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Overcoming Environmental Injustice: Getting Latino Kids Outdoors

Melissa Ocana, 2011–12 CHCI-Shell STEM Graduate Fellow

Abstract

Many Latino children face environmental justice barriers to outdoor activity because they live in urban polluted areas that lack adequate green space. These challenges represent a serious issue facing our community because Latino children are missing out on the recognized benefits of outdoor activity. The benefits of improved physical and mental health are oft-cited, but outdoor activity can also promote critical-thinking skills, academic improvement, and formative experiences that create interest in the sciences and stewardship of the local environment. Given the lack of Latino representation in science, technology, engineering, and math (STEM) fields, it is useful to consider promotion of outdoor activity as another potential means to increasing representation. This paper discusses the benefits of and barriers to promoting outdoor activity among Latino youth. It brings attention to existing efforts, such as legislation and federal agency and non-profit programs, and recommends ways to engage more youth in the outdoors.

Introduction to the benefits of outdoor activity

The importance of outdoor activity to children's mental and physical health has been gaining increasing awareness in the last decade. For example, getting children to be active outdoors is one effective

way to combat the obesity epidemic that plagues 38.2 percent of Latino children ages 2 to 19 (Ogden et al. 2010). Time spent in nature has also been shown to reduce anxiety and stress and increase psychological well being (Strife and Downey 2009). In 2005, Richard Louv coined the term "nature-deficit disorder" to describe the growing gap between humans and nature and the negative implications that result for health and well being, particularly for developing children. Partly as a result of his efforts, "Leave No Child Inside" movements have popped up across the country to connect children and nature. These regional campaigns rally around the promotion of K–12 environmental education and physical contact with the outdoors and nature.

This paper will focus on the less-recognized benefits of outdoor activity, such as the potential for academic improvement and fostering interest in nature and in the sciences, with an emphasis on the Latino community. While this paper focuses on Latino youth, much of what is discussed is relevant to youth living in high poverty urban areas and to other groups, particularly African-Americans or Asian-Pacific Islanders.

Barriers to Outdoor Activity

The Environmental Protection Agency (EPA) defines environmental justice as the "fair treatment and meaningful involvement of all people regardless of race, col-

or, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." The operative phrase is "fair treatment," which means that no group should bear a "disproportionate burden of environmental harms and risks" (EPA 2011). Unfortunately, there are many environmental justice issues that plague Latino communities throughout the country. Two that pose particular barriers to outdoor activity are the inequitable distribution of pollution burdens and lack of green space.

Many Latinos face poor environmental conditions in their neighborhoods: the majority of Latinos live in areas that do not meet federal air quality standards (Quintero et al. 2011). Nearly one out of every two Latinos lives in the cities that have the most ozone pollution (American Lung Association 2011). Poor air quality can negatively impact health in a number of ways, including respiratory illnesses. The Center for Disease Control and Prevention reports that Latino children are 60 percent more likely to suffer from asthma attacks than white children (National Center for Health Statistics 2011). Poor air quality could put youth in polluted areas at risk if they engage in outdoor activity and be a barrier that prevents families from encouraging youth to spend time outdoors.

Environmental justice initiatives initially focused on proximity to undesirable hazards, such as pollution, but now often also

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refer to the unfair distribution of amenities (Sister et al. 2010). The unequal provision of parks and green space among communities influences the ability of youth to engage in outdoor activity, particularly in urban areas. Los Angeles affords an ideal case study as it is a city with a high percentage of Latino residents and a history of environmental inequality. A study of census tracts in the city found that the low-income areas and neighborhoods dominated by minority groups had much lower access to parks, with Latinos having the least access (Wolch et al. 2005). Inadequate parks that are poorly maintained or unable to meet the demand of potential visitors are similarly a problem. Latinos in Los Angeles live in areas where more residents have to share less park space (Sister et al. 2010).

The example of Los Angeles is indicative of the particular challenges faced by youth in urban areas. Inner-city urban youth may feel the compounded effects of environmental justice issues with other barriers, such as perceptions of safety in public spaces (Farley et al. 2007). A 2005 survey of California residents revealed that, in addition to thinking that more parks were needed in their neighborhood, Latinos were more likely to report feeling unsafe using parks (California State Parks 2005).

Latinos in Science, Technology, Engineering, and Math (STEM)

One topic receiving much attention at the moment is the need to promote Latino recruitment to STEM fields. Despite the high rates of unemployment plaguing the nation, many STEM jobs are unfilled because of a lack of qualified applicants (Crotty 2011). Latinos are the fastest growing ethnic group warranting special attention to their role in the future workforce. According to the 2010 census, 23 percent of children ages 17 and younger are Latino and there was an increase of nearly 5 million

Latino children over the last decade (Passel et al. 2011). Given this demographic growth of Latinos in the U.S., Latinos need to be adequately trained if the U.S. hopes to remain competitive globally in the burgeoning STEM arenas. Unfortunately, Latinos are currently severely underrepresented in STEM fields; while Latinos represent 16 percent of the US population, they only account for 6 percent of those in STEM careers, compared to non-Latino Whites who make up 72 percent (U.S. Census Bureau 2009). Further, only 2.2 percent of Latinos who are 24 years old have earned a first university degree in the natural sciences or engineering, as of 2009 (National Academies of Sciences 2011). Latino students also tend to underperform in disciplines that build the foundation of future careers. For example, Latino eighth grade public school students scored on average 30 points lower than White students on the National Assessment of Educational Progress science assessment in 2009 (National Center for Education Statistics 2011).

With all the discussion over how to increase Latino STEM involvement and improve academic performance overall, one tactic to consider is promotion of youth outdoor activity. Exposure to the outdoors provides potential for the formative experiences that can inspire youth to pursue the sciences and promote interest in the natural world. Extracurricular nature experiences were found to have the strongest correlation with interest in biology in a study of Finnish secondary school students (Uitto et al 2006). Broad conversations with biologists have conveyed the importance of childhood nature experiences and renowned scientists often point to formative experiences. As the President of the British Ecological Society, John Grace, stated, “almost all of us who profess to be ecologists or biologists were ‘turned on’ to the subject by fieldwork at school” (Barker et al. 2002).

The cognitive benefits of outdoor ac-

tivity can improve students’ academic achievement. Playing in nature during childhood is important for development of problem-solving skills and creativity, and improves concentration (Kellert 2005; Strife and Downey 2009). Combining improvement in academic performance with piqued interest in the sciences could be a winning combination for Latino students.

Environmental education that incorporates outdoor lesson plans is a vital part of K–12 curricula and provides excellent examples of the impact of engaging youth with the outdoors. Outdoor learning experiences have been found to be more effective at development of cognitive skills than classroom-based learning (Eaton 2000). A study of high school students in California found that those in schools with environmentally-focused curriculum scored higher in 72 percent of academic assessments compared to students from traditional schools (State Education and Environment Roundtable 2000). Another study in California evaluated residential outdoor education programs for at-risk sixth graders from predominantly Latino-serving schools with high percentages of English Language Learners; the authors found that students who attended outdoor school raised their science test scores by 27 percent compared to before the program and that this increase in knowledge was maintained for weeks following the program’s end (American Institutes for Research 2005).

When looking across studies of environmentally active adults, such as environmental educators, the findings suggest that formative outdoor experiences during childhood and role models (such as parents or teachers) predispose future interest in nature (Chawla and Cushing 2007; Chawla 1999). Developing interest in nature, particularly in the local environment, is an essential first step to fostering interest in protecting and enhancing the local community’s access to nature.

Environmental justice barriers must be overcome to ensure Latino youth have a fair chance to reap the many benefits of outdoor activity. In particular, outdoor activity can result in youth engagement in STEM fields and academic improvement.

Existing Federal and non-profit efforts to address outdoor activity in youth

Non-profit

There are a variety of Federal and non-profit efforts, both separately and in tandem, that affect outdoor activity in youth. Within the non-profit sector, there are far too many programs to list that range from providing youth with peer role models, to providing educators with outdoor lesson plans, to improving access to and knowledge about public lands. For example, the National Hispanic Environmental Council provides a residential field programs for youth with outdoor curriculum presented by Latino science professionals. Non-profit organizations and their partners have also teamed up to create coalitions, such as the Outdoor Alliance for Kids Coalition and the Children and Nature Network.

Legislative

Unfortunately, a number of efforts to de-regulate emissions of air pollutants have surfaced in the 112th Congress, such as the EPA Regulatory Relief Act (H.R. 2250), which delays pollution reduction from industrial boilers and incinerators. Despite these potential setbacks to air quality that affect outdoor safety, a number of federal bills strongly promote outdoor activity. In particular, two recent pieces of legislation that take on different aspects to the issue are the Healthy Kids Outdoors Act of 2011 (H.R.3353/S.1802) and the No Child Left Inside Act of 2011 (H.R.2547/S.1372). Given the fiscally austere times and political gridlock in the Congress, it is unlikely that these legislative proposals will be passed in the near future. However, this legislation brings an important issue to the forefront of attention.

The Healthy Kids Outdoors Act was proposed to combat the obesity epidemic and promote the many physical and men-

tal benefits that research has connected with outdoor activity. The Act authorizes various efforts by the Secretary of the Interior to support research on the benefits of active outdoor time and provide incentives to create both federal and state strategies for getting children and families involved in nature. State agencies would collaborate to fund local-level initiatives and federal agencies would be directed to create a national action plan.

The No Child Left Inside Act of 2011 proposes federal assistance to states to develop environmental literacy plans and to establish school partnerships with colleges or non-profits to increase locally developed environmental education programs. The Act acknowledges the importance of environmental education to enhance science learning and the importance of outdoor learning to improve physical and mental well-being. The Act also addresses teacher capacity by promoting professional development on outdoor education.

Executive

The Executive branch has taken a lead to promote outdoor activity among youth. The Administration kicked off the overarching America's Great Outdoors Initiative in 2010 to develop a 21st century conservation agenda for reconnecting the public with the natural world and public lands. Recently, the Administration released a progress report detailing how federal agencies are working with each other and the private sector on successful initiatives, such as providing over 50,000 young people with work and service learning opportunities on public lands over the past two years.

In February of 2012, the Departments of Education and Interior signed a Memorandum of Understanding to promote connections among schools and public lands at a local scale. The Departments

will collaborate to use national parks and wildlife refuges as experiential learning classrooms that connect youth with the outdoors. Secretary of Education Arne Duncan voiced how this agreement works to increase STEM engagement, "Partnerships between our nation's schools and our national parks, wildlife refuges and other public lands is a smart approach that can better prepare our children in STEM subjects by providing engaging, hands-on learning experiences, making lessons tangible, and enhancing schools' ties to their communities" (Department of Interior 2012). This agreement includes professional development opportunities for educators with a special emphasis on those in Title I (with large low-income populations) and high-need schools.

In February of 2011, responses from youth listening sessions and online comments were amassed and reported as part of a conservation action plan submitted to the President by several agencies. Two key goals that youth put forward as vital to the conservation agenda were to 1) ensure access to outdoor places that are safe, clean, and close to home, and 2) build upon a base of formal and informal environmental and outdoor education (America's Great Outdoors 2011). These goals are reflected in the underlying motivations for the broad recommendations below.

Recommendations

Environmental justice barriers must be overcome to ensure Latino youth have a fair chance to reap the many benefits of outdoor activity. In particular, outdoor activity can result in youth engagement in STEM fields and academic improvement. There are many methods for increasing opportunities for Latino youth to engage with the outdoors, including recent efforts by the federal government. Broad recommendations for further action follow.

The National Wildlife Federation and the U.S. Fish and Wildlife Service both offer resources for creating schoolyard habitat. These outdoor classrooms are planted by schools to attract wildlife and to allow students to learn from creating and monitoring their schoolyard habitat.

Federal and state agencies and non-profit organizations

There are many initiatives underway both through federal agencies and non-profit organizations to support outdoor activity among youth, including those previously mentioned. Continued support for these efforts is essential, especially encouragement of outreach to the neediest youth to create a growing network of communities that know about these opportunities and reap the benefits of being outdoors.

Support legislation that encourages outdoor activity

Public and private support for legislative efforts that address getting youth outdoors would send a clear message to legislators on the importance of this issue across constituent groups. The Healthy Kids Outdoors Act of 2011 could be further improved by explicitly noting the potential use of outdoor learning environments to promote STEM engagement. The No Child Left Inside Act could target some of the proposed grant funding explicitly for underserved or low-income communities.

Preserve funding for federal agency programs

With budgets tight, there is a movement among some political leaders to disproportionately cut funding from federal agencies related to the environment, such as those in the Department of the Interior, that provide essential programs. Opposing spending cuts to these programs is essential to maintain forward momentum towards increased outdoor activity. In lieu of cutting funding to programs, there are internal ways to potentially reduce spending and focus investment. Agencies could target funding in a given program to the top 20 communities that are most in need, which are likely to be urban high poverty areas. Funding could also be targeted at the most effective models, though an

absence of data may make that criterion difficult to determine. Two potential models are the result of non-profit organizations and businesses that have partnered to provide at-risk inner-city youth with outdoor sporting activities (Outdoor Outreach) and prepare them to be outdoor peer educators (National Natural Leaders Network).

Preserve and pursue regulations for clean air

Broader environmental challenges, such as air quality, can hinder outdoor activity. Legislation that reduces clean-up of air pollutants is counterintuitive to efforts to reap the benefits of outdoor activity. Constituents should be educated in the outcomes of unregulated pollution that trickle down to the ability of a child to breathe and play safely in his or her own neighborhood. Policy-makers, in turn, can show their support for regulation of air pollutants that affect their constituents' health.

Educational opportunities

Improve school grounds

Given the current funding and political challenges at the federal level, state and local-level initiatives will have a large role to play in promoting outdoor activity and exposing Latino youth to the STEM fields. Progress towards connecting Latino youth with nature can be gained through the efforts of school districts, individual schools, and their boards to improve their grounds. As a first step, schools could apply for existing grants that may exist at the state or local level to create safe outdoor green space. For example, the Kansas Green Schools Grants provide funding for schools to improve outdoor classrooms. An excellent way to promote outdoor activity is through school gardens or habitat because they provide hands-on curricular

opportunities in an accessible location. They also provide additional benefits, such as fresh vegetables for a healthful cafeteria program, opportunities for wildlife viewing, and fostering a sense of stewardship in students from caring for their school grounds. The National Wildlife Federation and the U.S. Fish and Wildlife Service both offer resources for creating schoolyard habitat. These outdoor classrooms are planted by schools to attract wildlife and to allow students to learn from creating and monitoring their schoolyard habitat. Over 3,000 schools are certified through the National Wildlife Federation and receive access to a network of outdoor educators.

Incorporate outdoor curriculum and teacher training

If schools incorporated outdoor lesson plans into science curriculum, then students would have the opportunity to receive the benefits of outdoor activity. One aspect of incorporating new lesson plans is connecting teachers with excellent curriculum, a variety of which is freely available through non-profits, federal agencies, and schools. A more difficult issue is that of unprepared and uninspired educators or strict testing requirements that leave little flexibility in curriculum. Supporting the No Child Left Inside Act is one way to address these challenges as the Act promotes professional development on how to integrate field experiences into lessons.

Research

Evaluate existing efforts and impacts on Latino youth

The above endeavors reflect a growing variety of programs that connect youth to the outdoors. However, evaluation of programs is essential to understanding their

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impacts and providing future evidence of success when budgets are tight. Program managers should quantify program impacts and summarize them as clearly as possible for dissemination. Program evaluation may require expert consultation, though online evaluation tools, such as My Environmental Education Evaluation Resource Assistant (<http://meera.snre.umich.edu>), may help. Further research explicitly quantifying the connection between outdoor activity and academic performance, such as test or other assessment scores, in various disciplines would help determine effectiveness. Cognizant that comparative studies are very important but can be difficult to undertake (Dillon et al. 2006), evaluations are required that examine the benefits of specific outdoor curricula and compare among matching schools (e.g., of similar size and geography) to minimize the confounding effects of schools' differences.

Given that Latinos are a key growing demographic group, research is needed to assess how well programs reach this target audience. Studies that focus on the relative effectiveness of specific STEM curricula or programs in low-income or underserved neighborhoods and within the Latino community are needed.

Provide Funding

A competitive grants program could help maximize funding and generate new data explicitly about success of programs within the Latino community. Funds could be provided through a public-private partnership and awarded to a few programs that would carefully quantify the outcomes of their program or curricula. Given the current fiscally austere times, programs should also consider further partnerships with philanthropic foundations and incorporating an outdoor activity

component to exiting programs. As outdoor activity touches on many challenges facing society, there are opportunities for supporting common goals. For example, one goal of the Robert Wood Johnson Foundation is to "reverse the childhood obesity epidemic by 2015 by...increasing opportunities for physical activity in schools and communities across the nation" (Robert Wood Johnson Foundation 2011). This Foundation even has a focused Latino youth effort called Salud America. An easy connection could be made to promote physical activity outdoors to both tackle obesity and foster academic benefits.

Municipalities

Increase access to parks in underserved communities

Ultimately, for youth to get outdoors, there must be safe green space for them. As such, general efforts to promote cleaner communities with designated green space are key. Municipalities must prioritize preservation of open space when creating development plans and zoning. A number of cities have open or green space policies and nonprofits, such as the Urban Greenspaces Institute, can provide examples for cities looking to enhance green space. With funding limitations, new park designations should be prioritized in those areas of most need. Methodologies for assessing neighborhood access to parks, such as that used in the study of Los Angeles census tracts (Wolch et al. 2005), can help determine where new parks can be most impactful for low-income or minority communities.

Conclusion

Promotion of outdoor activity can help strengthen the Latino community by improving academic performance, initiating youth interest in the sciences for future success in the STEM fields, and inspiring youth to be environmental stewards of their local communities. Unfortunately, there are multiple barriers that pose a challenge to outdoor activity in Latino communities. The above recommendations of further action highlight potential tactics to move forward and provide outdoor experiences for Latino youth, including supporting existing programs and pending legislation, targeting funding, and conducting further research to solidify the impacts of specific outdoor activities. If the stakeholders in the private and public sectors support existing efforts and initiate new ones, we can tackle pressing education, STEM workforce, and health issues facing Latino youth by providing them with the benefits of outdoor activity.

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