The East Bay Regional Park District's Adventure Crew/Richmond Rangers Youth Program: An Inquiry into Program Outcomes and the Elements for Success

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May 2018
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ACKNOWLEDGMENTS
This work could not have been possible without the assistance and support of many individuals and organizations. Thank you to Jim O’Connor and Anne Kassebaum, for their vision in helping make this project happen. Special thanks to David Zuckermann for his wisdom and assistance in every step of this project. Heartfelt appreciation to EBRPD field staff James Wilson and Claudia Muñoz, YES staff Zaira Sierra and Peter Flom, and the many others who provided guidance and ensured that we captured authentic responses from the study participants. Many thanks to study participants who dedicated their time and energy to lengthy interviews. Finally, this project could have been possible with the financial support from the East Bay Regional Park District, the George Miller Youth Fund, and the Regional Parks Foundation.

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EXECUTIVE SUMMARY

This study sought to understand the outcomes of a 10-month pilot youth program, the East Bay Regional Park District’s Adventure Crew/Richmond Rangers Program offered in the 2016-2017 school year. The program served 14 racially and ethnically diverse participants (11 to 13 years old) that were living in under-resourced households. Using focus groups and semi-structured interviews, the researcher gathered rich qualitative data from the participants, parents, guardians, and staff at the end of the program’s first year.

The qualitative analysis revealed the following eight unique program outcomes: 1) participants gained self-efficacy and psychological resilience through overcoming challenging experiences; 2) participants acquired environmental knowledge and outdoor skills that supported their desire and confidence to explore nature; 3) participants practiced socio-emotional learning and leadership skills through the various collaborative and challenging experiences; 4) participants felt physically fit through challenging activities such as backpacking, long walks, and uphill walks; 5) participants perceived that the Adventure Crew/Richmond Rangers experiences would benefit their college entrance and job acquisition; 6) partner organization and staff successfully recruited from the under-resourced communities; 7) the program was more than just fun and educational, it provided a safe place for the participants who might have limited resources and support at home and school; 8) participants’ perceptions of nature tended to shift from biophobic to biophilic views. A comparison analysis showed that the intended 11 outcomes designed for this program (Spain & Baur, 2016) were fully or partially met.

Unexpectedly, the analysis also revealed four emergent themes that were not included formally as intended outcomes: 1) participants gained self-efficacy and psychological resilience; 2) newly gained environmental knowledge and outdoor skills led participants to gain confidence and a desire to further explore the outdoor world; 3) participants perceived that their Adventure Crew/Richmond Rangers experiences would benefit their application for college entrance; and 4) the program was perceived as providing a safe place for youth who needed an emotional, social, and psychological refuge.

The Adventure Crew/Richmond Rangers program provided a positive, well-rounded nature-based youth development program for underserved, low-income urban adolescents. In particular, the shift in participants’ orientation toward nature – from fear to familiar; from dislike to curious; from discomfort to confident – is noteworthy. This shift aligns with the Park District’s mission to “preserve a rich heritage of natural and cultural resources.” The Adventure Crew/Richmond Rangers program provided direct and meaningful experiences with nature that were perceived as leading to the cultivation of environmental attitudes amongst this group of nascent environmental stewards.
STUDY AIMS
The goal of this study was to gather scientific data to understand the Adventure Crew/Richmond Rangers (Richmond Rangers) program outcomes. The researcher collected the data from three constituents: 2016-2017 participants (youth), their parents, and program staff at the East Bay Regional Park District (EBRPD) and YES Nature to Neighborhoods (YES). Specifically, this study aimed to answer the following questions:

1. What are the Richmond Rangers program outcomes identified by participants, parents/guardians, and staff?

2. What are the youth’s perceptions toward “nature,” “parks,” and outdoors” before and after the Richmond Rangers program?

3. How are the self-identified program outcomes answered above associated with the intended program outcomes?

4. Are there any unexpected outcomes reported by those constituents?

The next section discusses the overview of the Richmond Rangers program, including background and activities.

THE ADVENTURE CREW/RICHMOND RANGERS PROGRAM

OVERVIEW
The Adventure Crew/Richmond Rangers Program (Richmond Rangers) is a brand new, nature-based longitudinal outdoor recreation program jointly led by the East Bay Regional Park District (EBRPD) and YES Nature to Neighborhoods (YES). Funding comes from EBRPD and the George Miller Youth Foundation (Richmond Standard, 2016). The program is designed to reach out to adolescents who live in Western Contra Costa County but who are underserved in relation to the provision of outdoor recreation opportunities. The program seeks to develop youth leadership and teamwork skills, teach outdoor skills, increase environmental literacy, promote a sense of stewardship, break down access barriers to the outdoors and improve health and wellness (Spain & Baur, 2016). In 2016, the Richmond Ranger Program Plan was developed as a result of a collaborative process among EBRPD, YES, and San Jose State University (SJSU) Department of Health Science and Recreation.

This program is unique because of its intensity and longitudinal nature. A cohort of 14 adolescents (11 to 13 years old) led by the same staff from EBRPD and YES met for 10 months (September 2016 through June 2017), typically for three events each month; two day-long excursions and a Family Night meeting. Moreover, there were two overnight backpacking trips (in April and June). The Family Night meetings consisted of complimentary dinners followed by meetings and activities with participants, parents/guardians, and staff members (see Appendix A for the program calendar). Generally, community-based outdoor education youth programs consist of temporary activities, such as a series of day-long events or an expedition-style trip; however, Adventure Crew/Richmond Rangers was designed to provide a 10-month opportunity in order to hone the participants’ knowledge and skills, and increase the program impacts. Another unique aspect is the monthly Family Nights, where the participants share their experiences and knowledge with parents and siblings (Richmond Standard, 2016).
RECRUITMENT OF PROGRAM PARTICIPANTS
The program served self-selected adolescents from low-income families that had no or some previous exposure to the outdoors. David Zuckermann, the Regional Interpretive and Recreation Services Manager at EBRPD, said, “We want to reach parts of the community that don’t have access to parks and open space, to engage underserved inner-city [low-income urban] kids” (Regional Parks Foundation, 2018, p.4).

The first year of Adventure Crew/Richmond Rangers (2016-2017) was fully subsidized for the participants and their families. The local partner, YES, utilized its strong relationship with the Richmond and West Contra Costa County community to recruit the first cohort of 14 co-ed adolescents (five female, nine male). YES is a nonprofit organization that has provided enrichment programs for youth and families in Richmond and the surrounding West Contra Costa communities since 1999. To take part in the YES program, participants and their families must qualify for free or reduced school lunches. The thresholds for a family of four are an annual income of $31,590 for free lunches, or $44,995 for reduced lunches (California Department of Education, 2017). YES reached out to qualifying adolescents (11 to 13 years old) and their families. Those who were interested and available to partake in the every-other Saturday activities during the academic year were considered for inclusion in Adventure Crew/Richmond Rangers. All of the participants had previously participated in one or more summer camps with YES. Therefore, YES staff were able to help identify which adolescents would be a good fit for the new program, Adventure Crew/Richmond Rangers.

PROGRAM PARTICIPANTS
According to demographic data gathered by YES, the majority of the 14 participants were male (64%, 9; Figure 2). Participants identified as African American (57%, 8), Latino (36%, 5), or Pacific Islander and White (7%, 1; Figure 2; Figure 3). More than one-third (36%, 5) of participants spoke Spanish at home; the rest (64%, 9) spoke English (Figure 4). Most (79%, 11) households were led by a single parent or guardian. One-fifth (21%, 3) of the participants lived in foster families. Participants’ annual household income averaged $21,738, which is less than half of the California Department of Education (2016) threshold for reduced lunch (Figure 5). Figure 1 is a heat map that shows the concentration of participants’ residences in or near the Iron Triangle area of Richmond.

One of the intentions for creating the Adventure Crew/Richmond Rangers program was the EBRPD’s desire to improve service for residents who were previously underserved. The ‘Iron Triangle’ is known for a relatively high crime rate and concentrated poverty. The heat map (Figure 1) illustrates the spread and count of participants’ residency based on reported ZIP code. This graphic makes it clear that there was a concentration of participants from the Iron Triangle neighborhood. The analysis strongly suggests that YES successfully attracted members from communities that have been traditionally underserved by EBRPD.

Figure 1. Participants’ Residence by Neighborhoods

Notes. The darker blue shows the larger number of program participants from the particular neighborhood. The yellow line indicates the Iron Triangle.
Figure 2. Participants’ Gender

FEMALE 36%

MALE 64%

Figure 3. Participants’ Race and Ethnicity

LATINO 36%

PACIFIC ISLANDER/WHite 7%

AFRICAN AMERICAN 57%

Figure 4. Languages Spoken at Home

SPANISH 36%

ENGLISH ONLY 64%
Figure 5. Richmond Rangers Participant Family Average Incomes vs. California Free/Reduced Lunch Thresholds

Backpacking in the Point Reyes National Seashore
METHODS
DATA COLLECTION
After a series of consultations with EBRPD and YES staff, the researcher conducted semi-structured interviews and focus groups to collect data. The interviews and focus groups enabled the collection of rich data. Whereas typical pre-post psychological measurements gather specific data that the researcher intends to gather, the interviews gave the participants an opportunity to explore the aspects of the program that were the most pertinent from their perspective. Moreover, in contrast to surveys, interviews avoid literacy limitations.

This study triangulated data to increase the validity of the findings (Creswell, 2009). Essentially this means that findings from the three groups of stakeholders – adolescents, parents and guardians, and staff members – were compared to identify themes that were recognized by all groups. However, the study also identifies some themes that were unique to only one stakeholder group.

Prior to data collection, the researcher’s Institutional Review Board (IRB) at San Francisco State University approved the study design as being ethically sound. One aspect of modern research ethics is respect for participant autonomy (United States, 1978). This means that all names provided in this report are pseudonyms to maintain anonymity. Furthermore, study participants were given enough information to make an informed decision as to whether to participate or not. A letter explaining the study protocol was given to all of the parents and guardians (see Appendix B). During the study orientation at Family Night, adolescents, parents/guardians, and staff were fully informed about the research protocol and the associated benefits and risks of participation. YES staff reached out to those participants and parents/guardians who missed the parent night. At the end, a total of 11 out of 14 youth and parents/guardians (79%) filled out a voluntary agreement to participate in research.

Focus group and semi-structured interview questions were developed by the researcher based partially on feedback from EBRPD and YES employees. The interview script and emergent probes were all designed to gather data pertaining to the perceived learning outcomes and perceptions toward nature before and after the Adventure Crew/Richmond Rangers program.

FOCUS GROUPS WITH ADOLESCENTS
In June 2017, the researcher conducted two focus group interviews during the last day of the program. This occurred during a backpacking trip at the Point Reyes National Seashore. Participants were informed in advance that the meeting with the researcher would be an opportunity to share their Adventure Crew/Richmond Rangers experience. A total of eight individuals (73% of the 11 study participants) joined the focus group interviews. Each focus group consisted of four participants and lasted approximately 40 minutes. The protocol and list of questions is included in Appendix C.

SEMI-STRUCTURED INTERVIEWS WITH PARENTS
After the program was completed (between June through August, 2017), the researcher contacted all the parents and guardians to conduct semi-structured interviews over the phone or in-person. A total of 9 parents and guardians (82% of the 11 study participants) participated in individual semi-structured interviews. The duration of the interviews varied from 11 to 52 minutes per person (average of 28 minutes per person). The list of interview questions is available in Appendix D and Appendix E.

SEMI-STRUCTURED INTERVIEWS WITH STAFF
The researcher and research assistant conducted semi-structured interviews with all four primary field staff representing EBRPD and YES after the program was completed in June 2017. Each interview took 48 to 82 minutes per person (average of 65 minutes). The list of interview questions is included in Appendix F.

1 IRB is an ethical review board that applies research ethics by reviewing the methods proposed for research to ensure that the project is ethical.
All interviews were recorded and transcribed verbatim (i.e., each word and paraverbal utterance was typed into a written transcript). A trained research assistant, who was raised using both Spanish and English, interviewed two Spanish-speaking parents and translated the Spanish transcriptions to English. All the transcripts were categorized using pattern matching to identify emerging themes (Yin, 2003). Direct quotes from the interviews were grouped by emerging themes. Sample quotes were selected to support each of the identified themes. The researcher and trained research assistant separately reviewed and analyzed the transcripts and commonalities were discussed (Patton, 1990) to ensure qualitative reliability (Creswell, 2009).

**RESULTS**

**DEFINING THE ADVENTURE CREW/RICHMOND RANGERS PROGRAM**

In response to the first question, “How would you describe the Richmond Rangers program?” the program participants (Rangers) described the program as a place to experience new things, to learn about the natural environment, and to make new friends. Example quotes from Rangers included:

> “What I think about Richmond Rangers is learning about plants, animals, insects... anything that comes to your mind.”

> “When I think about Richmond Rangers I think of getting to experience things that you never get to experience all the time. You get to meet new people or make other friends. You get to go to places that you never knew.”

> “I appreciate all the stuff that Richmond Rangers does because I really don’t do none of them. I never went to farm. The only time I went to this horse farm where my friend is so I never really saw what a goat looks like or a cow looks like. Only on books and stuff and computer images. And you know I never went mining before. If I go camping I don’t backpack so I don’t sleep outside either. So you know Richmond Rangers has given me a lot of opportunities.”

Multiple participants’ interview data reflects the gap between the opportunities provided to them in the Adventure Crew/Richmond Rangers program and their previous limited experience in the natural world. These experiences included setting wildlife cameras; going into an old mine; exploring mudflats at low tide; throwing a spear using an atlatl (an ancient kind of spear-thrower); special presentations from historians, naturalists, and tribal members; and more. According to a staff member, the program “provides the deep vaults of everything that the park district has to offer.” Another staff member commented that this program uniquely combines both the naturalist (environmental education) and recreational aspects (outdoor recreation and education) of the EBRPD.

Parent/guardians comments were overwhelmingly positive. They described the Adventure Crew/Richmond Rangers program as “special,” “highly recommended,” “very adventurous,” and “a lot of activities.” Parents/guardians expressed that their child wouldn’t have been able to enjoy such varied and rich experiences if they had not participated in the Adventure Crew/Richmond Rangers program.

Conversely, some of the barriers that parents/guardians and staff noted included a lack of time (e.g., juggling challenges at home or at work); limited financial resources for outdoor equipment or transportation; and a lack of knowledge, skills, or confidence to enjoy the parks. Staff responses echoed those of the parents/guardians, “…if they weren’t a part of this program they would most likely be home by themselves, knowing that most parents work and have no one to watch over their kids.” The Adventure Crew/Richmond Rangers allowed the participants to explore the outdoors and nature in ways that they likely would never have otherwise experienced.

Participants (Rangers) shared that their favorite parts of the program were primarily outdoor activities; such as feeding the animals, exploring a mine, playing at the beach, kayaking, fishing, and making s’mores. Participants’ comments frequently focused on the impact of experiencing natural scenic beauty:

> “…when you’re walking you get to see a great view...I mean when you walk into the forest you get to see a bunch of trees in the distance. So I’d say it’s pretty cool.”
The rangers also valued star gazing, making new friends, and getting to meet new people (e.g., staff and other people who spoke during the outings). Moreover, direct experiences with animals made deep impressions on the rangers:

“think my favorite experience was going to the little farm [Tilden] because we got to walk the goats... It was fun, it was at the little farm in Tilden. We got to hold the chickens, walk the goats, touch the cows and feed the pigs.”

Participants repeatedly mentioned as a favorite activity these direct experiences with animals; parents, guardians, and staff members commonly echoed this sentiment.

PARTICIPANTS’ LEARNING OUTCOMES

Outcome 1: Participants gained self-efficacy and psychological resilience through overcoming challenging experiences.

The majority of the participants noted that the long-distance walks were the hardest part of this program; however, they also mentioned that “getting up early” and the ambient temperature being “too hot” or “too cold” were challenging.

Staff also recognized that “hiking can be tough” and that it could sometimes be perceived as not the most stimulating activity. However, they believed the participants had become more capable hikers during the 10-month program. Moreover, one staff explained that it is important for staff to engage participants by “tell(ing) rangers the kind of activities or things they would do during a hike [e.g., fishing, looking for animals or bugs, beach play]...because oftentimes when they think of the word ‘hiking’ they think of doing a long walk and are not as excited to participate.”

[we were] walking miles and miles.”

“[I] had to walk uphill two miles and walk at least 10 miles.”

“The last [backpacking] trip was mostly uphill... like four miles.”

“The first backpacking trip was like the hardest.”

Walking the Tilden Little Farm goats near Jewel Lake, Tilden Nature Area
Although it was challenging, some participants discussed the benefits of the physical challenges they encountered in the program (e.g., long walks, backpacking, uphill walks). They expressed a gained sense of accomplishment and confidence:

“I used to hate to walk. I would hate having to walk to the car. Now I feel accomplished because I walked all this way.”

Another participant said it was mentally challenging, and he learned to be more mentally resilient:

“...for me it’s not physical because I mean I go outside every day. I would say it is mentally because you know you throw a backpack on they tell you it’s heavy for five miles. When you look at it, it looks like it’s hard to get there. But once it’s done you still have enough energy to go play at the beach and everything. It was mentally like you know you have to let your mind know that you can do it.”

Such comments suggest that the long walks were challenging for many participants, yet these experiences also may have provided valuable lessons about how to positively reframe challenges. These participants overcame perception of incapability, and did something they never thought they could do. This suggests participants could have experienced increased self-efficacy and psychological resilience. These changes are supported by the notion that learning and psychological growth happen as one stretches one’s comfort zone through an effort to restore equilibrium (Luckner & Nadler, 1997). Multiple empirical studies have supported that psychological growth can be a product of overcoming challenges (Beightol, Jevertson, Gray, Carter, & Gass, 2009; Ewert & Yoshino, 2011; Neill & Dias, 2001; Sibthorp, 2003).

Outcome 2: Participants acquired environmental knowledge and outdoor skills that supported their desire and confidence to explore nature.

Many participants became more knowledgeable about nature and gained outdoors skills. One Ranger said:

“I got more knowledge about this, for example stars, animals, water, fire, birds, butterflies.”

One parent described that:

“He [her son] learned a lot about nature, kayaking, fishing. He is very interested in it and more open to those things.”
Learning about nature is important for participants because they became more aware of hazards. They learned what is okay and not okay to touch. They learned what can harm them. One Ranger said knowing about nature is important because “I feel more safe [in the outdoors].” Another Ranger commented that “I feel like if I didn’t know this, my life would feel a lot harder because I have learned how to conserve water so I have enough [and know] how to drink water on a daily basis. I learned survival skills basically...It might be useful someday.”

The environmental knowledge and outdoor skills that the Rangers learned are key foundations that they felt would let them make informed decisions and be safe in the outdoors. This focus group revealed that these environmental literacy and outdoor skills led to self-efficacy in spending time in the outdoors, building confidence, and, as one participant expressed, provided “a sense of pride and ownership” towards the parks that they have visited.

The analysis of participants’ quotes suggests that their confidence and ownership came from direct experience with nature. This confidence further led to a desire to go back to the parks and outdoors with their family members. For instance, one participant said:

“Before these [Richmond Rangers outings] I didn’t know what poison oak looks like. I didn’t know how to build a tent. So now you know I’m ready...to go into the woods.”

This quote represents the youth’s confidence and desire that built upon environmental knowledge and outdoor skills.

Some participants returned with their family to the places they visited during the program. As one participant described:

“I didn’t used to go to the forest and to parks, anything like that. I always stayed home. So now I go outside more with my family.”

Another participant said:

“We are trying to inspire her [her grandmother] to go to the Wildcat Canyon, and now I am better at walking, so we can go down there as a family. Because I have more experience with hills and all that.”
Moreover, some parents commented that because of the program and through their child, they learned about new places in the Regional Parks. One parent said:

“Because my son has gone to them, we have taken the initiative to make our own trips to familiar places as well.”

Multiple aspects of the program provide the chance for youth to gain opportunities for building agency in nature. The focus groups and interviews provided evidence that some participants have become more willing to explore the outdoors and have returned with their family members to the parks used in the program. The data also highlighted the importance of developing essential environmental knowledge and basic outdoor skills to build participant confidence and a desire to visit these spaces.

The longitudinal nature of the Adventure Crew/Richmond Rangers program provides opportunities for building on previous experiences and increasing identification with the parks. It is intended that some Rangers will repeat the program for a second year. This will give them the opportunity to move into a peer-leader role. Because this is another unique aspect of the Adventure Crew/Richmond Rangers program, it is suggested to track their leadership skills and confidence in the outdoors to see if experiencing peer-leadership affects outcomes.

Outcome 3: Participants practiced socio-emotional learning and leadership skills through the various collaborative and challenging experiences.

The Adventure Crew/Richmond Rangers provided numerous opportunities that required Rangers to work as a team. This included hiking as a group, navigating with a topographic map, starting a fire with a bow drill, cooking meals, and setting up a tent together. Parents/guardians commented that their child learned more than just outdoor skills or environmental knowledge. One parent described that her son,

“Jason [pseudonym] learned how to kayak, how to fish. He learned more community skills, outreach people, teamwork... being a leader.”

Many parents/guardians appreciated the opportunities for their youth to practice socio-emotional learning. For instance, one parent described how her child gained confidence though talking with other kids instead of running away from unfamiliar or frustrating settings. One shy participant’s parent/guardian noted that when her son was unsure about something, he used to be quiet until someone approached him. But as he participated in the program, he became a more active problem solver – he was more willing to take the initiative and reach out to someone for help.

Similarly, another parent commented how the longitudinal program influenced her son’s maturity level:
Another parent/guardian talked about personal growth that she observed in her child, and said that:

“\textit{He is matured, more open, so comfortable with himself, and fixing something to eat [on his own].}”

These parent/guardian comments suggest that the Adventure Crew/Richmond Rangers provided opportunities for the participants to gain self-confidence and become more self-reliant and responsible for their own actions. Furthermore, newly gained socio-emotional skills allowed the participants to expand their social circle and to become better leaders.

One of the staff also shared dramatic changes in a participant’s confidence in communication. This person, Sam [pseudonym], was an English second language learner and “struggled academically very much at school.” Through this program, staff witnessed his growth and noted that “before [Sam] would only speak in Spanish and now actually I see him connect with non-Spanish speaking [participants].” Staff thought the interactions and experiences that Sam had through different trips helped him develop confidence in connecting with others and gain the ability to openly communicate with other youth in the program.

Socio-emotional learning and leadership development are core components of youth development, and socio-emotional skill development is a strong predictor of well-being (Taylor, Oberle, Durlak, & Weissberg, 2017). Numerous researchers report immediate outcomes, such as more frequent prosocial behaviors and attitudes and academic achievement, to long-term (3+ years) effects, such as increased high school and college graduation rates and safe
sexual behaviors, and decreased mental disorder, drug use and involvement in the juvenile justice system (Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991; Farrington et al., 2012; Taylor et al., 2017). The results from the current study suggest participants experienced social, emotional, and personal growth. However, further investigations are needed to understand the long-term effects of the Adventure Crew/Richmond Ranger program on participants’ growth.

Outcome 4: Participants felt physically fit through challenging activities such as backpacking, long walks, and uphill walks.

The participants expressed that the program allowed them to “get to work out” and “be physically fit.” As noted earlier, hiking a long distance and backpacking physically and mentally challenged many of the participants (see Outcome 1). If they were not part of the Adventure Crew/Richmond Rangers program, the majority of participants commented they would have spent their Saturday doing sedentary activities, such as watching TV, playing games, sleeping, and listening to music. Multiple parents noted positive changes in their child’s physical fitness, such as, “much more being fit,” better “endurance,” “willing to take walks,” and “more biking” during their daily life.

The US Department of Health and Human Services (2008) suggests that Adolescents should do 60 minutes or more of physical activity daily; however, among 9th to 12th grade students, only 18.9% of girls and 31.8% of boys in California achieve this goal. Similarly, only 27.1% of all youth in America are estimated to achieve this level of physical activity (Kann et al., 2016). The focus group and interview responses suggest that the Adventure Crew/Richmond Rangers provided participants with more opportunities to be physically active throughout the academic year than they normally experienced. This program is not a traditional way of delivering fitness or sport activities, yet participants had substantial physical activity through both organized and spontaneous explorations in various outdoor settings. Future research efforts may choose to develop a structured observation protocol and other methods to measure the level of physical activity during the programs and track the progress of participants’ physical well-being over the course of the program.

Outcome 5: Participants perceived that the Adventure Crew/Richmond Rangers program would benefit applications for college and job acquisition.

The participants commented that the Adventure Crew/Richmond Rangers program may benefit their college applications as well as future attempts to get a job in parks. One Ranger said:
Another Ranger noted:

“I can also make money out of this. Like being a camp counselor and making a lot of money. This is what my brother is doing this summer for a camp. He’s making a lot of money too.”

For these 11 to 13-year-old participants, the idea of entering a college and getting a job was somewhat of a vague concept; however, it is important that they saw their experience in the program as an asset for applying to college and jobs. Future research may want to measure participants’ higher education and occupational aspirations over the course of the program to see if they change during the program.

One staff summarized this issue:

“I hope that these guys become scientists or they become social scientists... They pursue their passions because they found interest in the environment. But maybe it’s just because of confidence and this makes them confident in the way that they are. Whatever they do in the future, whether that’s out of the environment or not, you know even if they’re like computer programmers, maybe they have this little bit of them that remembers, ‘Oh yeah, I can backpack you know I have this little thing in me.’”

Having a goal such as going to college and acquiring a job is a valuable asset for positive youth development. Success in college is predicted not only by previous academic success (e.g., high school GPA), college knowledge (e.g., knowing how to “do” college), and external resources (e.g., financial stability and support person), but also non-academic factors such as positive self-concept (Caplan, Henderson, Henderson, & Fleming, 2002), long-term goal setting (Sedlacek, 1996), and successful leadership experience (Sedlacek, 1996). These interviews supported the notion that the Adventure Crew/Richmond Rangers helped the adolescents build their confidence and helped them aspire to a future in college and/or working in a desirable job. Although the Adventure Crew/Richmond Rangers program is...
not necessarily designed as a college readiness program, the data showed a potential for this to be an intentional part of the program. Modifying the curriculum to include some material centered on college readiness may have an outsized impact on these participants.

Outcome 6: Partner staff successfully recruited from under-resourced communities.

The Adventure Crew/Richmond Rangers program was designed to provide positive development opportunities for youth from marginalized communities where it was believed the program could have the most impact. As previously stated (Outcome 4), multiple participants commented that if they were not a part of this program, they would be experiencing screening (e.g., video games, television) or doing other sedentary activities (e.g., sitting, sleeping, listening to music). One participant shared that there was a lack of opportunities to go outside with their family: “They [parents] don’t take me anywhere. It is like a ‘jail’ they get me in trouble.” Some of the participants’ parents work multiple jobs or manage health, financial and custodial issues. These constraints make it difficult for parents to provide safe and healthy opportunities for outdoor recreation.

All the parents/guardians interviewed appreciated the program because of the benefits and opportunities that it provided to their child. Many parents discussed a lack of resources (time, money, and opportunities) that limited their family from participating in outdoor recreation. While some looked at this as a limitation experienced by their family, others saw it as a limitation of the community:

“This [Richmond Rangers] is a great program, there is an issue with very low programs around the community, not enough resources and this program provides what our kids need. The program is something positive and fun for the kids to do. It keeps them busy and they have fun… Inner cities tend to not have enough opportunities for the youth. The youth need a positive outlet and resources that will allow them to stay busy.”

Overall, these interviews clearly indicated that the positive youth outcomes would have not been available to these participants without the Adventure Crew/Richmond Rangers program. As the participant demographics illustrated earlier (e.g., Figure 5 through Figure 1), the partnership with YES Nature to Neighborhoods was critical to identify and successfully recruit participants who were interested in the outdoor experience and in need of guidance and support. As this program expands, it is suggested to continue working with local community
Outcome 7: Program was more than just fun and educational; it provided a safe place for participants.

The Adventure Crew/Richmond Rangers became a different kind of community for many of the participants. Staff perceived that, at school, the Rangers were “used to treating others with disrespect or calling their peers certain inappropriate names.” Staff expressed concerns that participants “see a lot of negativity...and treating each other poorly is a way of socializing.” This reinforced their desire to model and support a different norm during the program. “In a place like the Rangers, you get to use the different norms... and finding different ways” such as each other actually communicating.

At the end of a backpacking trip, one of the staff experienced a significant moment, that they said “hit me kind of hard.”

"Jose and Ben [pseudonyms] were talking...and Jose might have brought it up... He didn’t want to go back. Well... and then I guess I asked him ‘Where do you want to go back?’

"I want to go back to the Point Reyes. I want to go back ...’

and then Ben said:

"The same thing [as] you...’

That one kind of hit me kind of hard. Not only are we like providing maybe a program for these guys to get through all this fun stuff but you know they have these things that they’re returning to and we’re providing you know a fun place, a safe place, where they can you know be themselves, adventure and all that kind of thing. And what kind of adventures do they have when they go home, you know what their challenges [are] when they get home.”

Staff shared that the participants “bring a certain amount of trauma with them.” The conditions and severity shared during the interviews varied, but most, if not all, participants experienced or were experiencing very stressful events (e.g., health issues in their family, changing schools numerous times in a year, homelessness, losing a sibling, lacking consistent guardians, incarcerated family members, drug use in their household). Living with trauma is challenging. Spending time in the outdoors may have provided a sense of relief, a safe zone, and a place where they can be themselves.
Staff shared a story about one participant, Alex (pseudonym), whose six-year-old sibling has been having major medical treatments for the past two years:

“So really, we’re motivating him [Alex] to continue through the program, because this is kind of his home. It feels like he may not be the one that is getting the most attention at home. And so allowing him the space to have his own thing... But I can kind of sense that this is his thing this is what he enjoys, it allows him space to be a kid enjoying himself.

Another staff member shared a story about a different participant, Sue (pseudonym), who had lost her older brother in a recent accident. As a result, she had been feeling incredibly vulnerable. After trips, her mother came to the staff with tears and expressed how grateful she was that her daughter was “surrounded by caring adults who can be a role model.” The mother also thanked them for giving her child the “space to again enjoy herself and be surrounded by people who care and will listen to her.”

These interviews provided evidence that the Adventure Crew/Richmond Rangers program was more than just a fun and educational place; it also provided a safe haven that allowed participants a space to process and escape from traumatic experiences.

**Outcome 8: Participants’ perceptions of nature tended to shift from biophobic to biophilic views**

During each of the focus groups, the researcher conducted two rounds of brainstorming sessions with participants in order to investigate the second research question: What are the youth’s perceptions of nature, parks, and outdoors (hereafter referred to as nature) before and after the Richmond Rangers program? At the end of the program, the participants were asked to come up with as many words as possible that are associated with nature. Immediately after the session, with the same focus groups, the participants were asked how they would have responded to the same question prior the Richmond Rangers program (10 months earlier). The researcher ended each session when the youth ran out of ideas (four-five minutes for each round). The proffered words were reviewed multiple times and similar words were lumped together into the following emergent categories: attitudes, expressions, activities, objects/phenomena, park knowledge, and people (Table 1, retrospective pre-program; Table 2, post-program).

| Table 1. Participants’ Retrospective Perceptions of Nature before the Program |
|---------------------------------|---------------------------------|---------------------------------|
| **POST-PROGRAM**               | **BIOPHILIA TO NETURAL**        | **DISCOMFORT TO BIOPHOBIA**     |
| Attitudes                       | n/a                             | **boring, dirty, too much work, unsanitary, not clean, heavy work, tired, not fun, not for me, nothing** |
| Expressions                     | n/a                             | **walking dead, this sucks, I want to go home, I need to shower, where is my phone, why do I have to do this, I am dying, I need more water, I’m starving** |
| Activities                      | **climbing rocks, beach, swimming, basketball, playing with kites** | **killing animals, playing video games** |
| Objects and Phenomena           | **pine cones, diamonds and gold** | **tv, motor vehicles, trash, guns** |
| Park Knowledge                  | n/a                             | n/a                             |
| People                          | n/a                             | n/a                             |

Notes. The remaining words not included in the table: gym, toys, sandwiches, and fruit snacks, get candy, Ohio.
Table 2. Participants’ Perceptions of Nature at the end of the Program

<table>
<thead>
<tr>
<th>POST-PROGRAM</th>
<th>BIOPHILIA TO NETURAL</th>
<th>DISCOMFORT TO BIOPHOBIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes</td>
<td>fun</td>
<td>n/a</td>
</tr>
<tr>
<td>Expressions</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Activities</td>
<td>hiking, swimming, backpacking, tents, sweat, hydration, physical and mental endorsement</td>
<td>fighting</td>
</tr>
<tr>
<td>Objects and Phenomena</td>
<td>sunsets, plants (2), berries, bugs, dirt, animals (2), hills, mountains (2), fish, bears, fire, ocean, sea, fire by the sea, tents</td>
<td>n/a</td>
</tr>
<tr>
<td>Park Knowledge</td>
<td>park rangers, national parks</td>
<td>n/a</td>
</tr>
<tr>
<td>People</td>
<td>family, friends, kids, James (staff’s name)</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes. The remaining words not included in the table: nuclear and security.

The changes in the participants’ perception of nature were fairly significant. The participants remembered that they were more apprehensive about nature prior to the 10-month experience. For instance, note the words they associated with nature before the experience: “boring,” “dirty,” “tired,” “not fun,” and “not for me,” whereas the word they associated with nature at the end of the program was “fun.”

The participants thought in retrospect the expressions they would have associated with nature would have been “walking dead,” “this sucks,” “I want to go home,” “I need to shower,” “where is my phone?,” and “why do I have to do this.” These expressions illustrate their early perceptions toward nature were that it was discomforting, unfamiliar, and overall less positive.

The objects that the participants thought they would have associated with nature before experiencing the Adventure Crew/Richmond Rangers were “trash,” “guns,” “TV,” “diamond and gold,” and “pine cones.” With the exception of “pine cones,” the words they came up with were disassociated with tangible natural objects that could actually be experienced during time in nature. Conversely, at the end of the program, the words associated with nature were “sunsets,” “bugs,”...
“dirt,” “plants,” “berries,” “animals,” and “hills” (and many others). The shift from negative unnatural associations to more natural ones suggest that the Rangers’ view of nature experienced a deep shift.

Another interesting finding was that participants demonstrated park-related knowledge in the post-program but not the retrospective pre-program. Moreover, at the post-program, participants brought up the people with whom they were familiar (e.g., “family,” “friends,” and a program staffer’s name). These results suggest that the participants started to view nature as a familiar and welcoming place rather than a foreign place in which they did not belong.

The aforementioned results are still preliminary; however, they do suggest that these participants’ perspectives shifted from biophobic to biophilic. Biophobia is fear and dislike of nature, and biophilia is love of nature (Kellert & Wilson, 1995; Simaika & Samways, 2010). Given that the Park District’s mission is “to preserve a rich heritage of natural and cultural resources…”, this is an important finding. Previous studies have shown that biophilic attitudes lead to positive attitudes toward environmental conservation (Zhang, Goodale, & Chen, 2014). When adult environmentalists are asked about the origin of their commitment to protect the environment, they repeatedly mention positive experiences with nature during their childhood (Chawla & Cushing, 2007; Wells & Lekies, 2006). Stokes (2006) suggested that the expression of biophilia needs to be stimulated through direct and meaningful experience with nature at a young age, otherwise biophobia, defined as “the fear of living things and aversion, and alienation from nature,” may develop (Simaika & Samways, 2010, p.904).

Louv (2008) is often credited as being one of the most persuasive voices to raise the alarm that a lack of direct contact with nature, or “nature-deficit disorder” as he called it, contributes to a wide range of behavioral problems (e.g., negative mood, reduced attention span). Moreover, there has been a series of studies conducted throughout the world that has shown there are not only mental, but also physical health consequences, including increased mortality, associated with low or no contact with the natural world (Hillsdon, Panter, Foster, & Jones, 2006; Pretty, 2004; Takano, Nakamura, & Watanabe, 2002; Thompson Coon et al., 2011; Villeneuve et al., 2012). Because these participants live in an urban environment with scarce opportunities to experience nature, the observed shift of participants’ perceptions toward nature after experiencing the Adventure Crew/Richmond Rangers program suggests this reorientation may be more than just a reorientation towards recreating in the outdoors. The data suggests that participation in the program is a first important step in cultivating future environmentalists and park stewards from communities that would likely not have received the opportunity to develop such pro-environmental attitudes in youth. This can not only serve EBRPD’s mission to protect the natural world, but also may have positive mental and physical health consequences on the participants’ lives. Further studies are recommended to track the long-term program impacts with these and future participants (e.g., park employment, environmental behaviors and attitudes, outdoor recreation).

Association between the Self-Identified Outcomes and the Intended Outcomes
As discussed above, the responses of the focus groups and semi-structured interviews generated the eight self-identified program outcomes as follows: 1) Increased self-efficacy and psychological resilience; 2) Increased desire and confidence to explore nature, which were supported by their new environmental knowledge and outdoor skills; 3) Practiced socio-emotional learning and leadership skills; 4) Improved physical fitness; 5) Anticipated benefits for college entrance and job acquisition; 6) Successful recruitment from under-resourced communities; 7) Program was a safe place for the participants; and 8) Participants’ perceptions of nature tended to shift from biophobic to biophilic views.
The remaining research questions are: “How are these self-identified program outcomes associated with the intended program outcomes?” (listed in Table 3) and “Were there any unexpected outcomes?” The researcher carefully reviewed each of the 11 predetermined program goals associated with the objectives and analyzed if they aligned with the eight program outcomes that emerged from the focus group and semi-structured interview data.

This analysis of data from participants, parents/guardians, and staff provided support that each of the intended 11 program goals were fully or partially achieved:

1. Improve physical health
2. Influence psychological well-being
3. Encourage family involvement
4. Develop outdoor skills
5. Cultivate leadership skills
6. Create a connection to outdoor recreation areas
7. Create positive connections to others
8. Increase participation in outdoor recreation
9. Develop an interest in working in the outdoors
10. Increase knowledge about the natural environment
11. Cultivate a sense of connection with the natural world.

This finding supports the claim that the program successfully delivered the intended program goals. However, the comparative analysis also revealed there were some positive outcomes from participation in the program that were not identified formally as intended outcomes. First, the participants increased their self-efficacy and psychological resilience. Psychological well-being was an outcome (goal 2); however, specific indicators for this goal had not been previously explicated. Therefore, this finding is useful for future programmers who may want to intentionally design for this outcome, and for future researchers who desire to measure psychological well-being. Secondly, acquiring environmental knowledge and outdoor skills was essential for participants to be able to develop confidence and desire to explore the outdoor world. The third unexpected outcome was that the participants thought participation in the Adventure Crew/Richmond Rangers program would benefit their college application. Lastly, this study revealed that many of the participants, directly or indirectly, were dealing, or had recently dealt with, traumatic life experiences. The Adventure Crew/Richmond Rangers program was more than just a place for recreation or education: it was an emotional, social, and psychological refuge.

Suggestions Received from Parents/Guardians
During the interviews and focus groups, the researcher asked if there were any suggestions to improve the program. Some parents reported that their child struggled with hiking, particularly on rainy days. One parent described hiking every other week during the rainy season as “repetitive” and that his
<table>
<thead>
<tr>
<th>THEMES</th>
<th>GOALS</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improve physical health</td>
<td>a. Successfully complete a five-mile hike in three hours.</td>
<td>a. Indicators of physical health (TBD) will improve over the course of the program.</td>
</tr>
<tr>
<td></td>
<td>b. Increase weekly average amount of time spent physically active by more than one hour.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Indicators of physical health (TBD) will improve over the course of the program.</td>
<td></td>
</tr>
<tr>
<td>2. Influence psychological well-being</td>
<td>a. Indicators of psychological well-being (TBD) will improve over the course of the program.</td>
<td></td>
</tr>
<tr>
<td>3. Encourage family involvement</td>
<td>a. Include family members in the monthly Friday night events.</td>
<td>a. Families of participants will support the program and program continuation by attending the Family Nights, encouraging good attendance in the program by their children, and by involving their families in outdoor recreation activities outside of the program.</td>
</tr>
<tr>
<td>4. Develop outdoor skills</td>
<td>a. Set up a tent and camp kitchen without leader assistance.</td>
<td>a. Load a backpack.</td>
</tr>
<tr>
<td></td>
<td>b. Load a backpack.</td>
<td>b. Locate trails and routes on a topographic map.</td>
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<td></td>
<td>c. Demonstrate skills in fishing and boating.</td>
<td>c. Understand how to select and wear the appropriate outdoor clothing, including hiking boots, rain gear, and proper layering.</td>
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<tr>
<td></td>
<td>d. Demonstrate basic first-aid and trail safety rules.</td>
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<tr>
<td></td>
<td>e. Demonstrate basic first-aid and trail safety rules.</td>
<td></td>
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<tr>
<td></td>
<td>f. Understand how to select and wear the appropriate outdoor clothing, including hiking boots, rain gear, and proper layering.</td>
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<tr>
<td></td>
<td>b. Demonstrate effective communication.</td>
<td>b. Demonstrate effective communication.</td>
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<td></td>
<td>c. Demonstrate competence with group leadership.</td>
<td>c. Demonstrate competence with group leadership.</td>
</tr>
<tr>
<td>6. Create a connection to outdoor recreation areas</td>
<td>a. Show an increased appreciation of open space in their community.</td>
<td>a. Show an increased appreciation of open space in their community.</td>
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<td></td>
<td>b. Demonstrate how to access a regional park by public transpiration from their home.</td>
<td>b. Demonstrate how to access a regional park by public transpiration from their home.</td>
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<td></td>
<td>c. Participate in a hands-on conservation project.</td>
<td>c. Participate in a hands-on conservation project.</td>
</tr>
<tr>
<td>7. Create positive connections to others</td>
<td>a. Express positive attitudes toward adult leaders.</td>
<td>a. Express positive attitudes toward adult leaders.</td>
</tr>
<tr>
<td></td>
<td>b. Express positive attitudes toward other program participants.</td>
<td>b. Express positive attitudes toward other program participants.</td>
</tr>
<tr>
<td></td>
<td>c. Become comfortable leading team-building activities.</td>
<td>c. Become comfortable leading team-building activities.</td>
</tr>
<tr>
<td>8. Increase participation in outdoor recreation</td>
<td>d. Increase the number of visits with their family to outdoor recreation areas (including regional parks) within a six-month period.</td>
<td>a. Increase the number of visits with their family to outdoor recreation areas (including regional parks) within a six-month period.</td>
</tr>
<tr>
<td>9. Develop an interest in working in the outdoors</td>
<td>a. Identify a few key professional roles and positions within the park district.</td>
<td>a. Identify a few key professional roles and positions within the park district.</td>
</tr>
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<td></td>
<td>b. Identify the various job opportunities and internships available to youth in the park district.</td>
<td>b. Identify the various job opportunities and internships available to youth in the park district.</td>
</tr>
<tr>
<td>10. Increase knowledge about the natural environment</td>
<td>a. Identify common native plants, trees, and local fauna.</td>
<td>a. Identify common native plants, trees, and local fauna.</td>
</tr>
<tr>
<td></td>
<td>b. Explain basic biological concepts, such as photosynthesis.</td>
<td>b. Explain basic biological concepts, such as photosynthesis.</td>
</tr>
<tr>
<td></td>
<td>c. Understand the importance of key environmental issues, such as clean water.</td>
<td>c. Understand the importance of key environmental issues, such as clean water.</td>
</tr>
<tr>
<td>11. Cultivate a sense of connection with the natural world</td>
<td>a. Demonstrate a greater appreciation and sense of responsibility for nature and the outdoor world.</td>
<td>a. Demonstrate a greater appreciation and sense of responsibility for nature and the outdoor world.</td>
</tr>
</tbody>
</table>
son was “getting bored.” Similarly, another parent commented that hiking on rainy days exhausted her child and left “no energy in attending the trips.” A parent/guardian appreciated that staff provided team-building activities and suggested that more of those opportunities may help bond the participants at an earlier phase in the program.

These suggestions can be interpreted in two ways. On the one hand, it may be that these suggestions could be considered for modifications to future programming. On the other hand, these comments may be interpreted as areas where it is important to increase the parents'/guardians’ understanding about fundamental aspects of the program. If the parents/guardians better understood and identified with the goals associated with hiking and team building, then they may be more likely to understand and support their youth to appropriately frame and overcome these challenges.

Elements Contributing to a Successful Program

The data from the focus groups and semi-structured interviews illustrate the numerous barriers that needed to be overcome. Those issues included logistical challenges (e.g., getting up early on Saturdays, transportation failures, overnight equipment challenges), social or psychological issues (e.g., parents'/guardians’ fear of sending a daughter for overnight camping, clash between supporting child’s independence and a desire to promote family belonging), and more specific fears or concerns about the outdoor environment and the gear they were to use. There were three key elements that contributed to the successful negotiation of these constraints that emerged from the focus group and interviews.

**Element for Success 1: Adult encouragement**

The participants mentioned that at times they struggled to get up early on Saturdays to come to the programs; however, the encouragement they received from parents/guardians and staff helped them overcome this issue. One parent noted that her son preferred to work with computers rather than hike. Therefore, she gave him incentives (i.e., a treat) to attend the trips. One staffer stated “Sometimes the commitment was a lot to come every other Saturday basically and sacrifice their Saturdays to us... They spent a long day at school Monday through Friday and we are asking them to get up early on Saturday. A lot of them go to church on Sunday and then they take their one full day off with us.” A participant said that “I was tired, didn’t feel like coming, (I) wanted to stay home. But (I) was forced to come sometimes. But I am happy I came because it was pretty cool.”

**Element for Success 2: Friendship among participants**

Both parents and participants noted that the friendships participants developed with other Rangers increased their motivation. While discussing how he was able to overcome challenges and keep coming to the program, one participant stated, “I come to hang out with them because I only see them like two times a month.”

**Element for Success 3: Staff took various roles to meet the participants’ needs**

When discussing how each participant felt when accomplishing something during the program, the researcher asked what helped them be successful. All of the participants talked about the importance of staff. The focus group illustrated that staff played various roles, such as caregiver, guardian, disciplinarian, and friend. Participants described staff as “keeping me safe, making sure I am eating and drinking enough,” “cooking for us,” “always on top of...”
everything making sure everything is good,” “so joyful all the time and it makes me feel happy,” “if you do something bad he will tell us not to do it again,” “hangs out with us playing cards so we can socialize,” and “funny.” Participants characterized each staff slightly differently. For instance, they perceived one staffer as nurturing and comforting, and characterized a different staff member as compassionate and friend-like. Overall, the participants recognized that all of the staff created opportunities for them to stretch their comfort zone while providing necessary support. One participant said that “They would push me...so I can accomplish this [backpacking] and all the tasks they give me.”

**Element for Success 4: Staff trust**

Similar to the participants, parents/guardians perceived that the staff’s educational approach and guidance were critical for their child’s growth. This included triggering their desire to learn through building their curiosity, increasing their confidence, and helping the youth make more responsible decisions. During one interview, a parent/guardian described various outdoor activities to which his child was exposed during the program, and added that “The children may be in a stage where they feel lost or uninterested, and the staff has done a great job at guiding them...teaching them how to take care of our nature and value all things.” Another parent/guardian talked about the importance of each child being given a task and commented that “I relate this to a group of ants, working as a team together. They are all given a task, and if it is something that one cannot do on their own, they share the task and work on it as team members.” Another parent/guardian highlighted that their child was given the space they needed to be comfortable with who they are and explained that “They [these kids] don’t want to be who they are, particularly in this age...and [staff] don’t try to change kids but want to make [them] better. Who you are, [is] not bad thing. You’re special as who they are.”

The trust that staff members earned from parents/guardians was essential to overcome the previously mentioned barriers. It allowed staff to directly interact with the participants to mitigate their fear and negotiate other obstacles. That trust was critical to helping create and support participants’ motivation to attend the trips. The positive relationships with parents/guardians were also vital to alleviate parental concerns. These interviews illustrated the strong social ties and trust that participants, parents/guardians, and YES/EBRPD staff have built over time. Future programming may consider bringing in past parents or alumni to talk with new parents and participants during some early Family Nights. One aspect of these peer testimonials that could be particularly important would be to discuss issues of trust. Consider having the parents and alumni discuss the challenges around trust they had early in the program, and how their level of trust developed over time.

Methodologically, it is important to note that the researcher did not specifically inquire about the staff members’ contributions. Therefore, these unprompted, universal accolades for staff provide strong evidence of the importance of these relationships. Future programming should continue to be cognizant of how operational decisions – such as choice of staff (both qualifications and number), staff training, and intentionally creating opportunities for building positive relationships with the targeted community – are critical to program quality.
CONCLUSIONS

The goal of this study was to gather scientific evidence to understand the outcomes of the Adventure Crew/Richmond Ranger program; participants consisted of 14 racial and ethnic minority co-ed youth (11 to 13-years old). The participants came from under-resourced households where the participants’ family income averaged less than half of the California Department of Education (2016) threshold for reduced lunch.

Participants and parents/guardians provided overwhelmingly positive feedback. They described the program as a place to experience new things, learn about the natural environment, make new friends, experience safe adventures, and enjoy a variety of activities. They also felt it was an environment in which each child was able to express their uniqueness. The staff appreciated that the program drew from the “deep vaults” of the Park District to offer a variety of experiences. The only primary constructive feedback was that an alternative to hiking during the rainy season could be considered, or that the importance of this activity could be better explained to the participants and their parents/guardians.

Focus groups and semi-structured interviews with participants, parents/guardians, and program staff captured perceptions of the participants’ experiences and outcomes from multiple perspectives. The overall response rate was 70%.

An in-depth qualitative analysis that included verbatim transcription, open coding, and generation of patterns and themes led to the identification of eight program outcomes:
• **Outcome 1.** Participants gained self-efficacy and psychological resilience through overcoming challenging experiences.

• **Outcome 2.** Participants acquired environmental knowledge and outdoor skills that supported their desire and confidence to explore nature.

• **Outcome 3.** Participants practiced socio-emotional learning and leadership skills through the various collaborative and challenging experiences.

• **Outcome 4.** Participants felt physically fit through challenging activities such as backpacking, long walks, and uphill walks.

• **Outcome 5.** Participants perceived that the Adventure Crew/Richmond Rangers experiences would benefit their college entrance and job acquisition.

• **Outcome 6.** Partner organization and staff successfully recruited from under-resourced communities.

• **Outcome 7.** The program was more than just fun and educational; it provided a safe place for the participants who might have limited resources and support at home and school.

• **Outcome 8.** Participants’ perceptions of nature tended to shift from biophobic to biophilic views.

The shift in participants’ orientation toward nature – from fear to familiar; from dislike to curious; from discomfort to confident – is noteworthy. This is particularly important as the Park District’s mission is to “preserve a rich heritage of natural and cultural resources.” The Adventure Crew/Richmond Rangers program provided direct and meaningful experiences with nature that were perceived as leading to the cultivation of environmental attitudes amongst this group of nascent environmental stewards.

A comparison of the eight program outcomes identified by participants, parents/guardians, and staff showed that they aligned with the intended goals. This affirms that the goals developed collaboratively by EBRPD, YES, and SJSU (Spain & Baur, 2016) were effectively achieved by the current program. Although there may be room to continue to grow in future iterations of the program, the Adventure Crew/Richmond Rangers program achieved all 11 intended program goals.

Some of the self-identified outcomes provide details to better program for and measure the program outcomes for the future. The following four unexpected outcomes were observed: 1) Participants gained self-efficacy and psychological resilience, which are more specific concepts than the predetermined outcome of psychological well-being; 2) Newly gained environmental knowledge and outdoor skills led them to gain confidence and...
a desire to further explore the outdoor world; 3) Participants developed a perceived benefit of the Richmond Rangers’ experiences pertaining to college entrance; and 4) The program seemed to produce more than fun and learning, but also a safe place for individuals who needed emotional, social, and psychological attentions and security.

Reaching the abovementioned program outcomes is notable given that this was the first time a 10-month program for racial and ethnic minority youth living under the poverty line in Richmond and Western Contra Costa County, CA was offered by EBRPD while partnering with a local agency. These youth needed to overcome or otherwise negotiate multiple challenges, including the effect of recent or ongoing trauma, to continue to participate and benefit from the program. Even the simple act of arriving to the bi-weekly Saturday outings was difficult for some participants. The key elements that contributed to the successful delivery of the program included: 1) Adult encouragement; 2) Friendship among participants; 3) Staff taking various roles to meet the participants’ needs; and 4) Staff trust; in particular, the partner agency YES’s pre-established positive relationships with the participants’ family were invaluable assets for participant recruitment and ongoing communication with the participants and their family members.

In summary, it is reasonable to conclude that the Adventure Crew/Richmond Rangers program provided a well-rounded, positive youth development program that contributed to the development of young leaders who care about nature, parks, and outdoors. The positive development outcomes experienced by these youth translate into substantial monetary benefits for participants and society. For instance, a previous study (Foster & Jones, 2005) has shown that “graduating from high school has a lifetime income benefit of $367,000 to each graduating student and preventing a single case of conduct disorder saves society nearly $4 million” (Taylor et al., 2017, p.1164). The literature has yet to reveal the complete costs of prolonging nature deficit disorder (Louv, 2008) and subsequent alienation from nature (Stokes, 2006); however, the current research provides strong evidence that such biophobia will continue to have negative consequences for both individuals and the preservation of parks. Therefore, the biophilia cultivated through direct experiences in this program is valuable to not only the participants and their families, but also to society if the program leads to constituents that help preserve parks and other open spaces.

Further investigations are recommended. Surveys or physiological measures (e.g., BMI, cortisol) could be used to quantify the magnitude of the physical and psychological outcomes identified in this study. Furthermore, collecting participant data from before they participate, to months or years after they stop participating can help identify changes over time and measure the persistence of those outcomes. A comparison group should be used in the future research design to further improve the ability to compare the increases in maturity of this group of participants with similar youth who may also experience some increases in maturity over the course of a 10-month period without the intensive programming. Finally, future research should seek to identify additional indicators (e.g., change in physician evaluations, academic success) to compare to the data collected by researchers from participants, parents/guardians, and staff.
REFERENCES


## Appendix A. Adventure Crew/Richmond Rangers Activity Calendar

### Richmond Rangers Activity Calendar

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kick-Off Parent BBQ Picnic at Miller Knox Regional Park</strong></td>
<td><strong>Saturday, August 20</strong></td>
</tr>
<tr>
<td><strong>September</strong></td>
<td></td>
</tr>
<tr>
<td>Parent Meeting</td>
<td><strong>Friday, September 16</strong></td>
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<tr>
<td>Saturday Expedition - Team Building, Map &amp; Compass at Pt. Pinole</td>
<td><strong>Saturday, September 17</strong></td>
</tr>
<tr>
<td><strong>October</strong></td>
<td></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, September 30</strong></td>
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<tr>
<td>Saturday Expedition – Farm to Table at Tilden Regional Park</td>
<td><strong>Saturday, October 1</strong></td>
</tr>
<tr>
<td>Saturday Expedition – Search for Wildlife at Tilden Regional Park</td>
<td><strong>Saturday, October 15</strong></td>
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<tr>
<td><strong>November</strong></td>
<td></td>
</tr>
<tr>
<td>Parent Meeting</td>
<td><strong>Friday, November 4</strong></td>
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<tr>
<td>Saturday Expedition – Fishing Skills at Alameda: Crab Cove</td>
<td><strong>Saturday, November 5</strong></td>
</tr>
<tr>
<td>Saturday Expedition – Fishing Skills at Castro Valley: Lake Chabot</td>
<td><strong>Saturday, November 19</strong></td>
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<tr>
<td><strong>December</strong></td>
<td></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, December 2</strong></td>
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<tr>
<td>Saturday Expedition – Native American Living History at Martinez Shoreline</td>
<td><strong>Saturday, December 3</strong></td>
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<tr>
<td>Saturday Expedition – Primitive Skills &amp; Native American History at Coyote Hills</td>
<td><strong>Saturday, December 17</strong></td>
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<tr>
<td><strong>January</strong></td>
<td></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, January 6</strong></td>
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<tr>
<td>Saturday Expedition – Low Tide Exploration at Alameda: Crab Cove</td>
<td><strong>Saturday, January 7</strong></td>
</tr>
<tr>
<td>Saturday Expedition – Low Tide Exploration at Pt. Pinole</td>
<td><strong>Saturday, January 21</strong></td>
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<tr>
<td><strong>February</strong></td>
<td></td>
</tr>
<tr>
<td>Parent Meeting</td>
<td><strong>Friday, February 3</strong></td>
</tr>
<tr>
<td>Saturday Expedition – Challenge Hike at Oakland: Sibley Preserve</td>
<td><strong>Saturday, February 4</strong></td>
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<tr>
<td>Saturday Expedition – Challenge Hike at Oakland: Redwood Park</td>
<td><strong>Saturday, February 18</strong></td>
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<tr>
<td><strong>March</strong></td>
<td></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, March 3</strong></td>
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<tr>
<td>Saturday Expedition – Wildflower &amp; First Aid at Black Diamond Mines</td>
<td><strong>Saturday, March 4</strong></td>
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<tr>
<td>Saturday Expedition – Conflict Resolution at Sunol Regional Wilderness</td>
<td><strong>Saturday, March 18</strong></td>
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<tr>
<td><strong>April</strong></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, March 31</strong></td>
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<tr>
<td><strong>Spring Break Overnight Trip at Sunol Regional Wilderness</strong></td>
<td><strong>April 1-3</strong></td>
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<tr>
<td><strong>May</strong></td>
<td></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, May 5</strong></td>
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<tr>
<td>Saturday Expedition – Backpacking Skills at Berkeley: Tilden Park</td>
<td><strong>Saturday May 6</strong></td>
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<tr>
<td>Saturday Expedition – Pond Study at Briones</td>
<td><strong>Saturday May 20</strong></td>
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<td><strong>June</strong></td>
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<tr>
<td>Parent Meeting</td>
<td><strong>Friday, June 9</strong></td>
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<tr>
<td><strong>Overnight Trip at Pt. Reyes National Seashore</strong></td>
<td><strong>June 12-16</strong></td>
</tr>
</tbody>
</table>
Dear Parent/Guardian,

You are invited to participate in a new evaluation project led by San Francisco State University faculty in partnership with East Bay Regional Park District (EBRPD) and YES Nature to Neighborhoods. This project is intended to help the program providers understand the impact of the Richmond Rangers program.

The following information summarizes the project and what it involves:

A. **Project Title:** Understanding Impacts of the Richmond Rangers Program

B. **Purpose:** The aim of this project is to understand the learning outcomes of the Richmond Rangers program offered in 2016-2017.

C. **Participation Requirements:** Upon your agreement to partake in this study, we invite the following:
   - You (parent or guardian) to participate in a phone or in-person interview (total time 30 minutes).
   - You (parent or guardian) will be asked to fill out a 10-minute survey at the beginning, middle, and end of the program.
   - Your child will participate in a group discussion (total time 60-90 minutes).
   - Your child will be asked to fill out a 10-minute survey at the beginning, middle, & end of the program.

D. **Contact information**
   For any questions or to learn more about the project, please contact Professor Aiko Yoshino at ayoshino@sfsu.edu or 415-405-2168.

You and your child are under no obligation to participate and all information is confidential.

Sincerely,

Aiko Yoshino, Ph.D.
Assistant Professor
Department of Recreation, Parks, and Tourism
San Francisco State University
415.405.2168 | ayoshino@sfsu.edu

C.c.
James W. Wilson  Eric Aaholm
Acting Supervising Naturalist II  Executive Director
East Bay Regional Park District  YES to Nature to Neighborhoods
1231 McKay Avenue, Alameda, CA 94501  3029 Macdonald Ave. Richmond, CA 94804
510.544.2527 | jwwilson@ebparks.org  510-232-3032 | eric@yesfamilies.org
Appendix C. Focus Group Protocol and Questions with Adolescents

Script:

Hello. My name is [INSERT NAME]. I’d like to start off by thanking each of you for taking time to participate today. We’ll be here for about an hour and half [or other time frame].

The reason we’re here today is to understand your experiences in the last 10-month Richmond Rangers program. Your opinions and candid thoughts are appreciated.

I’m going to lead our discussion today. I will be asking you questions and then encouraging our discussion.

I also would like you to know this focus group will be recorded. The identities of all participants will remain confidential. The recording allows us to revisit our discussion for the purposes of developing research papers and presentations.

Youth:______________________________________________________________

Focus Group Ground Rules
To allow our conversation to flow more freely, I’d like to go over some ground rules.

1. Only one person speaks at a time. It is difficult to capture everyone’s experience and perspective on our audio recording if there are multiple voices at once.
2. Please avoid side conversations.
3. Everyone doesn’t have to answer every single question, but I’d like to hear from each of you today as the discussion progresses.
4. This is a confidential discussion in that I will not report your names or who said what to your parents or program staff. Names of participants will not even be included in the final report about this meeting. It also means what is said in this room stays in this room.
5. We stress confidentiality because we want an open discussion. We want all of you to feel free to comment on each other’s remarks without fear that your comments will be repeated later and possibly taken out of context.
6. There are no “wrong answers,” just different opinions. Say what is true for you, even if you’re the only one who feels that way. Don’t let the group sway you. But if you do change your mind, let me know.
7. Let me know if you need a break.
8. Are there any questions?

Starting Time:____________ # of participant:____________
Ending Time:____________ # of participants:___________

Observation of youth’s conditions (physical, social, emotional):________________________

Notes:
Phase 1 - Learning Outcome
- How would you describe your experience with the year-long Richmond Rangers program?
- What was your favorite part of the program?
- What was the most challenging (or difficult) part of the program for you?
- Can you think of things that you learned from this program?
  a. Is <learning outcome> important to you? Why?
  b. How could this <learning outcome> possibly be helpful in the future?
  c. What helped you learn <learning outcome>? Can you describe what happened in the program to help you learn <learning outcome>, for example was there a particular activity, discussion, or other experiences that helped you learn <learning outcome>?
- You participated in a variety of activities this year. Can you think of any activities that you could do on your own, with your friends, or with family in the future?
  a. If yes: What are those activities?
  b. If no: Can you explain why it would be difficult?

Phase 2 - Perceptions toward the nature, parks, and outdoors
1. Was there a time that you wanted to stop coming to the program (i.e., a day-long program, family night, backpacking trip)?
   a. If yes: What were the most challenging moments that you had in this program that made you reconsider continuing with the program?
      ▪ Participation barriers: e.g., time, transportation, motivation, types of activities, family/friend dynamic, other?
2. I would like play a quick game. This is not a test and there is no wrong answer. Here is how it works:
   a. I will give you three different words.
   b. Your job is to give as many words as possible that comes to your mind in relation to the keywords that I will give you.
      ▪ Let’s practice. Here are the three words, are you ready? “ice cream,” “cookies,” and “chips.” Now, your job is to come up with as many words as possible associated with those three words. Can you think of any words? [Interviewee respond with some words]. Good.
   c. OK, here is the real one, are you ready? Again, your job is to tell us what words come to your mind when you hear these three words: “outdoors,” “nature,” and “parks.” [Interviewee respond with words, and interviewer write down all the words.]
   d. Can you explain why you responded with these words?
   e. What do you think the common theme is of “outdoors,” “nature,” and “parks”?
   f. What do these words mean to you?
3. Now, let’s pretend that we are doing the same game, but responding to this before the Richmond Ranger program, back in last August. You haven’t even started the first hike with the Richmond Rangers.
   a. If you would have heard those same words “outdoors,” “nature,” and “parks,” what words would you have associated them with back then?
   b. Can you explain why you responded <response>?
   c. How many of you feel that the meaning of those words have changed since you’ve been part of Richmond Rangers?
      Not changed_______       Yes changed_______
      ▪ If no: Why do you think it hasn’t changed for you?
      ▪ If yes: Why do you think it has changed for you?
Appendix D. Semi-structured Interview Questions with Parents and Guardians

Learning Outcome

- How would you describe Richmond Rangers to other parents or guardians?
- What was your child’s favorite part of the program?
- What was the most challenging (or difficult) part of the program for your child?
- Can you think of things that your child learned from this program?
  1. Is <learning outcome> important to your child? Why?
  2. How could this <learning outcome> possibly be helpful in the future?
  3. What helped your child learn <learning outcome>? Can you describe what happened in the program to help your child learn <learning outcome>, for example was there a particular activity, discussion, or other experienced that helped you learn <learning outcome>?
- You and your child participated in a variety of activities this year. Can you think of any activities that your child or family could do on your own in the future?
  1. If yes: What are those activities?
  2. If no: Can you explain why it would be difficult?
    - Perceptions towards the outdoors
- Was there a time that you or your child wanted to stop coming to the program (i.e., a day-long program, family night, backpacking trip)?
  1. If yes: What were the most challenging moments that you or your child had in this program that made you reconsider continuing with the program?
    - Participation barriers: e.g., time, transportation, motivation, types of activities, family/friend dynamic, other?
- I would like play a quick game. This is not a test and there is no wrong answer. Here is how it works: I will give you three different keywords, and you will give as many words as possible that comes to your mind in relation to the keywords that I will give you. So, for instance, let’s say I give you these three words: “ice cream,” “cookies,” and “chips.” Now, your job is to come up with as many words as possible associated with those three words. Can you think of any words? [Interviewee respond with some words]. Good. Let’s do another one. Tell me what words come to your mind when you hear these three words: “outdoors,” “nature,” and “parks”?
  [Interviewee respond with words, and interviewer write down all the words.] Can you explain why you responded with these words?
- Now, let’s pretend that we are doing the same game, but 10 months before. It means that you haven’t start the Richmond Rangers program yet. If you would have heard those same words “outdoors,” “nature,” and “parks,” what words would you have associated with them in back 10 months ago? [Interviewee respond with words, and interviewer write down all the words.] Can you explain why you responded such?
- Finally, now you will guess what your child would respond to the same question. What would be the words that your child would associate with the words “outdoors,” “nature,” and “parks”? What would they have said before the program?
Appendix E. Semi-structured Interview Questions with Parents and Guardians (Spanish)

Learning Outcome

• Cómo describiría la experiencia de su hijo(a) en este año con el programa Richmond Rangers?
• ¿Cuál fue la parte favorita del programa, para su hijo(a)?
• Que piensa que fue lo más desafiante o un obstáculo que tuvo su hijo(a) con el programa?
• Podrá pensar en algunas cosas que aprendió su hijo(a) sobre el programa?
  1. Fue/Es <resultado de aprendizaje> importante para su hijo(a)? Por qué?
  2. Como puede <resultado de aprendizaje> posiblemente ayudar en el futuro?
  3. ¿Qué fue lo que ayudó a su hijo(a) aprender <resultado de aprendizaje>? Podrá describir lo que ayudó a su hijo(a) aprender <resultado de aprendizaje>, por ejemplo, había una actividad en particular, discusión, o tal vez otra experiencia que ayudó aprender (resultado de aprendizaje)
  4. ¿Usted y su hijo(a) participo en varias actividades este año? Podrá pensar en alguna actividad que usted y su hijo(a) podrán hacer de su parte en el futuro?
  5. Si: Que son las actividades?
  6. No: Podrá describir por que sería difícil?

La percepción hacia el aire libre (naturaleza)

En algún momento usted y su hijo(a) quisieron para de venir al programa(un día largo, noche de familia, el paseo de excursionismo con mochila)?

  7. Si: Que fueron los momentos más desafiantes que usted y su hijo(a) tuvieron en el programa que consideraron continuar con el programa
   • Barreras de participación: e.g., tiempo, transportación, motivación, tipo de actividades, dinámico de familia/amigos, otro
   • Me gustaría jugar un juego rápido. Esto no es una prueba y no habrá una respuesta correcta. Así es como trabaja: Yo le daré tres palabras diferentes, y usted me dará palabras, las más que pueda que vengan en relación con la palabra que le daré. Por instante, decir que yo le doy las palabras “galleta, nieve, y sabritas.” Ahora su trabajo es pensar en palabras que se relacionen con las palabras que le do. Tiene algunas palabras en mente?[Responde con palabras] Bueno. Intentemos otra vez. Por favor dígame qué palabras vienen en mente cuando escucha las palabras “al aire libre, la naturaleza, el parque”?[el entrevistado responde con palabras, entrevistador escribe las palabras.]

  1. Podrá decirme porque respondió con estas palabras?
  2. Que piensa que el tema en común con “aire libre, naturaleza, y parque”? ¿Qué significan estas palabras para usted?
  3. Ahora, supongamos que estamos haciendo el mismo juego pero 10 meses atrás. En este tiempo no habían participado en la caminata con Richmond Rangers. Si usted viera escuchado esas tres palabras “aire libre, naturaleza, y parques” que palabras viera elegido, 10 meses atrás. [el entrevistado responde con palabras, entrevistador escribe las palabras.]
  4. Podrá explicar porque dio esa respuesta?
  5. ¿Usted cree que el significado ha cambiado a través de el tiempo que ha estado con Richmond Rangers?
  6. No: Porque piensa que no ha cambiado sus pensamientos?
  7. Si:Porque piensa que si ha cambiado sus pensamientos?

• Ahora, usted va a adivinar qué respuesta nos daría su hija(o) con las mismas preguntas. Qué palabras nos daría al pensar en “aire libre, naturaleza, parque” Que será la respuesta de su hijo(a) antes de empezar el programa?
Appendix F. Semi-structured Interview Questions with Staff

Learning Outcome
- How would you describe the rangers’ experiences with the year-long Richmond Rangers program?
- What were the rangers’ favorite parts of the program?
- What was the most challenging (or difficult) part of the program for the rangers?
- Can you think of things that the rangers learned from this program?
  1. Was <learning outcome> important to Rangers? Why?
  2. How could this <learning outcome> possibly be helpful in the future?
  3. What helped the rangers learn <learning outcome>? Can you describe what happened in the program to help the rangers learn <learning outcome>, for example was there a particular activity, discussion, or other experience that helped them learn <learning outcome>?
- You and the rangers participated in a variety of activities this year. Can you think of any activities that the rangers or their family could do on their own in the future?
  1. If yes: What are those activities?
  2. If no: Can you explain why it would be difficult?
- Was there a time that you noticed a ranger wanting to stop coming to the program (i.e., a day-long program, family night, backpacking trip)?
  1. If yes: What were the most challenging moments that made the ranger reconsider continuing with the program?

Perceptions towards the Outdoors
- I would like play a quick game. This is not a test and there is no wrong answer. Here is how it works: I will give you three different keywords, and you will give as many words as possible that comes to your mind in relation to the keywords that I will give you. So, for instance, let’s say I give you these three words: “ice cream,” “cookies,” and “chips.” Now, your job is to come up with as many words as possible associated with those three words. Can you think of any words? [Interviewee respond with some words]. Good. Let’s do another one. Please tell me what words come to your mind when you hear these three words: “outdoors,” “nature,” and “parks”? [interviewee respond with words, and interviewer write down all the words.]
  1. Can you explain why you responded with these words?
  2. What do you think the common theme is of “outdoors,” “nature,” and “parks”? What do these words mean to you?
- Now, let’s pretend that we are doing the same game, but 10 months before. You haven’t even started the first hike with the Richmond Rangers. If you would have heard those same words “outdoors,” “nature,” and “parks,” what words would you have associated with them in back 10 months ago? [interviewee respond with words, and interviewer write down all the words.]
  1. family/friend dynamic, other?
  2. Can you explain why you responded such?
  3. Has the meaning changed since you’ve been part of Richmond Rangers?
  4. If no: Why do you think it hasn’t changed for you?
  5. If yes: Why do you think it has changed for you?
- Finally, now you will guess what Rangers would respond to the same question. What would be the words that Rangers would associate with the words “outdoors,” “nature,” and “parks”? What would they have said before the program?