
Gendered Wilderness: The Effect of Outdoor Education on Girls' and Boys' Self-Concept

Alicia Leupp

Abstract

This research seeks to determine the effect of outdoor education programs on the self-concept of girls compared with boys. Using a case study analysis of the Camp Putah program run by the city of Davis, California, the project utilizes program evaluations and self-assessments of growth to determine which gender has the greatest potential to experience positive change as a result of participation. While this topic is currently very much in debate, this project concludes that, while both boys and girls have equally positive experiences, female participants overall demonstrate a greater degree of change in self-concept. In that outdoor education programs allow girls to enter a traditionally male sphere and to “perform gender” in a more androgynous mode, they have a greater potential to impact the self-concept of females. The ultimate aim of this research is to identify ways in which coordinators of outdoor education programs can adjust and improve programmatic components to meet equally the needs of female and male participants.

Introduction

In August 2006 I completed my first summer working as an outdoor education guide. Having worked with over fifty kids throughout my five weeks of programs, it was with significant emotion that I pulled into the city parking lot and said good-bye to my last bunch of campers. As I watched participants one by one get picked up by their parents, it was clear to me that each of them had changed in some way or another: many of the girls were more confident, some boys were more cooperative, and numerous teens of both genders had come out of their shells. Reflecting on these changes, some of which were very pronounced, led me to wondering whether participants of one gender had benefited more than the other from the program.

What is the effect of outdoor education programs on the self-concept of girls compared with boys? This research project grew from my desire to answer the question that a summer of working as a guide could not. Using a case study analysis to make assessments about trends within the outdoor education industry as a whole, I decided to focus on middle-class, teenage, voluntary participants and their experiences in a California city-run outdoor education program. In using program evaluations and self-assessments of growth, I sought to determine the divergent and convergent impacts of wilderness on girls and boys and to draw conclusions about which gender ultimately benefits the most from outdoor education programs.

I originally hypothesized that boys would show a more marked improvement in their self-concept. However, after gathering and analyzing results of surveys and conducting interviews with participants, I quickly found the opposite to be true. While female and male participants evaluated the overall quality of their experience in the program equally, a closer examination of indicators of improved self-concept showed that female participants reported a higher level of change. Consequently, I argue that, while outdoor education programs are a positive experience for both boys and girls, they have a greater potential to positively impact female participants, in that they allow girls to enter a traditionally male sphere and perform gender in an androgynous mode.

Wilderness and Self-Concept

Broadly speaking, outdoor education can be defined as a type of programming that engages students in adventurous and environmental activities in the outdoors. Within the industry, outdoor education programs vary in both their purpose and design, generally falling into one of four classifications: recreational, educational, developmental, and therapeutic. Recreational programs aim to change the way people feel. The purpose is leisure, fun and enjoyment. In contrast, educational programs aim to change the way people feel and think. Here, educators strive to teach skills and information. While still working on some level towards the goals of the other two, developmental programs work to help their participants achieve personal growth. Finally, therapeutic programs aim to change the way that people behave.¹ As a consequence of these varying aims, programs take a range of forms, including residential camps, adventure expeditions, science explorations, environmental education, service oriented programs, and spiritual or religious retreats. Though different, each revolves around the fundamental goal of using the experiences in the wild in developing the self.

As a field, outdoor education is by design an experimental method of learning that uses all of the senses and takes place, as Simon Priest writes, “primarily, but not exclusively, through exposure to the natural environment.”² In addition to providing a unique set of challenges and obstacles, in removing participants from their usual surroundings and immersing them in the wild, outdoor education aims to achieve both psychosocial and environmental goals. The serenity of the natural environment is combined with both physically and mentally stimulating activities and games that provide a new means of gaining

and evaluating social worth. Ultimately, outdoor education programs use experiences in the wilderness to help a participant develop not just his or her athletic, intellectual, or spiritual capacities, but his or her fundamental concept of self.

Self-concept, also referred to as self-identity, can be defined as the mental and conceptual awareness that one holds with regard to his or her own being, including physical, psychological and social attributes. According to psychologists, one's successes and failures in life are closely related to the way that individuals learn to view themselves and their relationships with others. In that self-concept is learned, organized, and dynamic, it is shaped and reshaped through experiences and exists as a social product with boundless potential for development and actualization. Outdoor education programs, which remove participants from the setting of daily life and provide an alternative set of experiences, thus become the perfect backdrop against which to enact change.³

While outdoor education often includes science education or recreational instruction, it is largely through the power of wilderness experiences that programs aim to impact participants' self-view. As James Neill writes, a socio-cultural history of outdoor education suggests that "Outdoor education emerged as a semi-ritualized form of encounter with nature since Western consciousness moved indoors."⁴ In his 1984 *The Biophilia Hypothesis*, Edward Wilson asserts, "Humanity is exalted not because we are so far above other living creatures, but because knowing them well elevates the very concept of life."⁵ Wilson argues that the intricacies of nature are deeply intertwined with human evolution; humans still have an affinity with nature ingrained in our genotype. It is through connection with this "ingrained" affinity that outdoor education programs aim to improve the self. Likewise, early American outdoorsman such as Henry David Thoreau, Ralph Waldo Emerson, and later John Muir repeatedly wrote about the healing power of nature. In *Our National Parks*, Muir calls wilderness "a necessity"⁶ and in *Nature*, Emerson refers to it as man's "daily food."⁷ It is through fulfilling part of this need and giving participants an alternative set of experiences through which to measure social worth that outdoor education seeks to improve self-concept.

Research on the effects of various outdoor education programs on participants has confirmed the benefit of wilderness experience. In 2005, the American Institutes for Research conducted an evaluation that measured the impacts of week-long residential outdoor education programs on at-risk sixth graders in California. Focusing on 225 students from four elementary schools who attended three different outdoor education programs, the study used surveys filled out by participants, parents, and teachers before, immediately after, and six to ten weeks after the conclusion of the program to examine how participation impacted social and personal skills. While the surveys filled out by participants and parents did not indicate significant growth, according to the teachers' responses, students who participated in outdoor education were slightly to much more likely to show improvements in all eight constructs of social skills, including self-esteem, cooperation, conflict resolution, leadership, relationships with peers, problem solving, motivation to learn, and behavior in class.⁸ Similarly, in their 1997 meta-analysis, "Adventure Education and Outward Bound: Out-of-Class Experiences That Make a Lasting Difference," John Hattie, H.W. Marsh, and James Neill conclude that adventure programs positively impact self-esteem to a greater extent than do other types of educational programs. Most important was their discovery of long-term benefits, which included increased independence, confidence, self-efficacy, self-understanding, assertiveness, internal locus of control and decision making.⁹

While research documents the positive impacts overall of wilderness adventure programs, the role of gender in outdoor education is more difficult to assess. Part of this difficulty lies in the historical association between wilderness and masculinity. In "The Trouble with Wilderness," historian William Cronon explains that the predominant belief has been that, "in the wilderness, a man could be a real man, the rugged individual he was meant to be before civilization sapped his energy and threatened his masculinity."¹⁰ More

often than not, wilderness is seen not as a feminine space of “potential sanctuary of idealized domesticity,” as Annette Kolodny writes,¹¹ but as a space for women who resist dominant codes of femininity. Just as early American conceptions of wilderness have come under attack as being male-centric, so, too, have outdoor education programs been criticized as prioritizing masculine over feminine qualities.

The difference between the way in which men and women experience the wilderness is a topic that has generated significant discussion over the past fifty years from scholars in a number of fields, including historians, feminists, male rights activists, psychologists, and educators. Despite this interest, research on gender and outdoor education remains inconclusive. There are few up-to-date quantitative studies that focus on the differences in the experiences of boys and girls, and qualitative studies, for the most part, are designed to document the positive outcomes on girls.

Of those researching the topic, one group of feminist scholars and educators argues that gender issues within the outdoor education industry are under-addressed and that programs currently favor male participants. In her 2004 study, “Hegemonic Gender Identity and Outward Bound,” Liz Newbery, for example, claims that programs such as Outward Bound, originally designed to make “men out of boys,” have failed to adapt their curriculum to the needs of female participants and leaders,¹² and that, consequently, wilderness programming provides greater benefits for male participants. This argument is documented by at least three studies completed in the past twenty years, including one by Richards in 1987 that showed greater changes in males’ physical self-concept:

...it may be that 10 days is a sufficiently strong program for boys at adolescence with their strong physical self-concept but not for girls with their characteristically lowered physical self-concept at this age. It may be that the program is simply more suited and designed for males, and consequently is less relevant (and therefore less effective) for females than males.¹³

According to Richards’ study, outdoor education is more effective at positively impacting boys than girls as a result of program design.

In contrast, a second group of those who study and lead outdoor education programs maintains that wilderness programs impact girls and boys equally. In a meta-analysis of 97 studies focused on the effects of adventure education, J.A. Hattie found no difference in the overall size of outcomes for males and females. While it is recognized that boys may benefit more from physical challenges and girls more from emotional exploration, Hattie maintains that while programs impact genders differently, they do so equally.¹⁴ This research is consistent with at least fifteen other studies in the field; those studies that have examined personality changes in particular have not uncovered differential impacts due to gender.¹⁵

A third argument comes from researchers who claim that outdoor education has a greater impact on females. In his 1987 study, N. McIntyre found that females exhibited higher change scores despite the fact that they also started with higher scores than their male counterparts.¹⁶ According to Neill’s 1997 report, “Gender: How does it affect the outdoor education experience,” at least fifteen studies in the past twenty years have supported the claim that females have a greater change in self as a result of participation, although there is no consensus on the reasons behind this differential.¹⁷ What is clear from all these studies, no matter what their conclusions, is that gender is a significant factor in the way that individuals experience outdoor education; thus, it can no longer be naively overlooked by educators.

Having worked in the field and observed the frequency with which boys outnumbered girls as participants, as well as their tendency to show a greater willingness to take on challenges and new tasks, I originally believed that boys would show a more marked improvement in their self-concepts as a result of participation. However, my study revealed the opposite to be true: while boys and girls evaluated

their overall experience with equally positive ratings, it was girls whose self-concepts showed the most change. This finding leads to my argument that, by allowing girls to enter a traditionally male sphere and perform gender in a more androgynous mode, outdoor education has a greater potential to impact girls.

Research Approach and Methods

While using past studies for both reference and comparison, my conclusions are grounded within a case-study analysis of the city of Davis's youth outdoor education program, Camp Putah. Camp Putah is a summer residential program that offers six different week-long programs throughout the season, including Putah I, Putah II, Putah III, Extreme Adventures, Backpacking, and Girls Backpacking. In that Putah I is a day camp for primary age children, I focused my study on Putah II (a series of day adventures and an overnighter), Putah III (a five-day camping trip to various locations), Extreme Adventures (a series of "extreme" sport adventures and an overnighter), Backpacking (a four-day trip into a remote wilderness area), and Girls Backpacking (a four-day trip into the wilderness for girls only). Participants in these programs ranged in age from nine to fourteen years. All participated voluntarily, were signed up and paid for by parental guardians, and came from local middle-upper class families.

To evaluate the effect on self-concept of participation in Camp Putah, I used two methods of quantitative evaluation. First, I used program evaluations for a two-year period, tabulating and comparing the results for girls and boys; in this measure, I considered a positive program evaluation to indicate a positive change in self-concept. These evaluations, filled out by participants and their parents at the completion of the program, allowed me to test four different independent variables, including the sex of the two leaders (male/male or male/female),¹⁸ type of physical activity of the camp (moderate [Putah I and II], extreme sports [Extreme Adventures], and backpacking), mixed vs. single sex environment, and age (9-11 years, 11-12 years, 13-14 years). A total of 30 evaluations were tabulated, including 11 girls and 19 boys.

I further pursued my research question by collecting a second set of data, gathered through a self-assessment of growth. I designed this self-assessment worksheet specifically for the purposes of this research project and mailed it to all 2006 Camp Putah II, III, Backpacking and Extreme Adventures participants. The self-assessment questions elicited information about the program's effect on self-concept, which was tested according to ten different indicators: independence, sense of physical ability, peer relations, body image, self-confidence, willingness to try new activities, self-knowledge, health, self-comfort, and comfort in outdoors. Participants were asked to rate sentences such as, "After participating in Outdoor Education Camp, I feel better about my physical ability to try new things" along a spectrum of "very true" to "not true," with "very true" being 5 and "not true" being 1. Unfortunately, self-assessments yielded responses from only 5 girls and 4 boys. The low response rate was most likely because participants had to mail their responses to me some three months following their participation in the program. Making these surveys a standard part of post-trip evaluation in the future would provide further data and enhance the city of Davis' assessment of their Camp Putah program.

To supplement quantitative data, I then used written responses and interviews to add qualitative support to my findings. Two female participants were interviewed and one male participant. Additionally, the city of Davis Outdoor Education coordinator was interviewed to gain more information about the program's successes and failures.

The decision to use a case study of Camp Putah to answer my research question was grounded in multiple factors. Data on the successes and failures of programs at achieving their goals were not publicly available except through previously published studies; however, in studying a local program in which I had been previously involved, I was able to both gain access to this information and draw conclusions

that could be utilized immediately. Consequently, though the breadth of my data was limited by the number of responses I was able to obtain, its originality and utility make it worthwhile. In that the Davis program has never examined its participants' experiences according to gender, my research not only contributes to a field of discussion, but gains real potential for impact as well.

Research Findings and Arguments

While researchers argue about which gender is impacted more by the outdoor education experience, the data from the Camp Putah program showed clearly that both boys and girls regarded their overall experiences positively. On both program evaluations and self-assessments, girls and boys were nearly equal in ranking their experience positively (Figure 1).

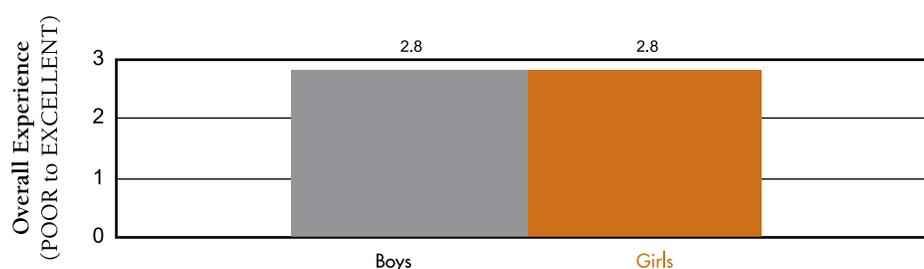


Figure 1. Average Overall Rating of Camper Experience.

On the program evaluation, boys gave Camp Putah an average overall score of 2.8 out of 3, with 1.8 as the lowest and 3 the highest. Likewise, girls gave the program an average overall score of 2.8, with 2.2 as the lowest and 3 as the highest. This data was supported by the results from the self-assessment, where all male participants responded to the statement “Overall, I think Outdoor Education Camp was a very good experience,” with a 5 out of 5 (Very True), with girls only slightly lower in their assessment, averaging 4.8 out of 5. While upholding past studies' positioning of outdoor education as a meaningful experience, these data demonstrate conclusively that, overall, Camp Putah is an equally positive program for both boys and girls.

However, while both genders reported their experience as positive, in further examining self-assessments of changes in self-concept, I found that Camp Putah is having a greater impact on self-concept of girls over boys. In eight of the ten questions that contained indicators of self-concept, girls reported higher change than did boys, including reporting a greater sense of independence, physical ability, body-image, self-confidence, willingness to try new activities, self-knowledge, self-comfort and comfort in outdoors. Overall, reports of change by girls averaged 12 percent higher than did reports by boys.

Specifically, self-assessments revealed the extent to which Camp Putah has been overwhelmingly successful at changing the way girls perceive themselves in relation to their outdoor abilities. In rating the extent to which they “feel better about their physical ability to try new things,” girls responded with an average of 4 out of 5; boys, on the other hand, responded with an average of 2.8 out of 5. Likewise, in rating their willingness to try new activities, girls responded with 3.6 compared to the boys' 2.8. Most importantly, the girls' response to feeling more comfortable in the outdoors as a result of participating in the program averaged 4.2, while boys averaged only 2.8 (Figure 2).

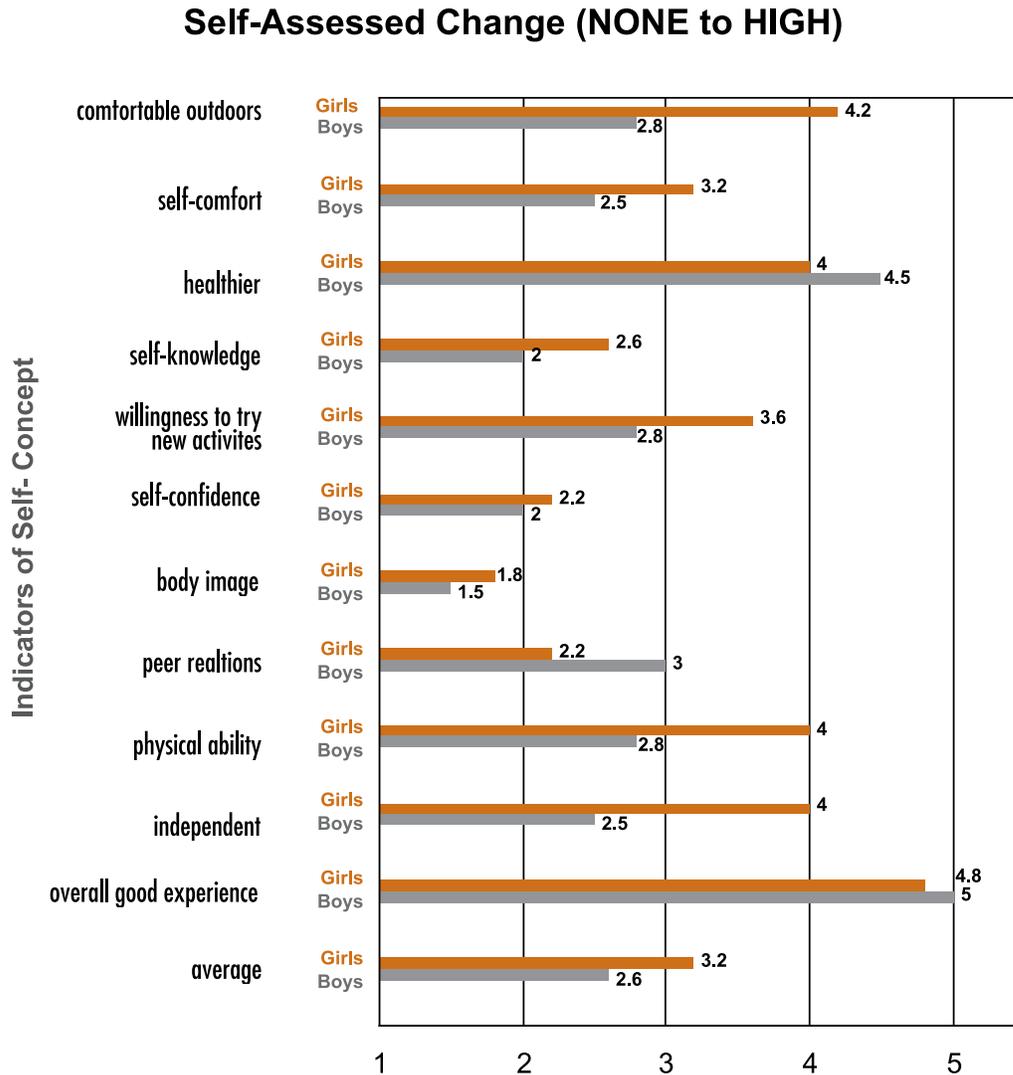


Figure 2. Self-assessed Change in Self-Concept.

Written comments on self-assessments mirrored these results. One 13 year old girl said that she feels “better about trying new things. I received self-confidence out on the river.” Another 13 year old female participant wrote of her favorite activity, “I really like swimming and trying new things – climbing on hikes and turning around and being amazed by how far up you are.” Both of these comments make apparent that participation in Camp Putah helped female participants to gain confidence in both their physical abilities and their willingness to take on challenges. In giving them a unique set of challenges in which to be successful and using the outdoors as a backdrop to success, Camp Putah is increasing female’s comfort and confidence in the wilderness.

When trying to find reasons for the difference in the responses between females and males, one may initially suspect the cause to lie in previous wilderness experience. However, according to those surveyed, this is not necessarily the case. The experience levels of both boys and girls ranged from

beginner to experienced; just as one 11 year old boy claimed to have “loved the outdoors my whole life,” many of the girls talked about camping and hiking with their families on a regular basis.

However, while previous experience proved similar between boys and girls, responses to questions revealed the extent to which changes in girls’ self-concepts were facilitated by the fact that Camp Putah had allowed them to prove themselves at activities traditionally associated with males. In their comments in both self-assessments and interviews, female participants continually reinforced the idea that it was impressive that they were *girls* taking on wilderness challenges. In one interview, a female participant talked about the pride she felt towards participating in activities traditionally considered to be masculine:

Normally there are not that many girls that backpack....In the past I always thought of backpacking as more of a guy thing. I like being where if a guy told you he backpacks you can say, ‘well I do too.’ When a girl tells you she backpacks it’s a bigger deal than if guys do. You can prove him wrong...I like being the exception to the rule.¹⁹

Similarly, another female participant wrote that “[Camp] definitely made me feel like I could do almost anything. [Recently,] I was thinking, ‘If I, a 13 year old girl, could go backpacking hard core for four days, this _____ will be no sweat.’” Comments such as these reveal that Camp Putah is successful at changing girls’ self-concepts in that the experience allows them to “prove” themselves in relation to their male peers.

This information contradicts arguments made by some feminist scholars that outdoor education programs are designed on a “male model” and are therefore more beneficial to boys. It instead suggests that by allowing girls to enter into a traditionally male sphere, outdoor education programs in fact have a greater impact on females’ self-concepts. Acting as a space in which women may resist dominant codes of femininity, wilderness allows girls to shed the social constraints constructed in daily life and perform gender in a more androgynous mode.

In her article “Hegemonic Gender Identity and Outward Bound: Resistance and Re-inscription?,” Liz Newbery draws on Judith Butler’s theory of performativity to make a similar point, arguing that wilderness provides female participants with a different mode of “doing girl,” encouraging alternate performances of gender that provide agency.²⁰ Affirming this theory, Camp Putah coordinator Caitlyn Hughes remarked, “[S]ociety is more supportive of boys in the wilderness than girls. They’re more likely to be exposed sooner, through Boy Scouts or other outdoor programs. Girls don’t get the same type of social space.”²¹ In recognizing the ways in which outdoor education programs provide all participants with a new means of measuring social worth and provide females specifically with the opportunity to perform gender in a more androgynous mode, we can understand why girls report higher change after participating than do boys.

If Camp Putah helps girls to challenge traditional notions of gender, we might also expect that the girls carry this improved and more capable image of themselves outside of the wilderness environment. In addition to saying that she feels “better about the outdoors and backpacking,” one female participant wrote, “I also know that I can do more than I thought I could, and do it well, as well as be a leader.” Comments such as these reveal that in allowing girls to temporarily abandon traditional performances of femininity, outdoor education programs such as Camp Putah help improve girls’ self-confidence and sense of self not just in the wilderness, but in the real world as well.

In comparison with those of girls, boys’ responses to questions about perceived change were not negative per se, but rather, were largely unnoteworthy. While one 11 year old boy did write that camp “has made me think that I can do more,” written responses to survey questions were for the most part either absent or brief. This highlights one of the inherent problems with measuring self-concept: while

self-concept is necessarily measured through self-reporting, this form of evaluation requires a large degree of self-awareness, verbal competence, and awareness of social acceptability.²² In that boys are often believed to have less advanced communication skills than their female age-mates, it is difficult to conclude whether their lack of written responses on self-assessments is indicative of lower change or merely a reduced ability or willingness to articulate that change.

However, boys' lack of responsiveness in providing comments cannot be construed as reflecting a negative experience, for while girls reported higher change in most categories, in their assessment of improved peer relations, boys did respond with a 3 out of 5 compared with the girls' average of 2.2. Likewise, boys responded with 4.5 to the statement, "I feel like I am healthier person," whereas girls gave it a 4. Boys' high overall response of 5 to Camp Putah as a positive experience affirms that outdoor education is a worthwhile experience; however, their lower evaluations of change also suggests that there is a lower potential to impact self-concept. In "Enhancing Mixed-Gender Programming: Considerations for Experiential Educators," Cheryl Estes and Alan Ewert consider gender stereotypes in explaining this disparity: "We all know that 'male' traits are those reflecting competence (such as independence, self-reliance, and ambition), and that 'female' traits are those reflecting warmth and expressiveness (gentleness, soft-spokenness, communicativeness, and awareness of others)."²³ Estes and Ewert explain that male participants are more likely to approach outdoor experiences with high levels of confidence; when successful, they are more likely to attribute their success to their natural abilities, whereas women will attribute it to luck or chance.²⁴ With this in mind, we can better understand possible reasons for boys' reports of less self-change—namely, that boys enter outdoor education programs with a more developed sense of self in those attributes that the experience demands and consequently undergo less of a transformation.

In "Breaking with tradition: Women and outdoor pursuits," K.A. Henderson attributes the differential impacts to differences in each gender's motivations. He explains that females often choose to partake in outdoor activities because of the "journey"; males, in contrast, are typically associated with a wilderness "quest" based experience.²⁵ Ewert's 1985's study on motivations for mountain climbing makes similar conclusions, charting females' top motivation as introspection and males' as excitement and challenge.²⁶ In the series of interviews that I conducted, one 13-year old boy said he liked backpacking most because it was "more advanced; it gave me a challenge that I quite liked."²⁷ In contrast to females' motivations tending toward personal growth in the outdoors, males' responses emphasized that outdoor experiences provided a challenging quest and fulfilled a desire for excitement. This, too, might help explain why their reports of changes in self-concept are lower than those of their female counterparts. Whereas females approach wilderness looking for and finding self-change, males are not actively seeking out recognition of such growth. Even so, this information supports the conclusion that outdoor education programs have a higher potential to impact girls than boys. Due to the way it allows girls to challenge traditional gender stereotypes, as well as the motivations and attitudes with which each gender approaches outdoor education programs, Camp Putah seems to be more effective at improving the self-concepts of its female participants.

In addition to allowing us to understand the specific ways in which outdoor education differently impacts the self-concepts of girls and boys, examining the overall outcome in relation to independent variables also allows us to make conclusions about how individual factors can influence the overall experience. Boys, for example, had a better overall experience in programs that were more physically intense, whereas girls preferred moderate intensity. When backpacking, boys rated their overall experience as 2.9 out of 3; with more moderately intense activities, their experience was rated slightly lower at only 2.6. Girls, in contrast, rated moderate intensity programs at an average of 2.7, compared with the lower 2.6 out of 3 for backpacking (Figure 3). This information is consistent with conclusions that males value the challenge and adventure of outdoor experience and girls' prefer to seek out introspection.



Figure 3. Effect of Activity Intensity on the Quality of Experience.

Also interestingly, the best experiences in both boys and girls were reported for those between the ages of 11 and 12. At 9-10 years, boys evaluated the program at only 2.2; at 13-14, their average evaluation was 2.7 in contrast to 11-12 year olds' 2.9. Likewise, the evaluations of 13-14 year old girls averaged 2.2 compared with 11-12 year olds' 2.9 (Figure 4).

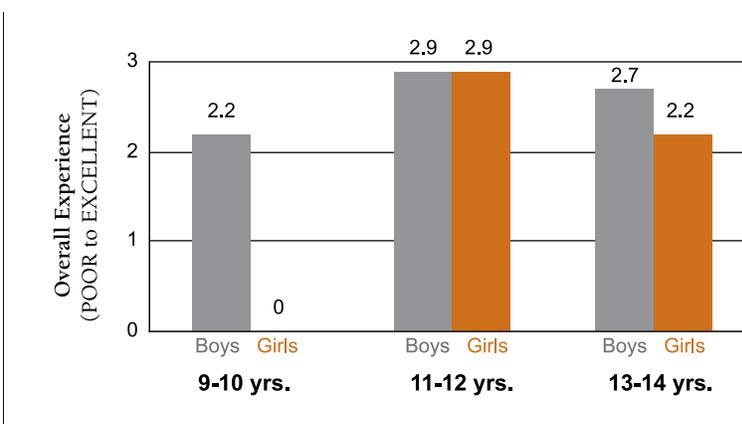


Figure 4. Effect of Participant's Age on Experience

This data suggests that the program is currently best suited for the middle age group, and adjustments need to be made to Camp Putah curriculum to improve the experiences of those who are both older and younger.

Most important to the topic at hand, however, is data on each gender's experience in relation to the gender of the leaders and participants. The presence of a female co-leader increased girls' average evaluation by almost four-tenths of a point over situations in which both leaders were male. Boys, on the other hand, responded most positively to environments in which both leaders were male (Figure 5).

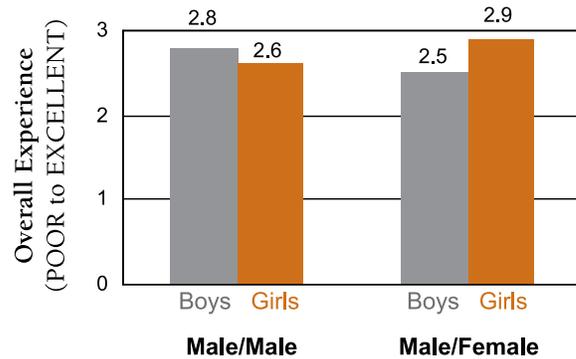


Figure 5. Effect of Leader's Gender on Experience.

While one boy remarked that he preferred his male leader to the female one because the former was “more daring,” one girl said she always prefers her female leaders because they are “more sensitive and understanding.” Currently, as noted by Neill, male outdoor education leaders outnumber females four to one, with females often struggling to gain respect within the industry.²⁸ However, this data proves that if seeking to create programs that have maximum potential to benefit both sexes, outdoor education coordinators need to utilize both male and female leadership.

Currently, women-only programs are gaining popularity within the outdoor education industry. In the article “Outdoor Education for Women Gaining Popularity,” participants discuss the comfort they found as beginners when learning new skills in all-female groups. Said one woman, “the vibe was supportive, non-competitive and feminine.”²⁹ In contrast, however, Camp Putah girls gave a higher rating to mixed-sex camps than they did to all-female ones (Figure 6).

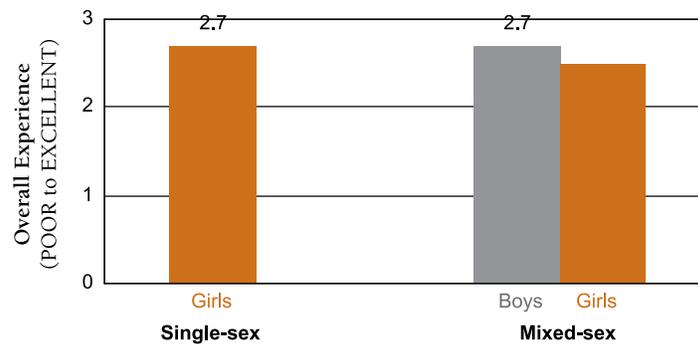


Figure 6. Effect of Group Composition on Quality of Experience.

While raising questions for further research, these data suggest that perhaps for the teen age group, the contrast brought about by the physical presence of both males and females is important to impacting self-concept. If girls are gaining positive impacts by entering into a traditionally male sphere and challenging gender stereotypes, perhaps the presence of male peers makes the experience all the more acute. The results of this study suggest that mixed-sex environments are beneficial to achieving maximum change in self-concept, and thus should be used when structuring programs for adolescents and pre-adolescents.

While gender does not influence the perceived quality of the experience, this information makes clear the extent to which gender needs to be considered in program structure. In the design of outdoor education programs, attention to the independent variables discussed can result in more positive outcomes for all involved. In order to maximize its potential to positively impact the self-concepts of girls and boys, Camp Putah administrators would be wise to design programs that are mixed-sex, that include both male and female leadership, that cater to the specific age group involved and that balance the female preference for less strenuous activities with the boys' desire for higher intensity adventures. In being sensitive to such gender differences, they maximize the potential of providing meaningful outdoor education programs.

Conclusions

My assumption is that the experience at Camp Putah provides a lens through which to examine recreational outdoor education programs as a whole. The results of this study should not be taken to apply to all educational, developmental or therapeutic programs, however, but rather to programs designed for teenage, voluntary participants in local, recreational outdoor education programs. Within this narrower focus, we can conclude that providing young women with a wilderness setting in which to challenge traditional gender stereotypes and achieve the growth they seek creates a high potential to positively change the self-concept of girls. Likewise, this research also concludes that by fostering an awareness of gender and the factors that influence boys' and girls' experiences, recreational outdoor education programs can facilitate the achievement of the highest growth possible. By paying specific attention to balancing the rigor of activities and catering to the needs of each age group, outdoor education coordinators can create a program that is positive for all. Moreover, by ensuring that camps have both male and female leaders and participants, they can foster an environment that respects gender differences while using them to the program's advantage.

Working to maximize the potential benefits of outdoor education would not only improve independent programs, but would also be beneficial to the industry as a whole. While enrollment in private programs is paid for by the participant, city programs such as Camp Putah, as well as school programs, often receive at least some government funding. By improving impacts on participants, outdoor education programs would be better able to secure and expand this funding in the future. Additionally, continuing to maximize and make known the positive change undergone by girls could increase participation rates. Currently, Camp Putah consistently sees higher enrollment for teenage boys than for girls; however, as this research proves, it is girls who have the highest potential for achieving change. One of the implications of this project's conclusions is the prospect of raising enrollment amongst females and consequently increasing the number of those benefiting.

While asserting these conclusions with confidence, I likewise recognize that the limited availability of data in this study highlights the need for further research. It is my recommendation that Camp Putah coordinators integrate participant self-assessment surveys into their camp curriculum. This would both promote self-reflection among participants and provide a greater body of data with which to continue to analyze the factors introduced in this study. Additionally, applying this method of data collection to multiple other local recreational outdoor education programs in other locations would likewise provide a much stronger body of information on which to base conclusions.

Whether or not the wilderness holds the "preservation of the world," as Thoreau once declared, remains to be seen. However, while it may or may not equate to the salvation of society, it just might hold the key to inspiring an individual's independence. While ensuring a positive experience for all, outdoor education programs such as Camp Putah have the potential to positively impact girls' self-concepts and, as one camper said, to make her "feel like [she] can handle almost anything in life."

Acknowledgments

I completed this project as part of the UC Davis Washington Program, Fall 2006, and would like to thank my research sponsor, Prof. Larry Berman, and graduate instructor Olga Bogatyrenko. The project also would not have been possible without the help and cooperation of Anne Marquez, City of Davis, Parks and Community Services.

Notes

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