Youth Outdoors and Nature

A Review of Literature

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**Introduction**

Many children, yet unfortunately not all, manage to survive and even thrive socially and academically, well into adulthood. A complex array of individual, family, and community factors has been identified in the literature that best explains the connections of youth in relation to nature and outdoor education/recreation. The literature reviewed for this briefing also seeks to associate these "connections" as an integrated context for learning and enhancing the quality of life for all youth. Note that for purposes of this paper "youth" is defined as 12-25 years of age.

Developing resilience, experiencing transformation, changing behavior, and ultimately becoming stewards of our national parks and other protected areas is vital for social, cultural, economic and, indisputably, environmental, sustainability. Furthermore, evidence from nearly 45 resources, as reviewed and summarized in this briefing, shows that when youth develop a relationship with nature, are involved in environmental education, and participate in outdoor recreation activities, they are healthier mentally, physically, and emotionally. Studies were reviewed from 1995-2011 with a focus on the last 5 years.

A range of positive social development and academic achievement outcomes, including improved self-esteem, enhanced talents in leadership, and improved skills in literacy are important effects resulting from involvement in the outdoors. The key to full comprehension, however, is the fact that it takes high quality programs and solid adult mentors to make a lasting impact on youth.

Enter Richard Louv[2]. His book from seven years ago, *Last Child in the Woods*, was the popular work on children and nature that arguably made a large impact influencing the dialogue on the topic "youth outdoors". What he claimed about America’s children in 2005 was bold and startling: "Physical contact, their intimacy, with nature is fading". He laid out his argument that a lack of exposure was having major health and social impact that would continue to have deep, profound effects on our society. His "diagnosis" that many youth were suffering from *Nature Deficit Disorder* (NDD) gave a banner for many professionals and activists, alike, advocating for children and the environment to rally around. (Note: For those less familiar with Louv's work, "NDD" is not a true disorder so should not be considered one).

Furthermore, while urban youth may experience unique life issues, as opposed to their suburban and rural counterparts, many of the trends and challenges meet at the crossroads based on societal and cultural factors indicative of each unique setting. Information provided in this briefing is purposefully broad enough offering information that transcends various boundaries enabling youth providers to move into new actions and plans accordingly.

**Importance of nature-based childhood experiences**

The literature has findings on multiple reasons supporting the value for youth to be exposed to nature and participate in outdoor recreation. Prominent reasons in the literature include positive environmental attitudes, long-term park visitation, and an improvement in physical and mental health.

**Environmental attitudes.** Attitudes towards environmental conservation are one reason that many professionals (and others) have supported getting youth outside. Childhood experiences playing outdoors have been found to have a positive impact on conservation attitudes[3,4]. Metz and Weigel[4], for instance, found that youth who had significant experiences in nature were more likely to be concerned about water pollution, air pollutants, and global warming. Moreover, these youth were more likely to believe that humans could positively affect these issues and identified themselves as strong environmentalists[4]. Zaradic, Pergams, and Kareiva[5] reported that nature-based outdoor recreation experiences during the middle-school years lead to positive environmental behaviors a decade later. In their analysis of almost 400,000 adolescents (15-year olds) in 56 countries, Boeve-de Pauw and Van Petegem[6] analyzed the impact of both individual and contextual level variables to understand youths’ environmental attitudes. They found that most of the variability in environmental attitudes was based on individual level variables, such as exposure to cultural capital (books, Internet, educational software, etc.) and performance in science, rather than the school and country level contextual variables (level of development, biodiversity, pollution, etc.). However, the biodiversity of a country did positively impact youth attitudes. Assuming that youth living in areas with a richer biodiversity have greater opportunities to be in nature, this finding suggests that mere exposure to nature supports positive environmental attitudes.
**LONG-TERM PARK VISITATION.** A variety of research was found measuring long-term outcomes of visiting parks and other protected areas. One example is based on a recent study by Asah, Bengston, and Westpha[7]. They found a significant relationship between visitation to parks as an adult and recall of nature-based activities during childhood as positively influencing their recreation decisions and support of parks.

**HEALTH, CURRENT STATUS, AND FUTURE PREDICTIONS.** Exposure to the natural world appears to be significant for youth’s physical and mental health[8-10]. Research shows parks, and the outdoors more generally, can and do promote health[11]. For example, children in their pre-school years tend to have higher physical activity levels when they play outdoors[12,13]. Higher levels of activity are one important way to combat the rising levels of obesity in late 20th Century America[14]. According to the U.S. Department of Health and Human Services (http://aspe.hhs.gov/health/reports/child_obesity) “the number of adolescents who are overweight has tripled since 1980 and the prevalence among younger children has more than doubled.” This excessive weight gain across populations may have reached a plateau in the last decade[15,16], yet the current prevalence has major health implications[17].

There have been a number of studies, for instance, showing a negative correlation between spending time outdoors and level of activity[18]. Pitcock and Bialeschki[1] substantiate this by explaining what is most important to reversing the youth obesity epidemic is that age across the lifespan has a consistent negative correlation with physical activity, and that activity patterns may start to decline as early as age 6.

Unfortunately, DHHS warns us that obesity disproportionately affects certain minority youth populations; for instance, African American and Mexican American adolescents ages 12-19 are more likely to be overweight then non-Hispanic white youth. Several studies show promising findings indicating the more active people are as children, the more active they are as adults; this correlation is based on research revealing high levels of physical activity in childhood predicts high levels of future activity in all stages of life[1]: “Active, energetic children tended to become active, energetic adults, and in turn tended to remain active”. For that reason, gaining interest in physical activity participation from current generations of young people now could have a reversing effect on future non-participation.

Consequently, obesity could also be a barrier to enjoying parks and natural areas. One study found that obese youth were less likely to have had meaningful experiences in nature and prefer to spend less time outdoors[4]. The majority of studies give all this, coupled with examples of higher physical activity, as an argument that being immersed in natural areas helps people prevent weight gain or lose weight.

The outdoors can also be mentally healthy for youth in ways that are unequivocally extremely beneficial[11,21,22]. The outdoors provides variety and typically reduces constraints necessary to promote free play in young children[12,13]. Free play is important because it helps youth develop the ability to focus, work well with others, and decreases anxiety, depression and aggression[23,24]. Faber Taylor and colleagues[25] found that girls, for example, had a significantly greater ability to concentrate, control their impulses, and delay gratification if they had more natural views from their residence. In contrast, there was not a similar effect found for boys. Findings indicate this was because boys tend to spend less time than girls in and around where they live[25].

Another trend that appears to be driving the decreases in physical activity leading to a rise in obesity[19] is an increase in sedentary technology consumption[20]. For example, Metz and Weigel[4] found that 88% of youth reported using computers daily. Along these lines, research completed by the National Summer Learning Association (www.summerlearning.org/) shows that access to technology does help with learning and academic achievement; but it benefits higher-income children more than lower-income children thereby creating an even greater learning gap between lower- and higher-income groups. This is a problem that can be mitigated through intentional outdoor and environmental programs and activities planned through ongoing organizational efforts.

Claims for exposure to nature helping to develop focus[26] have also been explored for youth diagnosed with Attention Deficit Disorder (ADD) and Attention Deficit and Hyperactivity Disorder (ADHD)[28]. Faber Taylor and Kuo[27] found that children 7 to 12 years old with ADHD demonstrated significantly greater ability to concentrate after a 20-minute walk in a natural environment than a similar walk in a concrete urban setting. Hence, urban parks also undeniably provide a sense of rejuvenation.
**Participation - In or out?**

An increased number of important studies about youth in the outdoors have been published in the last decade. At the national level, for instance, two primary studies found are the Outdoor Foundation’s study of outdoor recreation participation and the National Survey on Recreation and the Environment (NSRE) Youth Module. Much of the research in California has been done by California State Parks and incorporates the CA Children’s Outdoor Bill of Rights (parks.ca.gov/?page_id=24952)

**Studies across the country.** Many U.S. studies have found that American youth are experiencing decreases in their discretionary time that could be used for going outside to play[28]. Moreover, there seems to be a persistent and prevalent claim that youth are still "spending less time outside[29]" and doing less outdoor recreation[29]. Conversely, studies associated with the NSRE Youth Module generally do not find this decrease in youth being outside[30,31]. (www.srs.fs.usda.gov/trends/Nsre/nsre2.html)

Rather, there is some evidence from thousands of national youth studied that they are maintaining their presence in the outdoors and they even help to draw their parents outside[29]. Betz[31] recently reported that two-thirds of youth spend two or more hours outside on weekdays and four-fifths of them spend at least two-hours on weekend days in the outdoors. Metz and Weigel[4] reported that most youth visit a local park, creek, or beach (69%), natural areas outdoors (66%), or "some other natural area" (72%) at least once every month.

**Activity interest.** Larson, Green, and Cordell concluded that, "overall outdoor recreation participation in America may actually be on the rise, with participation trends leaning towards traditional activities such as picnics, family gatherings, and driving for pleasure.«[30]

This conclusion that youth are doing such outdoor activities is not entirely positive. For example, participation in nature-based, and more adventure-type activities (hiking, camping, boating, etc.) is seeing a decrease[32].

In general, the most common activities that youth participate in are playing, simply 'hanging out', biking, running or jogging, skateboarding, and using electronic media outdoors[20,29,30]. The most popular nature-based or adventure activities that youth like to engage in include fishing, camping, hiking, and snowboarding[29].

Other enjoyable activities cited by youth include backpacking, rock climbing, and kayaking.

Research by the Outdoor Foundation[29] found activities with the greatest proportion of youth were skateboarding, BMX bicycling, snowboarding, indoor rock climbing and, interestingly, competing in triathlons.

Conversely, bird watching and wildlife viewing, fly fishing, saltwater fishing, and hunting were the activities with the lowest proportion of youth.

**Motivation and behavior.** According to the American Institutes for Research, the concept of motivation refers to the forces that initiate, direct and sustain human behavior (see www.air.org). The relationship between motivation and outdoor recreation behavior is well established yet quite complex. There are attitudinal concepts, for instance, that interact with motivations and determine behavioral outcomes such as activity involvement. One study found that individuals with a greater variety of motivations and strategies to overcome constraints were more likely to visit parks[7]. Agencies working with youth must consider what their current motivations are and what would motivate them to partake?

Pitcock & Bialeschki, 2010

"Supportive relationships developed between youth themselves as well as with their adult staff are often considered the linchpin to other support systems and opportunities for positive youth development . . ."

**California Studies**

Visits to natural areas and participation in outdoor recreation in California seem to be following national trends. In one example of nearly 300 Bay Area youth, the Bay Area Open Space Council, in partnership with the Pacific Forest and Watershed Lands and Stewardship Council[33] found that most of the youth (87%) had visited a park at least once in the last year[33]. A similar portion of youth (89%) said it was "very" or "somewhat" important to them to spend time outside and almost half (44%) stated they had "too few opportunities" to be outside.

The California Children’s Outdoor Bill of Rights has recently modified their "list" of 10 activities and indicates all young people should experience these by the age of 14. Prior to this current shift, research (on the original "10") with hundreds of children shows that most CA youth do participate in the following activities.[10,34]
1) Play in the water (94.5%)
2) Play in a safe place (87.7%)
3) Hike, bike, or ride on a trail (85.1%)
4) Explore nature outdoors (84.9%)
5) Visit a CA historic site or history museum (84.6%)
6) Learn to swim (84.4%)
7) Play on a sports team (75.8%)
8) Celebrate your heritage (74.1%)
9) Go camping overnight (73.8%)
10) Catch a fish (57.9%)

No published studies were found that specifically relates to the CA Central Valley. Nonetheless, trends at the national and state level show that youth are, in fact, continuing to get outside more often. However, there is some evidence that they are still participating in nature-based recreation less frequently.

The Intricacy of Barriers: Vital to Understand, Difficult to Break Down

There are a number of barriers and constraints that have been reported in the literature. A few key factors include: Lack of time, lack of interest, transportation issues, safety concerns, and a reduction in school-based opportunities.

Studies Across the Country

A variety of barriers discourage youth from going outside to experience natural areas and participate in outdoor recreation activities\(^4,29\). In addition to being overweight and therefore more conscientious and typically uncomfortable (as previously stated), the following four variables seem to rule the current literature:

**Lack of Time.** It is important to note that "time" is a complex variable. It is also culturally-based and contingent on many influences and factors such as economic status, family situation, gender issues, and others.

Multiple studies report that "lack of time," for a variety of reasons, was one of the most common constraints preventing youth from participating in outdoor recreation and environmental activities\(^4,29,35\). For instance, youth spend much of their discretionary time in sedentary activities associated with technology (computer use, playing video games, watching TV), reading, or studying\(^4,30,31\).

**Lack of Interest.** Another primary reason cited regarding why kids don’t go outdoors and participate in outdoor recreation is they simply prefer not to\(^29,35\). Betz\(^31\), for example, reports that the primary alternative activity for youth is consuming music, art, or reading. This preference is especially strong amongst youth that report spending less time outside than in previous years.

**Transportation.** Merely getting to natural areas and parks is one key barrier that appears multiple times in the literature\(^4,29\). For instance, "confusing and costly" transportation options continue to be challenging\(^1,33\) or are basically inaccessible to youth.

**Safety.** Safety, or perceptions of safety, is another issue that is strongest for younger children in both elementary school and middle school\(^35,36\) including trepidation of other people (e.g., "stranger danger"), gang activity in [city] parks, and general fear of any park experience if less familiar or no knowledge. The notion of "lack of safe routes to a transit system" is cross-cutting with connection to the transportation factor noted above.

Studies Across California

The 2010 study by the Bay Area Open Space Council\(^33\) (and partners) found only 13% of youth had not visited an open park space in the last year. This group of non-participants said they had not done so primarily because they were "not interested in going" (42%). However, lack of transportation (21%) and lack of information (25%) were also reported reasons for not visiting or being involved in any outdoor activities.

**Lack of Time.** American youth seemingly have less discretionary time to spend outdoors than they used to\(^29\). Californian youth have also reported they don’t have time to go outside, visit parks, and participate in outdoor recreation\(^1,10\). This factor of "lack of time" deserves further study to explore what this really means, for whom, and why (e.g., priorities?).

**Lack of Interest.** Youth also lack motivation to go outside because of a perception regarding "lack of things to do in the park" and they would "get bored"\(^10,33\). Research shows they would...
experience the outdoors more if they could go to concerts, watch movies, go climbing, play paintball, go biking, skateboard, and try geocaching in parks; but they didn’t have the knowledge, equipment, or opportunity to do so. Youth also expressed they didn’t know anyone that would go with them to the park or that their parents did not approve of them spending time outside.\cite{33,38}

**Transportation.** Consistent with national studies, many CA youth express transportation is a major barrier preventing them from visiting natural areas and participating in outdoor recreation.\cite{33} Much like other park visitors,\cite{37} under-resourced youth primarily rely on cars to get to parks and open spaces. This reliance on private automobiles may be an issue, since many under-resourced youth may not have access to a car. More generally, youth in the Bay Area Open Space Council, et al.\cite{33} study indicated transportation was an issue because they "did not know how to get to the parks", "it was too expensive", and "it took too much time to get there".

**Safety.** The perception of danger is a primary issue that youth give for not visiting California parks and natural areas.\cite{33,38} "Fear of dangerous people" is a primary safety reason that has been found by multiple studies.\cite{1,33,38}

Goldenberg and colleagues\cite{38} found CA youth were also afraid of homeless individuals, gang members, and older youth that they might encounter in outdoor environments. Other issues highlighted in the literature include fear of getting lost, getting attacked by dangerous animals, getting injured, getting in trouble for unintentionally breaking the rules,\cite{33,38} and/or fear of crime, broadly.\cite{1}

**Organized Activities.** Several CA studies reviewed also include organized school activities as one major channel for getting youth outside via field trips\cite{10} as well as research on 'out of school time' as a way to engage kids, broadly.\cite{1}

Unfortunately, schools must surmount administrative and logistical obstacles to support getting students to parks and other more natural (e.g., remote) outdoor areas.\cite{33} The paperwork and money required to acquire permission and secure transportation is often an impediment to such trips. Moreover, there is a fear from some decision-makers that scarce school time is better spent preparing students for high stakes educational tests.\cite{33}

There are many constraints experienced by youth regarding getting outside and developing a relationship with nature. Again, primary factors include lack of time, lack of interest, limited organized activities, safety concerns, and transportation issues.

**Group Differences by Demographics**

Research shows there are differences between groups of youth such as by sex/gender, age, race/ethnicity, income, and geography/location.

**Sex/Gender.** Studies reviewed show girls spend less time than boys outside and participate in outdoor recreation less frequently.\cite{29-31,39} Moreover, girls’ participation drops at a greater rate than boys as they get older (see Table 1). Girls typically engage in more passive activities while they are outside.\cite{31} Music, art, and reading tend to be the alternative to active outdoor recreation that females choose more often than males.\cite{30,31}

![Table 1. Participation in Outdoor Recreation by Gender and Age](image-url)

<table>
<thead>
<tr>
<th>Age</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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<tbody>
<tr>
<td><strong>Females</strong></td>
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<tr>
<td>6 - 12</td>
<td>77%</td>
<td>54%</td>
<td>51%</td>
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<tr>
<td>13 - 17</td>
<td>61%</td>
<td>55%</td>
<td>52%</td>
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<tr>
<td>18 - 24</td>
<td>58%</td>
<td>54%</td>
<td>50%</td>
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<tr>
<td><strong>Males</strong></td>
<td></td>
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<tr>
<td>6 - 12</td>
<td>79%</td>
<td>74%</td>
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<tr>
<td>13 - 17</td>
<td>72%</td>
<td>71%</td>
<td>64%</td>
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<tr>
<td>18 - 24</td>
<td>69%</td>
<td>66%</td>
<td>59%</td>
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<tr>
<td><strong>Overall</strong></td>
<td><strong>39%</strong></td>
<td><strong>36%</strong></td>
<td><strong>34%</strong></td>
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</table>

\[\text{Table 1. Participation in Outdoor Recreation by Gender and Age}\]

\[\text{a Faber & Kuo, 2009}\]
In contrast, boys are more likely to be just 'hanging out', playing on team sports, or using motorized recreation vehicles\[30\]. Boys are also more than twice as likely to say that nature activities are their "favorite" type of outdoor recreation\[30\].

One reason for the relatively low participation of girls in outdoor recreation is likely their motivations. Females tend to be more motivated than males by extrinsic reasons (exercise) and less by intrinsic reasons (fun) at all ages\[29\].

**AGE.** It is consistently found that youth spend less time outside and recreate outdoors less as they get older\[29,30\]. Children (up to 12 years old) partake in more physically active programs outside while teens are more sedentary\[30\]. The Outdoor Foundation\[29\] research revealed that while 64% of younger children were involved in outdoor recreation, participation decreased to 61% in their teen years (13 to 17 years), and further dropped to 54% when they became young adults.

One reason for decreased participation across the lifespan may be a decrease in intrinsic motivation. Motivations for participation in outdoor recreation tend to be less intrinsic over time. For instance, rather than participating for fun or enjoyment, more people seem to participate in outdoor recreation for exercise as they get older\[29\].

Another reason for the decrease is likely a lack of discretionary time. Youth report a "lack of time" becoming more of an issue as they get older\[29\]. Children (12 and under) tend to spend more time participating in video games and watching TV or viewing DVDs, while teens are "surfing the Internet, text messaging or shopping"\[30\].

**Lack of interest** is also a barrier that has unequal impacts on different ages of individuals. Lack of interest in outdoor recreation peaks during the teenage years\[29\]. Furthermore, **fear of personal safety** in parks is more of a concern to youth than adults\[30\]. This is often based on influences from messages received from parents or other adult caregivers.

**RACE/ETHNICITY.** There are a few interesting discrepancies in the literature about outdoor recreation participation of youth regarding race/ethnicity. Metz and Weigel\[4\] found, for example, that one's racial background was not connected to the probability of having meaningful experiences outdoors. Another study showed Hispanic youth tend to be outside more, while Black youth report greater decreases in time outside\[30\]. In contrast, White youth may be more likely to participate in outdoor recreation than other groups\[29\].

Moreover, Hispanic and White youth report participating in a greater diversity of outdoor recreation activities\[30\]. This finding complements the finding that Black youth report more barriers to participation, but appears to contradict the finding that Hispanic youth also report more barriers than White youth\[30\]. Larson, Green, and Cordell\[30\] report a series of study results worth noting. While outdoors, White youth tend to be less involved in team sports and more likely to participate in motorized sports. Black and Hispanic youth are more likely to be engaged with electronic media outdoors. Black youth are less likely than White, Asian, and Hispanic youth to participate in any nature-based activities such as hiking, camping, fishing, and wildlife viewing.

![Table 2. Participation in Outdoor Recreation by Race](image)

**Source:** Outdoor Foundation, 2010

"Minority populations are underrepresented in outdoor recreation ~ 79% of youth outdoor participants are Caucasian"
INCOME. There is no clear pattern found in the literature regarding participation relative to income. However, the highest participation rates in outdoor recreation have been found for those that have the highest household income\cite{1,10,29}. As shown in Figure 1 below, 45 percent of outdoor participants are from households with incomes of $75,000 or greater. This is consistent with decades of recreation research.

Figure 1. Participation by Household Income\textsuperscript{a}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{income.png}
\end{figure}

\textsuperscript{a}Outdoor Foundation, 2010

GEOGRAPHY. Youth in the Intermountain region and the upper Midwest have the highest outdoor recreation participation rates among youth (65% and 64%, respectively). Youth living in the South and Mid-Atlantic states seem to participate much less\textsuperscript{29}. The Pacific West region (WA, OR, CA) is home to a surprisingly smaller proportion where 14% of all American youth outdoor participants live yet their participation rate is 58%. Further investigation is necessary to get more information on how youth involvement outdoors varies by geography including a breakdown of regions within California.

What Can Organizations Do?

There are many recommendations in the literature for getting youth outside and increasing their exposure, comfort and overall participation in outdoor recreation and nature-based programs. The recommendations presented below flow largely from the constraints/barriers and group differences reported in the literature. Further strategies should be developed for specific locations/geography and targeted groups of youth. The 25 sample recommendations provided in this briefing are summarized from the literature reviewed and organized as follows: Structural, Resource, Activity, Outreach, Transportation, and Technology. Indisputably, implementation of these suggestions is contingent on many factors.

STRUCTURAL
1. Provide larger natural recreation areas closer to where youth live
2. Offer age-specific recreation areas and facilities in locations of interest
3. Provide extra lighting and keep the park clean for increased safety
4. Provide youth desired facilities such as swimming pools, hiking trails, mountain biking trails, and sports fields

RESOURCE
5. Provide multi-lingual interpretation and education programs and materials
6. Provide outdoor recreation equipment and gear as needed
7. Consistently hire high quality staff representative of the youth served

ACTIVITY
8. Create fun, hands-on activities with input for experiential opportunities by the youth themselves
9. Provide age-appropriate activities (teens get frustrated if programs are "too elementary")
10. Provide opportunities to be an outdoor leader and ensure teens are challenged
11. Organize social events in the outdoors and facilitate connections with nature
12. Create programs that focus on youth’s immediate needs (\textit{health, environmental justice, fun})
13. Expose youth incrementally to nature/open space/park experiences through schools or other organized groups and programs
14. Look after their physical comfort and safety
15. Design programs that have direct relationship and relevance to CA state educational standards
OUTREACH
16. Base outreach on what is meaningful for youth (health, environmental justice, and fun)
17. In marketing materials, use words that youth most associate with nature (peaceful, free, calm, cool, and happy) and images that appeal to them (other youth, physical activity, sense of enjoyment, in and around water)
18. Encourage mentors and various adult role models to introduce and expose youth to different activities that occur in the natural environment.
19. Connect with youth through their peers and be conscientious of race and gender impacts
20. Develop and/or expand partnerships between schools, parks agencies, outdoor education organizations, and health-related organizations

TRANSPORTATION
21. Provide simple and easy to read public transit maps
22. Promote transit lines that directly serve parks and natural/open space areas
23. Create partnerships between transit agencies and outdoor education programs

TECHNOLOGY
24. Combine technology with outdoor recreation activities (be innovative and make it fun)
25. Realize just providing access to technology isn’t enough. The ability to access knowledge effectively isn’t intuitive, but learned, so find a way to provide guidance and direction

A special note is required on the topic of technology. Outdoor professionals have long been leery of technology and, as previously mentioned, technology-based activities often keep youth inside and sedentary. On the other hand, technology could be used to draw youth into the outdoors. In her study of outdoor activities in a Los Angeles city park, Chavez found that youth rated technology-based activities (camera safari and geocaching) higher than activities that did not rely on technology (paper etching and a natural scavenger hunt). Other technology enhancements that managers and programmers could promote, and many are already doing in many locations across California and the nation, include podcasting and providing free wireless in parks.

Concluding Thoughts
It appears that youth across the U.S. are getting outside more, but they may be participating in certain outdoor recreation activities, especially nature-based recreation and adventure, less than they previously did. Also, participation by youth differs in subtle and stark ways by sex/gender, age, race/ethnicity, income, and geography.

Additionally, physical activity habits and outdoor recreation participation of youth have been changing over the past 40 years. Research shows some correlation of these changes to the increases in obesity levels. More research in the last ten years shows the physical environment, media and advertising, socioeconomic status, race/ethnicity, family structure, and pure genetics, all have an influence on diet as well as physical activity levels and outdoor recreation patterns among American youth.

There are a number of barriers that deter youth from going outdoors and participating in outdoor recreation (at all or more often); yet interesting recommendations are provided in the literature for circumventing or mitigating these barriers. Many youth in CA may be suffering from “Nature Deficit Disorder”, but the picture is no longer as dire as Louv once posited over seven years ago. CA youth have many opportunities that are unprecedented.

Youth-serving organizations, and agency partners, must continue to provide the exposure, awareness, and positive experiences for youth in order to enhance the current slow, but steady, rise in youth involvement and participation outdoors. Relevance matters and the restorative powers of nature rules.
Endnotes and List of Work Cited

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