# Measuring Positive Youth Development at Summer Camp: Problem Solving and Camp Connectedness

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# MEASURING POSITIVE YOUTH DEVELOPMENT AT SUMMER CAMP: PROBLEM SOLVING AND CAMP CONNECTEDNESS

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While research on summer camps has generally supported the benefits of organized camping for youth, increasing pressure exists for camps to document outcomes to stakeholders and to base their practices on evidence.  This paper discusses the theoretical and empirical development of two measures relevant to these needs: Problem Solving Confidence and Camp Connectedness.  The process of scale development included reviewing conceptual and theoretical literature as it related to camp settings.  Items based on the relevant content domains were then generated, reviewed by experts, and pilot tested with 557 campers.  Evidence from this pilot study suggests that both measures may be reliable and valid measures of their respective constructs. Implications for use and ties to the extant literature are discussed.

*Keywords:* youth development outcomes, scale development, camp

## Introduction

Research on summer camps traditionally shows that youth benefit from the camp experience (e.g., ACA, 2005; Bialeschki, et al., 2007; Henderson, et al., 2007; Marsh, 1999; Mishna et al., 2001; Readdick & Schaller, 2005; Yuen, Pedlar, & Mannell, 2005).  However, much of this research has been conducted by academics in partnership with camp programs, because research and evaluation are typically viewed by camps as complex and burdensome.  Despite this perception, funding agencies increasingly require systematic evaluation for outcome documentation as well as to support the creation of program theories and evidence-based practices in camps.  To address these needs, the American Camp Association (ACA) began efforts to provide outcome assessment tools that were relevant, appropriate, and practical for use *by* summer camps.  This battery of measures, currently known as the ACA Youth Outcomes Battery (Ellis & Sibthorp, 2006; Ellis et al., 2007), continues to grow as funds become available.  During the summer of 2009, two new outcome measures, Problem Solving Confidence and Camp Connectedness, were developed at the bequest of ACA's Not-for-profit Council and Committee for Advancement of Research and Evaluation (CARE) to expand the existing battery to include additional facets of positive youth development.  Problem solving skills and interpersonal connectedness are two critical aspects of positive youth development in the current youth development literature (Pittman et al., 2003) and are of particular interest among camp administrators and programmers.

The purpose of this study was to develop measures of Problem Solving Confidence and Camp Connectedness that could reasonably and practically be used by summer camps to document outcomes and to build evidence-based program models that inform camp design and implementation practices. Specifically, we sought to develop outcome measures that could be seamlessly incorporated into the ACA Youth Outcome Battery; this goal both informed the instrument development process and ensured continued support and access for interested users.

## Problem Solving

Problem solving abilities allow a young person to identify and effectively contend with day-to-day problem situations.  Failure to employ effective problem solving skills can have lasting effects on the young person, such as psychological maladjustment, suboptimal physical health, and diminished capacity for stress and adversity (Heppner, Witty, & Dixon, 2004; Malouff, Thornsteinsson, & Schutte, 2007). Effective problem solving skills, on the other hand, are considered a protective factor that may buffer the effect of negative influences in the young person's life (Lee, 2006).

Problem solving skills enable young people to face a broad spectrum of problems, including those issues

that are relatively simple (e.g., deciding what to wear to school) as well as problems that are highly complex (e.g., deciding where to go to college; Heppner, 2008). Whether simple or complex, problem solving generally entails four primary processes: (a) problem definition, (b) planning, (c) decision making, and (d) evaluation of solution outcome (cf., D'Zurilla & Nezu, 1990; Zelazo et al., 1997). Each process (e.g., problem definition) contributes to problem solving; however, the degree to which each independent process contributes to problem resolution may vary from person to person and across situations. For example, it is easy to see that problem solving involving a mathematical equation requires a different set of skills than problem solving regarding an intrapersonal or interpersonal dilemma. Someone who is highly skilled at solving a technical engineering problem is not necessarily well prepared to deal with an awkward social situation or an incident of bullying at school. Thus, problem solving skills are generally considered highly domain-specific.

In contrast to problem solving skills, personal appraisals or perceptions of problem solving skills are more likely to extend across domains, resulting in an individual's general sense of problem solving confidence. As a belief about one's ability to enact the specific problem solving skills (e.g., problem definition), problem solving confidence emerges through repeated application of the processes that comprise problem solving skills.

Problem solving confidence specifically emerges after a person has engaged in several problem situations. When a young person is faced with a problem situation, higher-order brain functions such as cognitive inhibition and control are activated, resulting in executive functioning (Zelazo et al., 1997). Executive functioning in turn promotes growth in overall cognitive functioning and the young person is better prepared to engage these higher-order cognitive processes across a multitude of situations. In addition to cognitive functioning, problem solving is also thought to include an affective component. Bandura (1982) suggests that the mechanism of self-efficacy serves as the affective link between problem solving skills and problem solving confidence. Simply put, when a person feels efficacious solving a problem in one domain, they are more likely to attempt a problem in a different domain, and this attempt is directed by one's "general beliefs and evaluations about themselves as a problem solver" (Heppner, 2008, p. 807). The relation between personal appraisals of problem solving abilities and actual problem solving skills is supported in the literature (Heppner et al., 2004), thus a self-reported measure of these appraisals may effectively predict one's problem solving skills.

Problem solving appraisals are also influenced by a person's orientation toward problems in general. Problem orientation is the frame through which a person typically views problems and is largely considered a dispositional trait that originates deep in intrapersonal structures (Ciarrochi, Leeson, & Heaven, 2009). Both problem orientation and problem solving confidence represent generalized beliefs that are likely to affect a person's approach to and engagement with problem situations.

Based on this literature, we chose to focus on campers' problem solving confidence, which we defined as campers' personal appraisals of their abilities to resolve problems. This focus was chosen over the more dispositional problem orientation domain because problem solving confidence represents a construct that might change through practice in a camp setting. Engaging in and successfully navigating problems at camp can potentially increase confidence but are less likely to change a person's disposition. Camp personnel may use the scale to inform the question: Have camp experiences helped campers feel more confidence in their problem solving capabilities? In order to be consistent with the extant literature, the new measure needed to cover four content domains to capture the major problem solving processes: (a) problem definition, (b) planning, (c) decision making, and (d) evaluation of solution outcome.

## Camp Connectedness

Like problem solving skills, the extent to which a young person feels connected to others has both immediate and generalized implications. Connectedness, or one's beliefs that they are cared for as an individual (Blum & Libbey, 2004), is examined most extensively in the school setting. Within this setting, researchers conceptualize connectedness as the student's "personal relationship to school" (Libbey, 2004) that is typically

based on the student's perceptions of his or her relationships with teachers, peers, and the normative school culture. The documented immediate effects of school connectedness include academic achievement and competence (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004; Klem & Connell, 2004), reduction in behavior problems in school (Loukas, Ripper-Suhler, & Horton, 2009; McNeely & Falci, 2004), and improved social adjustment (Battistich, Schaps, & Wilson, 2004; Battistich, Solomon, & Watson, 1998). Long-term, generalized benefits include reductions in trait anger (Rice, Kang, Weaver, & Howell, 2008) and overall mental well-being (You et al., 2008; Shochet, Dadds, Ham, & Montague, 2006). The relation between student connectedness and these desirable outcomes is such that connectedness is an important protective factor for youth (Resnick, Harris, & Blum, 1993).

In addition to serving as a buffer against negative influences, connectedness is considered essential to the optimal development of young people (Eccles & Gootman, 2002; Pittman et al., 2003; Lerner et al., 2005). Connectedness represents a central component within several models of positive youth development (e.g., the Five C's, Lerner et al., 2005; Pittman et al., 2003), each of which recommend prioritizing caring youth-adult relationships, as well as peer relationships, in order to foster connectedness in youth settings. The extent to which a young person feels connected to a caring adult, however, has particular implications for youths' well-being (Gambone et al., 2002) and may be more salient to feelings of overall connectedness than peer-relationships alone (Wilson, 2004). According to Hirshi's social bonding theory (1969), the bonds that contribute to perceptions of connectedness might also serve to attach an individual to the setting in which those connections are made, thus opening the pathways by which that person might adopt the norms and values of the setting as a whole. It is suggested that connectedness promotes positive youth development by fostering caring one-on-on relationships as well as by connecting an individual to the positive norms of an organizational setting.

Whereas connectedness begins within one-on-one relationships, setting-level characteristics play an important role by promoting a more generalized feeling of connectedness. In her review of several prominent measures related to school connectedness, Libbey (2004) posits nine distinct domains that contribute to these generalized feelings of connectedness, six of which are generally applicable to summer camps: (a) belonging, (b) likes school, (c) student voice, (d) peer relations, (e) safety, and (f) teacher support. Two of these domains, belonging and peer relations, act similarly to meet youth's fundamental needs (Baumeister & Leary, 1995) which, in turn, forms a foundation for learning (Oserman, 2000). The extent to which a student likes school, or, more specifically, a camper likes camp, is likely a matter of personal interest. Larson (2000) identifies interest as a key linkage between the activities in which youth participate and overall positive development, and it is possible that interest is best stimulated in recreation settings (Kleiber, 1999). Youth voice is a similarly powerful mechanism for youth development, perhaps because it fosters a sense of competence among traditionally disempowered young people (Ellis & Caldwell, 2005). The final constructs of safety and teacher support address youth's basic needs that facilitate the development of positive relationships, useful skills, and interpersonal connectedness (Pittman et al., 2003).

Summer camp is a setting often characterized by unique relationship-building opportunities and is ideally situated to promote a connectedness among young people. The outcomes of a typical camp experience generally include intra- and interpersonal skills such as strengthened values and social competence (Thurber et al., 2007; Bialeschki et al., 2007; Henderson et al., 2007), both of which are important facets of social interactions. Although there is widespread agreement on the personal benefits of the camp experience, scholars contend that the specific etiology of the camp experience is largely unknown (Bialeschki et al., 2007). It can be hypothesized, however, that through structural features such as small and sustained camper-staff groupings (Roth & Brooks-Gunn, 2003), activities that engage youth's intrinsic interests (Caldwell, 2005), and relative isolation from potentially detrimental social influences (Thurber et al., 2007), camps might serve to promote connectedness in unique ways.

For the purpose of this study, camp connectedness was defined as the camper's personal relationship to camp (adapted from Libbey, 2004). Users may think of this instrument as informing the question: Do campers

feel welcomed and supported at camp? In order to be consistent with the relevant literature (e.g., Libbey) the instrument needed to cover content from six domains: (a) belonging, (b) likes camp, (c) youth voice, (d) peer relations, (e) staff support, (f) emotional safety.

## Methods

The methods for scale development were largely based on Classical Test Theory and the steps proposed by DeVellis (2003). The procedures also paralleled the process used previously in the development of the ACA Youth Outcomes Battery. After the constructs were defined and the domains were specified from the existing literature, items were generated to cover the necessary content domains. These items were then vetted by content and population experts and assembled into pilot versions of the scales. The response formats used were consistent with the existing measures in the ACA Youth Outcomes Battery and included both status and change stems (measured on 6 point scales) for Problem Solving Confidence and status (6 point scale) for Camp Connectedness. Theoretically related measures were then paired with each of the pilot scales in an effort to assess criterion validity. After administration at ACA accredited camps, the pilot data were analyzed and final scales were created.

### The Pilot Scale

Approximately five items per domain for both Problem Solving Confidence and Camp Connectedness were generated for the initial item pools. The items were then reviewed by the ACA Committee for the Advancement of Research and Evaluation for content relevance, content representativeness, clarity, and appropriateness to the target population. A number of significant revisions resulted from this review process, including wording changes, item deletions, and item revisions. The resulting pilot instruments included four items per content domain. As Problem Solving Confidence has four content domains, the pilot version of this scale included 16 items (with a goal of an 8-item version). Camp Connectedness has six content domains; thus the pilot version had 24 items (with a goal of a 12-item version).

The rating scales used were consistent with the existing measures in the ACA Youth Outcomes Battery. For status versions of the instrument, a 6-point rating scale was used, anchored with "false" and "true." The status version can be used in a traditional pretest/posttest design. For those seeking to use the scale only at posttest, there is also a retrospective change version that includes both the status items and a retrospective change subscale. For the retrospective change subscale, the participants answer the question "Is the above statement more or less true today than before camp?" on a 6-point rating scale that ranged from "A lot less" to "A lot more." While the use of a retrospective change scale is somewhat controversial and beyond the scope of this paper, interested readers should see Lam and Bengo (2003) and Sibthorp, Paisley, Gookin, and Ward (2007) for a more detailed description of this approach.

### Criterion Related Evidence of Validity

For criterion related evidence of validity for our Problem Solving Confidence measure, we used the Social Problem Solving Inventory for Adolescents (SPSI-A; Frauenknecht & Black, 1995). Specifically, we used the Problem Solving Skills Subscale of the SPSI-A. This subscale covers content related to problem identification, alternative generation, consequence prediction, implementation/evaluation, and reorganization through an 18-item instrument that utilizes a five point scale ranging from "Not at All True for Me" to "Extremely True for Me." The PSSS has demonstrated good evidence of construct and criterion validity as well as reliability when used with adolescents (Frauenknecht & Black, 2003).

For criterion related evidence of validity for our measure of camp connectedness we adapted an existing measure of school connectedness (You et al., 2008) to camp. This adapted measure was administered to study participants at the same time as the pilot questions. In addition, measures of perceived competence and responsibility from the ACA Youth Outcomes Battery (Ellis & Sibthorp, 2006) were included on the connectedness pilot instrument in order to examine the extent to which the scale was consistent with previous research linking connectedness to developmental outcomes. Perceived Competence and Personal

Responsibility were chosen given their general scope and nature as indicators of positive development in youth and because school-based research on connectedness has demonstrated links to academic competence (e.g., Battisch et al., 2004) and ethical development (e.g., Battisch, et al., 1998).

We hypothesized that if our measures were adequately capturing the constructs as intended, that sizable and significant positive correlations with the extant measures would be evident, with a stronger correlation to more theoretically similar constructs. Specifically, Problem Solving Confidence status was hypothesized to be more strongly correlated with the Problem Solving Skills Subscale than the Problem Solving Confidence change subscale. For Camp Connectedness, we hypothesized that the strongest correlation would be between Camp Connectedness and the adapted measure of School Connectedness. In comparison, the correlations with the youth outcomes (perceived competence and responsibility) were expected to be weaker. We also hypothesized that the Problem Solving Confidence measure would exhibit a weak positive relationship with age (Heppner et al., 2004) and that the Camp Connectedness instrument would be unrelated to age.

**Data Collection and Analysis**

After formatting the scales for pilot data collection, six camps administered the pilot instruments during the summer of 2009. The camps were all ACA accredited residential camps. Five of the six camps served both boys and girl. One of the camps served only female campers.

Psychometric data analyses included examination of the internal structure (reliability, item-to-total correlations, inter-item correlations) of the individual instruments as well as cross-structure analysis (inter-correlations among scale scores and criterion measures and correlations between scale scores and age). All analyses were conducted in SPSS version 16.0. In general, the two items with the highest item-to-total correlations were retained to represent the content domain in the final version of each scale. However, this criterion was applied judiciously, as some items offered conceptually superior content coverage while others suffered from ceiling effects. Based on the overall interpretation of the statistical results and with careful attention to content coverage and validity, final versions of the scales were created retaining two items per content domain.

## Results

A total of 221 participants from 3 camps completed the pilot version of the Problem Solving Confidence scale; the sample was 75 % female, with an average age of 13.5 years. After examining item performance including the items' response distribution and the psychometric analyses, the best two items per domain were retained for the final version of the Problem Solving Confidence scale. As this scale included both status and change scales, internal consistency was calculated separately for both sets of items. For the initial item pool (all 16 items), both the status ($\alpha = .91$) and change scales ($\alpha = .92$) exhibited excellent internal consistency. Final eight-item versions of the scales were also internally consistent ($\alpha = .85$ status and $\alpha = .87$ change). For descriptive statistics of the scale scores, see Table 1.

Table 1

*Descriptive Statistics for Problem Solving Confidence and Problem Solving Skills Scales*

|  | Mean | Std. Deviation | N |
| --- | --- | --- | --- |
| Problem Solving Confidence Status | 4.74 | .98 | 204 |
| Problem Solving Confidence Change | 4.39 | .92 | 199 |
| Problem Solving Skills Subscale | 3.19 | .83 | 178 |
| Age | 13.54 | 1.95 | 212 |

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The final version of the status scale was positively and significantly correlated with the Problem Solving Skills Scale of the SPSI-A ($r = .60$, $p < .001$) exhibiting good criterion related evidence of validity. As can be seen from Table 2, the correlations are as hypothesized. Problem Solving Confidence status is most highly correlated with the Problem Solving Skills Subscale, and Problem Solving Confidence status is also correlated (significantly and meaningfully) with Problem Solving Confidence change. Problem Solving Confidence change was also correlated with the validity measures as expected. Problem Solving Confidence status was correlated with as hypothesized with age, indicating that problem solving skills may be higher in older youth. This finding is consistent with current literature on problem solving appraisals (e.g., Heppner et al., 2004).

Table 2

*Correlations for Cross-structure Analysis (Criterion Validity) for Problem Solving Confidence*

| | | Problem Solving Confidence Status | Problem Solving Skills Subscale | Age |
|---|---|---|---|---|
| Problem Solving Confidence Change | Pearson Correlation | .588** | .498** | .090 |
| | N | 194 | 168 | 199 |
| Problem Solving Confidence Status | Pearson Correlation | | .599** | .188** |
| | N | | 172 | 204 |
| Problem Solving Skills Subscale | Pearson Correlation | | | .094 |
| | N | | | 178 |

**Correlation is significant at the 0.01 level (2-tailed).

Note: missing data were removed pair-wise from these correlations, thus N varies by analysis

Given the disproportionate number of females in the sample, three independent samples *t*-tests were used to assess the possible differences between male and female campers on the status and change measure of Problem Solving Confidence as well as the Problem Solving Skills Scale. None of these t-tests showed any difference by the camper's reported sex ($p > .10$).

A total of 336 participants from three camps completed the pilot version of the Camp Connectedness Scale. The sample was 67 % female with an average age of 11.1 years. After examining item performance including the items' response distribution and the psychometric analyses, the best two items per domain were retained for the final version of the Camp Connectedness scale. Both the initial item pool total (24-item $\alpha = .93$) and the final scale (12-item $\alpha = .87$) were internally consistent. For descriptive statistics of the scale scores, see Table 3.

Table 3

*Descriptive Statistics for Scales Camp Connectedness and Related Measures*

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Camp Connectedness | 304 | 5.15 | .78 |
| School Connectedness | 324 | 4.32 | .66 |
| Perceived Competence | 314 | 4.10 | .76 |
| Responsibility | 317 | 4.13 | .89 |
| Age | 335 | 11.14 | 1.8 |
| Valid N (listwise) | 269 | | |

The final scale was positively and significantly correlated with the adapted School Connectedness scale ($r = .69$, $p < .001$), the Perceived Competence scale ($r = .47$, $p < .001$), the Personal Responsibility scale ($r = .46$,

p < .001), and uncorrelated with age (p > .05). Both direction and relative magnitude of all correlations were as hypothesized, providing good criterion related evidence of validity. For criterion related evidence of validity correlations, see Table 4. Item stems for both Problem Solving Confidence and Camp Connectedness can be found in the Appendix.

Table 4
*Correlations for Cross-structure Analysis (Criterion Validity) for Camp Connectedness*

|  |  | Responsibility | Perceived Competence | School Connectedness | Camp Connectedness (Long form) |
|---|---|---|---|---|---|
| Age | Correlation | -.201** | -.319** | -.057 | -.087 |
|  | N | 313 | 311 | 322 | 301 |
| Responsibility | Correlation |  | .757** | .411** | .464** |
|  | N |  | 302 | 305 | 285 |
| Perceived Competence | Correlation |  |  | .411** | .469** |
|  | N |  |  | 303 | 284 |
| School Connectedness | Correlation |  |  |  | .694** |
|  | N |  |  |  | 298 |

**Correlation is significant at the 0.001 level (2-tailed).
Note: missing data were removed pair-wise from these correlations, thus N varies by analysis

## Discussion

Both scales, Problem Solving Confidence and Camp Connectedness, performed well and exhibited good evidence of reliability and criterion validity; therefore both scales represent effective tools for camp administrators. Scales specifically designed for use in structured recreational settings are critical as summer camps and youth programs further embrace programming for positive youth development and seek to document the outcomes of program participation. Furthermore, large-scale efforts, such as the funding and development of the ACA's Youth Outcomes Battery, have the potential to reshape and legitimize outdoor education to broader audiences by documenting positive youth outcomes.

**The ACA Youth Outcomes Battery**

The ACA Youth Outcomes Battery offers a promising resource for a diverse set of stakeholders in an applied setting and its effective use can assist camps in their effort to design high quality developmental experiences for youth. For example, many camp directors need to communicate camp outcomes and impacts to funders and parents. Camp programmers, on the other hand, need insight into which practices are more effective. Outcomes measures such as the Problem Solving and Camp Connectedness measures, offer a way to document the results of an intentional focus on specific aspects of a camp program and their targeted camper outcomes. The ideals of (a) practices based on evidence and (b) programming for camp quality are being widely embraced by a number of youth-serving agencies (e.g., The Forum for Youth Investment, United Way) and, through camp-specific outcomes measures such as those described here, the ACA is well positioned to influence such practices in camp. In fact, the ACA now includes outcomes assessment in the ACA Accreditation Process, evidence of the increasing centrality of outcomes assessment in youth programs (ACA, 2007b).

With the addition of the Problem Solving and Camp Connectedness measures, the ACA Youth Outcomes Battery now consists of 10 different outcomes: (a) Friendship Skills, (b) Responsibility, (c) Independence, (d) Family Citizenship, (e) Teamwork, (f) Competence, (g) Affinity for Exploration, (h) Affinity for Nature, (i)

Problem Solving Confidence, and (j) Camp Connectedness (Ellis & Sibthorp, 2006; Sibthorp, 2008). Camps and other programs for youth can select the applicable and targeted outcomes for their programs and compile a single questionnaire with a single set of instructions and consistent layout and appearance. Along with administrative assistance, ACA also supplies data entry templates that assist in data analysis. Together, these resources allow a unique and customizable approach to the assessment of youth outcomes in a program setting.

The design and implementation of camp programs is a process ideally-situated to benefit from outcomes assessment. For instance, if a camp's leadership team wants to intentionally focus on a particular outcome, they first need to prepare their staff with appropriate training and support that increases the likeliness of improvement in that outcome. After examining the results, they may find that their approach has worked fine. The results from the outcomes measures reinforce their intentional efforts and provide positive feedback to staff related to their jobs. If the results are not as were expected, the camp leadership team can work with the staff to determine if their training needs a different approach, or perhaps the staff may need new implementation strategies or resources. The outcomes results may also bolster the camp's marketing efforts. The information can be shared with parents as evidence of the potential impact of the camp experience on the development of their child. Camp directors may also provide outcomes' results to funders and board members as evidence of their efforts or perhaps to suggest new directions for programs, clientele, or budget needs. Lastly, non-profit camps that receive United Way funding or money from similar agencies must typically provide evidence of program effectiveness related to goals and outcomes. The ACA Youth Outcomes Battery can be a valuable resource for these camps because measures such as the Problem Solving and Camp Connectedness scale have evidence of reliability and validity and are fairly easy to use. The outcomes measures offer a particularly useful resource to non-profit camps that may be associated with year around youth programs (e.g., Scouts, 4-H, afterschool programs). These types of non-profit youth organizations such can use measures from the Outcomes Battery across all of their youth programs, thus extending the benefits of outcomes assessment beyond the camp setting.

## Implications for Positive Youth Development at Camp

In addition to the development of two psychometrically sound scales, the data collected through the process described here support several other phenomena related to youth development at camp. First, based on the retrospective change scores, camps may be viable venues for youth to learn about and develop confidence in problem solving. Second, camp appears to be well situated to inspire and instill a sense of interpersonal connectedness in campers. Third, a sense of camp connectedness appears related to other, broader, developmental outcomes. Specifically, campers reporting higher levels of camp connectedness also reported greater increases in both a sense of personal responsibility and in perceived competence. Thus, instilling a sense of connection and connectedness with camp, long endorsed and advocated as a strength of organized camping, may be a key mechanism driving development and personal growth among campers. This premise is entirely consistent with the broader literature on the importance of school connectedness in youth (McNeely & Falci, 2004; Wilson, 2004; Battistich et al., 2004).

The findings of this study related to camp connectedness specifically reveal that camps and other structured recreation programs might effectively instill a sense of belonging, allow opportunities for voice, foster positive peer relationship, and provide a safe and supportive environment for youth. These findings are entirely consistent with previous research in camps (ACA, 2005; Marsh, 1999; Mishna et al., 2001; Readdick & Schaller, 2005; Yuen, Pedlar, & Mannell, 2005), schools (Battistich et al., 2004; You et al., 2008), and other out-of-school-time programs that specifically target youth development outcomes (Eccles & Gootman, 2005; Roth & Brooks-Gunn, 2003). Studies in these settings further provide evidence that program outcomes, such as problem solving and connectedness, are related to short- and long-term benefits. For example, Battistich, Solomon, and Watson (1998) found that students who felt connected to others in school also displayed growth in variables related to overall social and ethical well-being. Battistich and his colleagues (2000) also linked students' sense of connectedness at school to decreased problem behaviors such as drug use. Programs that promote problem solving confidence in young people are likewise shown to contribute to a multitude

of psychological and social outcomes in young people (Heppner et al., 2004), and problem solving, like connectedness, is viewed as a critical aspect of positive youth development (e.g., Pittman et al., 2003).

**Study Limitations and Conclusion**

This study has several key limitations.  All the measured data were self-reports.  Notably, the criterion-related evidence of validity is based on a fundamental assumption that the participants provided accurate and truthful self-reports.  While all data were anonymous, thus leaving little reason for respondents to intentionally deceive, it is still likely that a number of the participant's self-perceptions were inaccurate. The data were provided by a group of volunteer camps, which may not be representative of a wider camp population.  In addition, one of the camps assisting with the data collection was an all-girls camp, thus the sample included more female campers than a typical summer camp population.

Despite these limitations, we believe the development of youth outcome battery suitable for use by practitioners in camps and other informal learning settings targeting positive youth development is critical to positioning these programs as invaluable.  Specifically, we believe that measures of Problem Solving Confidence and Camp Connectedness offer new and important options for practitioners. As both of these scales were identified by camp practitioners as necessary and important to camps for outcome documentation and to assess camp practices, having usable and available measures should enhance camp administrators' ability to better evaluate existing programs. These measures may also contribute to the design and implementation of camp and outdoor programs that more effectively target and develop critical areas of positive youth development within a systematic quality improvement focus advocated by ACA and external parties over the last decade (ACA, 2007a).

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**Appendix**

| Problem Solving Confidence Item Stems |
| --- |
| When I have a problem I know the source |
| When I have a problem I look for the things that might be causing it |
| When I have a problem I stop and think about options before making a decision |
| When I have a problem I think of different ideas and combine some to make the best decision |
| When I have a problem I choose a realistic plan |
| When I have a problem I make good choices about what to do |
| After dealing with a problem I check to see if the problem has gotten better |
| After dealing with a problem I consider how it worked out |
| **Camp Connectedness Item Stems** |
| The staff listen to me |
| I am treated fairly by staff |
| I am happy |
| I have a good time |
| I get to make decisions |
| I make choices that make a difference |
| I like the other kids |
| Other campers respect me |
| People are interested in me |
| I feel like I belong |
| I feel safe to express myself |
| I am respected for who I am |

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