encourage them to seek positive challenges (to set challenging goals and try things they might not be good at so they can learn), they are more engaged in school and feel more scholastically competent. Consequently, Girl Scout programming must be intentional in creating experiences for girls that promote these important GSLE outcomes. Girl Scout Journey activities, well-planned Take Action projects, work on Girl Scout awards, and outdoor experiences in which girls get to try and master new challenges may all play a role in developing these important leadership and academic skills.

4. Increasing the presence of Girl Scouting in underrepresented communities.

Findings from this study about the enhanced benefits of Girl Scouting for lower-SES girls and the compensatory effects of Girl Scouting for girls who don't have particularly positive relationships with their teachers suggest that Girl Scouts may play an especially important role for girls in underrepresented communities. In these communities, Girl Scouts may provide supportive opportunities and experiences that girls don't have access to at home or in school.

Why greater impact for lower-SES girls?

Lower socioeconomic status is linked with lower academic achievement and attainment as well as poorer health and well-being for children (Bradley & Corwyn, 2002). These effects occur through several means (Gershoff, Aber, Raver, & Lennon, 2007). For example, increased family stress may lead to increased stress, illness, and/or academic distraction for children. Similarly, lack of financial resources may restrict the number and types of knowledge- and skill-building enrichment activities children have access to. Finally, certain parental values, expectations, and communication styles linked with lower education may prevent children from exploring a full range of experiences.

Especially for lower-SES girls, Girl Scouting may provide opportunities to try activities and learn things they might not have access to in their home environments via typical family enrichment activities. Additionally, the presence of consistent and supportive adults in Girl Scouts may provide these girls with a wider variety of role models and types of support in thinking about their own futures. While data from this study are somewhat limited in their ability to address this question, the topic is worthy of much greater examination in future research.
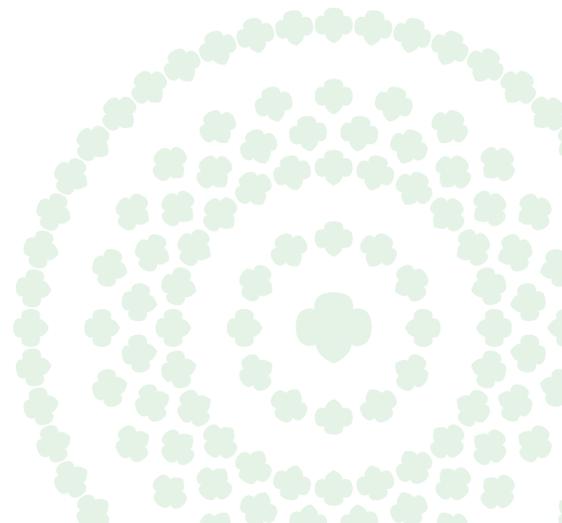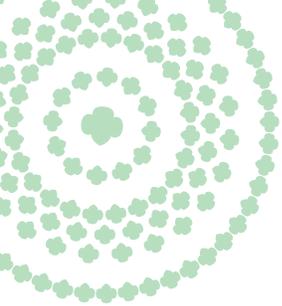
Directions for future research. This study was intended as exploratory research about ways in which the quality and extent of girls' participation in the Girl Scout Leadership Experience relates to their success in school. It raised several fruitful questions about the role of leadership outcomes and processes in girls' academic development, differences in impact for lower- versus higher-SES girls and less versus more academically connected girls, differences in Girl Scout influence on academic engagement versus achievement, and the overall impact of Girl Scout programming on girls' academic success. These questions deserve more attention and would be well-served by alternate research designs.

In particular, we recommend that future research include:

- A comparison study that involves a more demographically diverse sample of Girl Scouts and non-Girl Scouts.

- A more qualitative study that builds on the findings of this briefing to further investigate how girls develop problem-solving and challenge-seeking skills through Girl Scouting.

- A mixed-methods study comparing the experiences of lower- versus higher-SES girls in Girl Scouting in order to better understand how Girl Scouting supports girls with different family resources.

Final Words

This GSRI brief presents compelling evidence for the role of leadership development in building the academic behaviors, skills, and competencies of young women. It provides recommendations for increasing the impact of Girl Scouting on girls' success in school, and it suggests directions for future research. The framework and findings presented here are well-aligned with those of other recent research studies; they also offer a unique perspective that may be useful to the youth development community at large.

Appendix

Key Terms and Constructs

Academic success. Considered as both engagement and achievement in school.

- **Academic engagement.** Includes behavioral engagement in school (Martin, 2007) as well as valuing school and having mastery learning goals (Anderman, Urdan, & Roeser, 2005).

- **Academic achievement.** Indicated by girls' perceived scholastic competence (Harter, 1995; Tierney, Grossman, & Resch, 1995) and their self-reported grades in English/language arts, science, and social studies.

Girl Scout experience factors. To capture girls' overall experience in Girl Scouting, we assessed three structural components of Girl Scouting identified by the National Research Council (2002) as important to the promotion of positive youth development outcomes. We also examined two processes integral to the GSLE (GSUSA, 2009), regular participation in Girl Scout programming, and girls' perceptions of the impact of Girl Scouting. These factors are:

- **Supportive adult relationships in Girl Scouting.** Supportive adults provide emotional support as well as useful guidance, mentoring, and instruction. They do so in a warm, connected, and communicative way (National Research Council, 2002). In Girl Scouting, such adults (who are generally female) may provide encouragement, positive appraisals, and alternative (and less restrictive) models of ways that women can succeed.

- **Peer social support in Girl Scouting.** Peer interactions are also an important component of positive youth development. Girl Scouting can provide girls with opportunities to interact with same-sex peers who offer one another respect, encouragement, and a sense of belonging.

- **Skill-building opportunities in Girl Scouting.** In Girl Scouting, there are a number of ways girls can build skills and gain competence—through trying a variety of different activities, earning badges, attending camp, and working on community service projects or longer-term award projects.

- **Cooperative learning.** This Girl Scout process promotes sharing of knowledge and skills in an atmosphere of respect and cooperation as girls work together on goals that can only be accomplished with the help of others.

- **Girl-led.** The girl-led process applies to girls of every age as they take an active and grade-appropriate role in deciding the what, where, when, why, and how of their Girl Scout activities and experiences.

- **Perceptions of the impact of Girl Scouting.** Girls rated how much their participation in Girl Scouts has affected their leadership, self-confidence, values, friendships, and school life.

- **Frequency of participation in Girl Scout programs.** Girls indicated how often they participate in troop or group meetings.
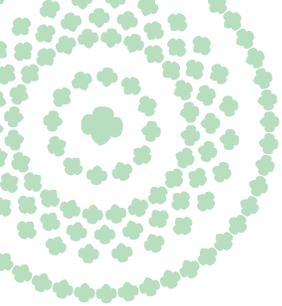
GSLE outcomes. The study assessed 3 of the 15 leadership benefits girls are expected to gain from Girl Scouting: girls seek challenge in the world, girls are resourceful problem solvers, and girls develop healthy relationships. These particular outcomes were selected because there is evidence that they are associated with academic success. For example, seeking opportunities to learn, setting challenging goals, and taking appropriate risks in order to grow (components of challenge seeking) are closely related to self-regulated learning, achievement motivation, and mastery learning goals.

These constructs have been well-researched and have been shown to have a demonstrated impact on academic performance and attainment (Linnenbrink & Pintrich, 2002; Zimmerman, 1995).

Non-Girl Scout factors. We measured two non-Girl Scout factors known to influence academic success:

- **Positive student-teacher relationships.** This includes perceptions of closeness, warmth, support, and respect—all factors shown to predict adolescents' academic expectancy and emotional adjustment (Reddy, Rhodes, & Mulhall, 2003; Osterman, 2000). They may explain up to one-third of the variance in adolescents' academic motivation (Goodenow, 1993).

- **Regular participation in out-of-school time (OST) activities.** OST activities, such as sports and tutoring, have been shown to increase young people's grades and test scores as well as positive attitudes toward school (Durlak & Weissberg, 2007). Indeed, in their 2007 meta-analysis of evidence-based OST programs, Durlak and Weissberg found that regular participation in OST programs with an academic component explained 34 percent of variance in students' academic achievement.

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); positive effects are thought to occur through reduced parental stress, greater parental material investment in children, and positive parenting practices (Gershoff, Aber, Raver & Lennon, 2007).

While SES is generally measured by a series of questions about family income, mother's level of education, and family structure, we used only questions that children would reliably be able to answer (Ensminger et al., 2000), considering we were surveying girls not adults. These questions addressed mother's education and whether a girl receives free or reduced-price school lunches.

In our data, these two variables are related in the expected direction—31 percent of girls whose moms have less than a college education said they receive free or reduced-price school lunches, whereas 6 percent of girls whose moms hold an advanced degree said the same. However, a sizeable proportion of girls chose not to answer the free-lunch question. Consequently, we used mother's education as the sole indicator of SES for all girls.

Selecting the Sample

Girls in grades four through eight were selected as the focus of the research for both developmental and programmatic reasons. Developmentally, girls of this age are capable of reflecting on their own behaviors and motives and, therefore, commenting on a greater range of possible factors influencing their success. Also, at this time they are generally able to read well enough on their own to respond to a fairly in-depth, self-administered survey. Programmatically, girls are more likely to remain in Girl Scouting through the Junior level and to drop out in the middle school (Cadette) years. We wanted to assess the Girl Scout experience common to most girls as well as of girls who chose to stay in Girl Scouting at a time when many drop out.

Index of Survey Measures

Academic Success Measures

**Perceived Scholastic Competence (α = .772)**

Not at all true; Not very true; Sort of true; Very true; or Don't know/Don't want to say

1. I have trouble figuring out the answers in school. [reversed for scale score computation]
2. I feel that I am just as smart as other kids.
3. I am very good at my schoolwork.
4. I'm pretty slow in finishing my school work. [reversed for scale score computation]
5. I often forget what I learn at school. [reversed for scale score computation]
6. I do very well at my class work.

Grades (α = .872)

Mostly Ds or worse (Not good at all); Mostly Cs & Ds (Not so good); Mostly Cs (About average); Mostly Bs & Cs (Good); Mostly Bs (Very good); Mostly As & Bs (Excellent); or All As (Excellent)

1. Grd_ELA: This year, what grades have you earned in your classes? [English/language arts]
2. Grd_Sci: This year, what grades have you earned in your classes? [science]
3. Grd_Soc: This year, what grades have you earned in your classes? [social studies]
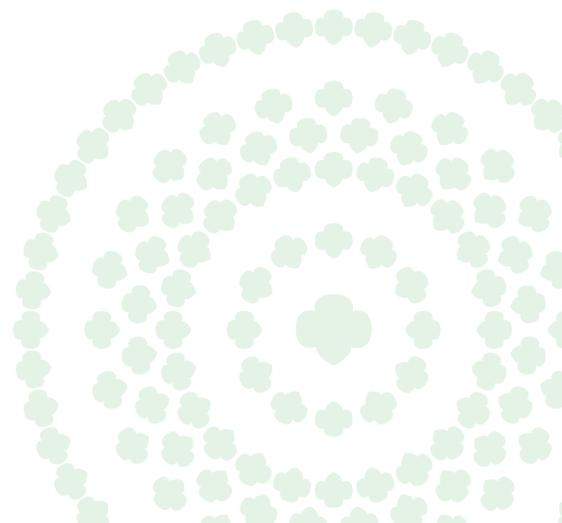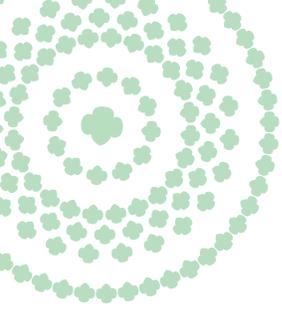
Behavioral Engagement (α = .539)

Never; Hardly ever; Sometimes; A lot of the time; Always; or Don't know/Don't want to say

1. I finish my homework even if it is boring.
2. If I can't understand my schoolwork at first, I keep trying until I do understand it.
3. I talk with my teachers before or after school or during lunch about my assignments.
4. I hand in my assignments on time.

Mastery Goals and Valuing School (α = .405)

Disagree a lot; Disagree a little; Agree a little; Agree a lot; or Don't know/Don't want to say

1. One of my goals in school is to learn as much as I can.
2. It's important to me that I really understand my class work.
3. It's important to me that I improve my skills this year in school.

Not at all true; Not very true; Sort of true; Very true; or Don't know/Don't want to say

4. Learning at school is important to me.
5. The things I am learning in school will help me later in life.

Girl Scout Experience Measures

Supportive Adult Relationships in Girl Scouting (α = .830)

Not at all true; Not very true; Sort of true; Very true; or Don't know/Don't want to say

Please think about the adults you know in Girl Scouting who are not your parents or guardians. Then read each statement and mark how true it is for you. In my Girl Scout-sponsored program, there is at least one adult who...

1. I can talk to about problems or issues.
2. Gets excited when I do something good.
3. Makes me feel like I am valuable.
4. I want to be like when I grow up.
5. Has helped me think about my future.

Cooperative Learning Process (α = .755)

Never; Hardly ever; Sometimes; A lot of the time; Always; or Don't know/Don't want to say

1. In Girl Scouts, I learn by working with other girls.
2. In Girl Scout meetings, girls really listen to what other girls are saying.
3. In Girl Scouts, we explain our ideas to other girls so we can learn from each other.

Girl-Led Process (α = .662)

Disagree a lot; Disagree a little; Agree a little; Agree a lot; or Don't know/Don't want to say

1. I teach younger girls new things in Girl Scouts.
2. In Girl Scouts, I get to have more say about what I do and how I do it than in other groups I've been a part of.
3. In Girl Scouts, I get to speak up about things that matter to me.

GSLE Outcome Measures

Cadette: Seeking Challenge (α = .689)

All items standardized to 6-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]
4. I am interested in learning about people, places, or things I am not familiar with.

Junior: Seeking Challenge (α = .336)

All items standardized to 6-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]

Cadette: Problem Solving (α = .664)

All items standardized to 6-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 (α = .462)

All items standardized to 6-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.

Non-Girl Scout Factors

Positive Relationships with Teachers (α = .559)

*Disagree a lot; Disagree a little; Agree a little; Agree a lot; or Don't know/Don't want to say*

1. I feel that my teachers care about me.
2. I have trouble getting along with my teachers. [reverse coded]
3. My teachers give me interesting and challenging assignments.
4. My teachers expect me to do well in school.

Out of School Time Programs

Never; Once a month; A couple of times a month; Once a week; A few times a week; Every day

How often have you participated in the following clubs or activities outside of school time during this school year?

1. Youth programs (for example, 4H, Boys & Girls Clubs, Y programs)
2. Religious youth group
3. School or community sports (for example, softball, soccer, cheerleading, basketball, track)
4. Formal lessons not part of school (for example, music, dance, karate, gymnastics)
5. Extra classes or tutoring
6. Other after-school programs or clubs (please specify)
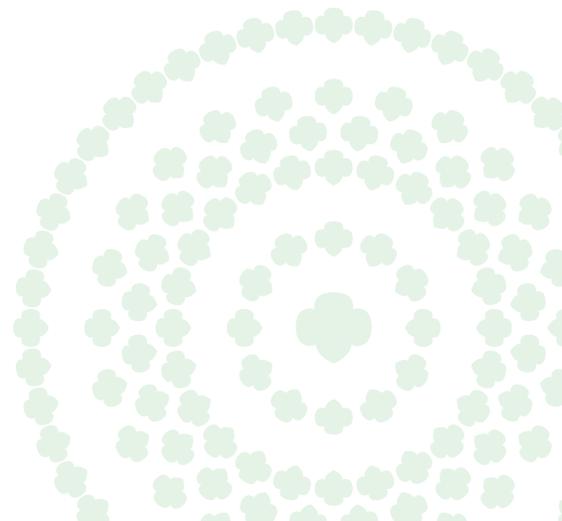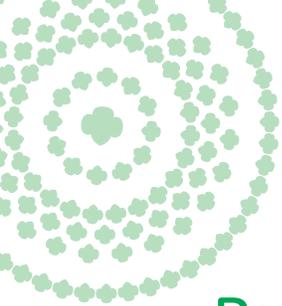
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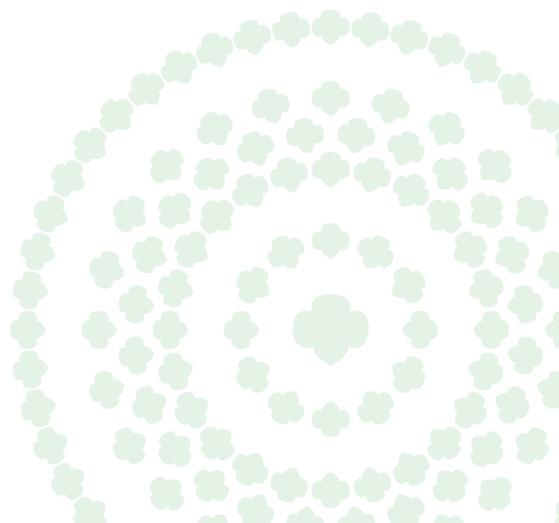
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