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Does 4-H Camp Influence Life Skill and Leadership Development?

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Does 4-H Camp Influence Life Skill and Leadership Development?

Abstract

WV conducted a two-phase study involving over 2,000 campers to learn how 4-H camp affects life skills and leadership development. Camp is at the heart of many states' 4-H programs; however, there is limited research to document the impact. Fifteen counties with 28 individual camps participated in the study, which measured (1) camp experience, (2) targeted Life Skills, and (3) leadership skills. The study found that 4-H experiential learning activities at camp positively affect campers' life skills and leadership skills. Results should be used to guide the future measurement of 4 H camp impact and to strengthen camping curriculums.

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Background

Former 4-H'ers hold dear for a lifetime their wonderful summer camp experiences. This love of 4-H camp has resulted in a rich 75-year history of West Virginia camping. Many resources have been invested, including hours of volunteer time, to create this positive experiential learning environment in county or multi-county 4-H camps. Better measurement of the 4-H camping program's impact is crucial in helping "decision makers" make wise decisions about resource distribution.

The Targeted Life Skills model (Hendricks, 1998) has been an important guide to plan, implement, and evaluate 4-H youth development programs. This model is a holistic youth development approach as called on by many in the field (Pittman, 2002; Barkman & Machtmes, 2002; CYFAR Philosophy (Wright & Bersamin, 2004); Scales, 1996). 4-H based studies using Targeted Life Skills found that participation in 4-H activities was positively related to youths' life skill development (Smith, Genry, & Ketring, 2005; Ferrari, Hogue, & Scheer, 2004; Boleman, Cummings, Briers, & 2004; Fox, Schroeder, & Lodl, 2003; Ward 1996.)

Several studies have assessed 4-H Programs using the Targeted Life Skills model, but few have studied the life skills and leadership taught through 4-H camps. Building on the model, WVU Extension Educators did an extensive study of the WV 4-H camping program. A comprehensive report, *Research Findings on Evaluations of Positive Youth Development Programs* (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002) concluded that a "wide range of positive youth development approaches can result in positive youth behavior outcomes and the prevention of youths' problem behaviors." The study tested whether 4 H youths gained positive life skills and

leadership skills through the camping programs experiential learning environment.

Camping Program Description

The camps studied were between 4 and 5 days long, with campers ranging in age from 9-19. Camps varied widely as to program content and theme; however, several basic elements were present in each camp: classes, assembly programs, four experiential youth-led learning groups, and an evening campfire program. Campers belong to the same group year after year and may move up to leadership positions. These groups functioned as teams to complete daily camp maintenance responsibilities, to participate in team recreation, and to prepare for the evening campfire program. The groups met daily to plan and organize activities. The planning was done with a minimum of adult intervention.

Research Question

Do 4-H campers learn life skills and leadership skills as a result of their participation in a week of 4-H camp?

Methodology

In the summer of 2002, a team of county Extension agents, in collaboration with researchers at West Virginia University Extension Service, conducted a survey in eight WV county resident 4-H camping programs. In 2003, a slightly revised survey was conducted in 28 WV county resident 4 H camps. The results for both studies were very similar. The 2003 study is reported here.

Instrument

The survey measured four areas: (1) overall camp experience; (2) targeted life skills; (3) retrospective pre-testing of leadership skills; and (4) camper demographics. This article focuses on life skills and leadership learned among participating campers. The life skills questions selected were drawn from the Iowa Life Skills (Hendricks, 2001) sample survey project and related to a camping environment. The validity of the life skill model was demonstrated in 2002 (Bailey & Deen, 2002).

Two age-appropriate surveys were developed for both older (ages 12 -21) and younger campers (ages 8-13). The instruments were piloted in 2001 by Miltenberger. The questions were organized around nine life skill categories:

- Learning to Learn
- Decision Making
- Wise Use of Resources
- Responsible Citizenship
- Communication
- Accepting Differences
- Leadership
- Marketable Skills
- Healthy Lifestyles

A retrospective pre/post set of questions was used to measure perceived gains in leadership skills among older campers. These skills were:

- Working well with others,
- Working as a member of a team
- Leading a group or team,
- Taking charge of an activity,
- Knowing how to prepare and lead an activity,
- Sharing leadership with others, and
- Knowing my responsibilities as a leader.

The research was conducted with WVU Institutional Review Board (IRB) approval, which included parental consent letters for minors and assent letters from youth.

Target Audience

The target audience for the 2003 survey was campers in 15 West Virginia counties. There were a total of 1,541 valid surveys (62.34%) returned--729 older campers (ages 12-21) and 812 younger campers (8-13).

Procedure

Extension agents followed outlined IRB procedures for obtaining consent forms and in the administration of the survey on the last day of each camp. Campers were asked to complete the surveys themselves, and they were assured that responses would be confidential.

Older campers completed a simple retrospective post-test and ranked themselves on a four-point Likert scale on 22 life skill questions. Younger campers ranked themselves on a three-point Likert scale on 10 life skill questions. Older campers also completed a set of retrospective post/pre questions on changes in confidence about leadership and teamwork as a result of participation in 4-H camp. The retrospective post/pre questions were only used with the older campers because it has been shown that this method is not valid for those younger than 12 years old.

Data was coded and entered into Microsoft Excel spreadsheets. SPSS 10.0 was used for the statistical analysis of the Likert Scale responses to the life skill measures. Descriptive statistics were used to summarize data. Frequencies, percentages, central tendency measures, and variability were used to describe the data. For the retrospective post/pre questions, a Wilcoxon Signed Ranks Test was used to show significance in positive ranking. A paired sample t-test was used to determine if there were significant differences between responses. Research team members participated in group analysis sessions to develop conclusions and implications. The principal investigator refined (with a smaller group of team members) the conclusions, implications, and relationship to the current literature.

Research Findings

Demographics

Approximately 60% of campers in both older and younger camps were female. Most participants were White/Caucasian; however, participants represented a variety of ethnic backgrounds, which was more than representative of the state's minority populations. The relatively high percentage of Native American responses for younger campers may have been due to youths misunderstanding the ethnic term "Native American."

Table 1.
Demographics of Participants--Sex and Ethnicity

	2003 4-H Camps for Older Participants	2003 4-H Camps for Younger Participants
Total Participants	729	812
Sex	Percent	Percent
Female	65.4	62.1
Male	32.4	36.6
Ethnicity		
Native American	2.1	11.8
Asian American	.3	.9
African American	1.2	2.6
White/Caucasian	90.5	76.5
Hispanic	1.4	1.1
Racially Mixed	2.6	5.0
Missing	1.9	2.1

The majority of older 4-H campers were between the ages of 14 and 16 years, while younger campers were between the ages of 8 and 10 years. Over 50% of older campers had been in 4-H camp for 5 or more years, and 5.9% were first-time campers. Camps with younger campers had over 40% of participants who were attending 4-H camp for the first time.

Table 2.
Demographics of Participants--Age and Years in Camp

	2003 4-H Camps for Older Participants	2003 4-H Camps for Younger Participants
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Age	Percent	Percent
8-10 years	0.3	47.0
11-13 years	29.3	23.5
14-16 years	49.6	0.6
17-19 years	16	0.0
Other	2	0.0
Missing	2.7	2.1
Years in Camp	Percent	Percent
First Time	5.9	43.0
1-2 years	9.5	27.6
3-4 years	24.0	22.8
5-6 years	24.5	4.3
Over 6 years	43.2	.6
Missing	1.9	1.7

Change in Life Skills As A Result of Camp

Older Campers Life Skills

Older campers ranked themselves on a four-point Likert scale about what they learned related to 22 life skill questions. The scale was defined a 1 = No Never, 2 = Not Often, 3 = Usually, and 4 = Yes Always.

Table 3.
2003 Life Skills Learned during 4-H Camp--Older Campers

Life Skills		
<i>During 4-H Camp I Learned:</i>	Mean	SD
Learning to learn		
1. To be more interested in learning	3.22	.618
Decision Making		
2. To consider the consequences of the decisions I make	3.39	.632
3. To evaluate the decisions I made to see if they worked	3.20	.683
Wise use of Resources		
4. Importance of protecting the natural environment	3.40	.668
5. Ways I can help improve the environment	3.23	.750
Responsible Citizenship		
6. To respect the rights and property of others	3.70	.520
7. To be responsible for my own actions	3.73	.504
8. To consider how my actions affect others	3.56	.601
Communication		
9. To listen carefully to what others say	3.54	.593
10. To clearly say what I feel, and express my ideas and thoughts to others	3.35	.719
Accepting Differences		
11. To accept opinions different than mine	3.54	.561
12. To value the contributions of others	3.57	.563
13. To make friends with people different than myself	3.69	.524
Leadership		

14. To know the responsibilities of being a leader	3.52	.630
15. To involve others in sharing leadership responsibilities	3.52	.610
16. To help others reach their goals	3.47	.640
Marketable Skills		
17. To solve problems that occur in my life	3.44	.662
18. To be a member of a team.	3.64	.537
19. To accept responsibility for doing a job	3.67	.513
Healthy Lifestyle		
20. To live a healthy lifestyle	3.48	.651
21. Have control over event's in my life	3.55	.580
22. To avoid risky behaviors	3.36	.679
Source for Life Skill Items: Iowa State University 4-H Youth Program, Patricia Hendricks.		

The 22 life skills were analyzed individually to reveal mean values and standard deviations. The mean values for all life skills measured were above 3.2, indicating that most respondents felt that they "usually" or "always" learned this life skill. The highest mean for a cluster was in Responsible Citizenship, with a mean of 3.66. The lowest mean rating was for "Learning to Learn" at 3.22. The rank-order of the top mean scores was as shown in Table 4.

Table 4.
Older Campers' Top Mean Response Ratings for 2003

	2003	2003
<i>During 4-H Camp I Learned:</i>	Mean	SD
Citizenship: To be responsible for my own actions	3.73	.504
Citizenship: To respect the rights and property of others	3.70	.520
Accepting Differences: To make friends with people who are different from me	3.69	.524
Marketable Skill: To accept responsibility for doing a job	3.67	.537
Marketable Skill: To contribute as a member of a team	3.64	.513

Younger Camp Life Skills

Younger campers ranked themselves on a three-point Likert scale about what they learned related to 10 life skill questions. The scale was defined a 1 = No, 2 = Somewhat, 3 = Yes.

Table 5.
2003 Life Skills Learned During 4-H Camp - Younger Campers

Life Skill		
<i>During 4-H Camp I Learned:</i>	Mean	SD
Life Skill – Learning to learn		
1. To be more interested in learning	2.31	.654
Life Skill – Wise use of resources		
2. Ways I can help improve the earth	2.40	.726
Life Skill – Responsible Citizenship		
3. To respect the other campers	2.81	.454
4. To consider how my actions affect others	2.58	.630
Life Skill – Communication		
5. To listen carefully to what others say	2.73	.525
Life Skill – Accepting Differences		
6. To accept ideas different than mine	2.69	.560
7. To make friends with people different than myself	2.82	.450
Life Skill – Leadership		

8. To participate as a member of a team	2.79	.491
Life Skill — Healthy Lifestyle		
9. To live a healthy lifestyle	2.61	.630
10. To never use illegal drugs or alcohol	2.67	.666
Source for Life Skill Items: Iowa State University 4-H Youth Program, Patricia Hendricks		

The 10 life skills were analyzed individually to reveal mean values and standard deviations. The means for each life skill measured were all above 2.31, indicating that most respondents felt that "yes" they learned these life skills. The highest mean for a cluster was in accepting differences with a mean of 2.76. Like the older camper study, the lowest mean rating was for learning to learn each year. The rank-order of the top mean scores is shown in the table below

Table 6.
Younger Camper's Top Mean Response Ratings for 2003

	2003
<i>During 4-H Camp I Learned:</i>	Mean
Accepting differences: To make friends with people who are different from me	2.82
Citizenship: To respect the rights and property of others	2.81
Leadership: To participate as a member of a team	2.79
Communication: To listen carefully to what others say	2.73

Changes in Leadership and Teamwork Skills

Each camper completed a set of retrospective post/pre questions on changes in confidence about leadership and teamwork as a result of participation in 4-H camp. First they rated themselves on their level of confidence after being in camp. Next they rated themselves on their confidence level before 4-H camp. A paired sample t-test was used to determine if there were significant differences between responses.

Table 7.
2003 Retrospective Pre-testing--Older Campers

		Mean	Std. Deviation	Std. Error Mean	T	df
Pair 1	I work well with others	.19	.575	.021	8.999*	721
Pair 2	I am able to work as a member of a team	.25	.588	.022	11.65*	721
Pair 3	I can lead a group or team	.36	.689	.026	14.88*	721
Pair 4	I can take charge of an activity	.33	.743	.028	11.885*	718
Pair 5	I know how to prepare to lead an activity	.33	.719	.027	12.479*	720
Pair 6	I am able to share leadership with others	.29	.640	.024	11.981*	720
Pair 7	I know what my responsibilities are as a leader	.31	.657	.025	12.613*	721
Note: Mean - the average difference between the individual post/pre means, df — degrees of freedom which means one less than the total number of completed responses. P=<.02.						

Retrospective pre-test questions show that there were significant gains among older campers in all of the seven areas measured:

- Working well with others,
- Working as a member of a team
- Leading a group or team,

- Taking charge of an activity,
- How to prepare and lead an activity,
- Sharing leadership with others, and
- Knowing my responsibilities as a leader.

The Wilcoxon Signed Ranks Test was used to determine if there was a significant increase in the number of campers who indicated an improvement in their leadership skills as compared to those who indicated a decrease in their leadership skills. Those who tied or gave the same answer on each question are treated separately. The result was that all of the Z scores from the Wilcoxon Signed Rank Test were significant. This indicates that significantly more campers rank their skill higher after having gone through camp.

Some of the leadership questions were concerned with activities that are more assertive than others (i.e. leading, taking charge, and preparing to lead). The less assertive leadership questions dealt with group work (working with others, working in a team, sharing leadership, and knowing or learning something new). It is important to note that the percentage of respondents who indicated that they improved their "assertive" leadership skills was higher than the percentage of respondents who indicated that they improved their "group work" leadership skills.

Table 8.
Wilcoxon Signed Ranks Test Ranks

		N	Mean Rank	Sum of Ranks
Before camp . . . I work well with others.--After camp . . . I work well with others.	Negative Ranks*	157	98.51	15466.50
	Positive Ranks**	36	90.40	3254.50
	Ties***	529		
	Total	722		
Before camp . . . I am able to work as a member of a team.--After camp . . . I am able to work as a member of a team.	Negative Ranks*	173	99.26	17172.00
	Positive Ranks**	21	83.00	1743.00
	Ties***	528		
	Total	722		
Before camp . . . I can lead a group or team.--After camp . . . I can lead a group or team.	Negative Ranks*	239	137.04	32752.50
	Positive Ranks**	29	113.57	3293.50
	Ties***	451		
	Total	719		
Before camp . . . I can take charge of an activity.--After camp . . . I can take charge of an activity.	Negative Ranks*	220	132.05	29052.00
	Positive Ranks**	38	114.71	4359.00
	Ties***	463		
	Total	721		
Before camp . . . I know how to prepare to lead an activity.--After camp . . . I know how to prepare to lead an activity.	Negative Ranks*	234	140.16	32797.50
	Positive Ranks**	41	125.67	5152.50
	Ties***	446		
	Total	721		
Before camp . . . I am able to share leadership with others.--After camp . . . I am able to share leadership with others.	Negative Ranks*	208	123.30	25646.50
	Positive Ranks**	34	110.49	3756.50
	Ties***	480		
	Total	722		
Before camp . . . I know what my responsibilities as a leader are.--After camp . . . I know what my responsibilities as a leader are.	Negative Ranks*	207	121.23	25095.00
	Positive Ranks**	29	99.00	2871.00
	Ties***	482		
	Total	718		
*Negative Ranks = Before camp<After camp **Positive Ranks = Before camp>After camp ***Ties = Before camp=After camp				

Table 9.
Test Statistics (Wilcoxon Signed Ranks Test)

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	Z Asymp. Sig (2- tailed)
I work well with others.	-8.688*
I am able to work as a member of a team	-10.706*
I can lead a group or team.	-12.458*
I can take charge of an activity.	-10.945*
I know how to prepare to lead an activity.	-11.262*
I am able to share leadership with others.	-11.018*
Before camp...I know what my responsibilities as a leader are.	-11.448*
*p<.02	

Limitations and Critique of the Assessment

The reliance on self-reporting to measure change may not be the most accurate method of gathering reliable information. The evaluations were conducted during the last day of 4-H camp. Youth are usually feeling great about camp at this time, so they may over-estimate skills learned.

There has been no attempt to link the life skill or leadership development with specific curricula or with particular design elements in the camps surveyed, so generalization to other kinds of educational activities is difficult. This linking with specific elements of camp would also enhance our abilities to improve the camping experience. In addition, the life skill and leadership instruments need to be more rigorously tested and the results confirmed using other methods of evaluation.

Conclusions

4-H camp activities appear to positively affect the life skills of campers. The life skills leadership measures and the retrospective leadership questions both showed positive gains by campers. The Wilcoxon Signed Ranks test showed significant changes in all seven items related to leadership development, especially in those activities deemed assertive leadership activities. The team building design, which creates opportunities to develop and practice leadership skills and life skills, is consistent among all WV camps.

Life skill findings for both age groups in two different years were very similar. Results show that for both age groups the 4-H camping program has the strongest positive impacts with "getting along" — responsible citizenship and accepting differences. The overall goals of West Virginia 4-H residence camps include fostering these life skills. This study indicates that in these camps the program design is working well.

The highest mean scores for older campers both years were for responsible citizenship, accepting differences, and the marketable skills of accepting responsibility and contributing as a member of a team. Camp creates opportunities for responsibility and for teamwork, while at the same time older youths are developmentally ready to build these skills.

Younger campers learned the most about accepting differences, responsible citizenship, leadership, and communication during 4-H camp. The high means for these areas indicate that younger campers learn life skills during camp, especially in these four developmental areas. It makes sense that "listening carefully" was a higher score because listening is critical to a young camper, especially first year campers, who made up 40% of campers in both years.

Interestingly, one of the lowest mean scores for both age groups was for the question "to be more interested in learning." Although youths recognize they have interest in learning at 4-H camp, it is clear that they see other skills being developed more. This learning environment may be so different from other programs that they do not see how the camp experience might transfer to education and learning.

A significant finding each year and for both age groups was in accepting differences, "to make friends with people who are different from me." No matter how diversity is defined, the skills needed in accepting and in appreciating differences are important and are being taught at camp.

The combination of this finding with the similar responsible citizenship results means that campers are learning to "get along." These skills are powerful tools for success in the workplace, family and global society.

Relationship to the Current Literature

The findings are supported by the existing literature.

In 2005, the American Camp Association published a comprehensive evaluation of camps that measured change in four main areas: positive identity, social skills, physical and thinking skills, and positive values and spirituality. Two of the main findings that were similar to this study showed that children developed more social skills to help them make friends and that they became more independent and showed more leadership qualities.

A Virginia study reported measuring camping outcomes across the state using a standardized measuring tool (Garst & Bruce, 2003). It used many of the same references that the current study employed. Findings in camps across Virginia paralleled those of the WV study. Ten questions on the survey asked campers to identify whether or not participating in 4-H camp had helped them acquire life skills on a scale of 1-4, where 1= "helped me very little" and 4= "helped me very much." The campers indicated that 4-H camp participation helped them most in making new friends (3.34), developing new skills (3.25), and becoming more independent and able to take care of themselves (3.06).

Another attempt at measuring life skills was reported by Bailey and Deen (2002). They document the development of a Web-based evaluation system in Washington State Extension. This instrument was also based upon work by Hendricks (1998). This instrument was limited to youth in 6th grade or older. The study demonstrated that a general instrument could be developed that allows program staff to select a subset of indicators appropriate for specific programs. This supports a recommendation of this study to use the life skill survey components interchangeably depending upon the camp's goals for the week.

Implications for Extension

- Results should be used to guide the future measurement of 4-H camp impact and to strengthen camping curriculums.
- Camping curriculums focused on specific life skills and/or leadership development should be developed that could be interchanged in different camp years.
- In a comprehensive 4-H program, 4-H camp should be considered one of the primary experiential learning environments to support the development of life skills in citizenship and accepting differences.
- Utilization of standardized measurers among states would provide a wealth of new information as well as more support that 4-H makes a difference!

Recommendations for Research

The 4-H camp experiential learning program seems to be creating a special environment where youth build skills that support responsible citizenship and accepting differences. Both of these factors are valuable skills for the workplace and families. Further study is needed to learn what aspects of camp support this learning.

It seems prudent to re-evaluate the tool used in this study in light of the standardized tool used by Virginia as well as the tool used by the American Camp Association in 2005. Additional efforts might be made to link the tool more specifically to the Essential Elements of Youth Development (Kress, 2004). This effort is currently being furthered by the National Camping Research Consortium.

Extension agents spend a great deal of time conducting educational experiences beyond camp--workshops, fairs, judging activities, etc. A quantitative review of different program areas would help to better understand what life skills are being developed through the 4-H program and could lead to stronger programs and better use of Extension resources.

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