

## Creating Playgrounds, Where Playgrounds Do Not Exist: A Community Based Approach

Alejandro Espinoza<sup>1</sup>, Shari McMahan<sup>2</sup>, Todd Naffzinger<sup>2</sup>, and Lenny Wiersma<sup>2</sup>

<sup>1</sup>*Latino Health Access, Santa Ana*  
<sup>2</sup>*California State University, Fullerton*

### Abstract

Recent emphasis has been placed on the effect the built environment has on physical activity levels of children. Children living in poorly planned or urban neighborhoods (areas with limited room or green space for play, lack of sidewalks and streets that do not connect) have less access to physical activity opportunities. The purpose of this article is to describe a shared venture between a public university, non-profit organization and faith based organization to increase physical activity among children living in a city with limited open space. A mobile physical activity unit (MPAU), which consisted of a renovated passenger bus with playground equipment, was developed and utilized with the intent of providing safe, age-appropriate and supervised activities and games in a parking lot. Hence, children living nearby had access to a “playground” that was non-existent in their neighborhood. The MPAU was made available to children twice per week for 12 weeks. Attendance rates were high, and parents reported positive feedback. The findings suggest that in the absence of joint-use agreements for access to playgrounds after school hours, innovations such as the MPAU may be effective alternatives to increase children’s physical activity levels.

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### Introduction

In many cities across the United States every day, children can be heard laughing, playing and having a good time with friends and family in parks or open spaces, participating in numerous physical activities. Generally speaking, parks and open spaces provide children an avenue for creating social connections, the opportunity to interact with nature, and the opportunity to be physically active (Henderson & Bialeschki, 2005). Neighborhoods with better access to parks or open spaces can increase children’s motivation to be physically active outside and reduce sedentary behaviors. Unfortunately, children living in the 92701 zip code of Santa Ana, California do not have the same opportunities that other children living in planned communities have to play or engage in

physical activities (Trust for Public Land, 2008). Local organizations such as Latino Health Access and local residents have been trying to raise awareness about the lack of parks or open spaces in this area. Latino Health Access is a nonprofit organization located in Santa Ana, California, that serves the public health needs of of uninsured and under-served families in the local community.

### Local Childhood Obesity Rates

In Orange County, California, Hispanic/Latino children ages 0 to 4 years and 5 to 11 years, have the highest rates of overweight, at 13.9 percent and 22.9 percent respectively (Nguyen, 2009). The City of Santa Ana has a childhood obesity rate of 34.8%, which is the second to only one other city in the state of California (Trust for Public Land, 2008).

### **Santa Ana and The Lack of Parks**

The 92701 zip code of Santa Ana is home to over 61,000 residents, 92 percent of whom are Latino. There is not a single park or safe open space available for physical activity in this zip code (Flores, 2008). A study conducted by The Trust for Public Land demonstrated that the entire City of Santa Ana has a mere 0.5 acres of open space per 1,000 people. On the other hand, other cities in California provide an average of 7.9 acres of open space per 1,000 residents (Garcia, Bracho, Cantero, & Glenn, 2009; Trust for Public Land, 2008). The National Parks and Recreation recommends a ratio of 10 acres of open space per 1,000 people (HEAC, 2010).

Several studies (Babey et al., 2008; Black & Macinko, 2007; Gomez et al., 2004; Weir, Etelson & Brand, 2006; Roemmich et al., 2006; Veitch, Salmon & Ball, 2007) have established that some of the barriers children face to become physically active are the urbanization of their neighborhoods, lack of access to parks or open spaces, lack of sidewalks to ride bicycles, high population density, high traffic around parks or open spaces, gang activity, lack of awareness of available parks or open spaces, lack of transportation to and from parks or open spaces, costs of joining organized sports and concerns by the parents about the safety of their children while playing outside. Since there were no parks in the 92701 zip code it was important to use available space not tied to schools where organized activities occurred.

### **Mobile Units and Utilization of Services**

Several studies utilizing mobile units for health examinations have demonstrated higher levels of screening among community residents, by reducing the barriers to health care access. These types of services includes: audiograms, mammograms, and vision screenings. These services are tailored for people that are underserved and cannot make traditional based health appointments. A profit company called "Fun Bus" throws parties that involve children using mats, hoola-hoops and other exercise based equipment (O'Connell, 2009). Using this concept, we brought a bus filled with playground equipment and physical activity specialists to a location not normally used as a playground.

The inspiration for the MPAU came from an observation made at another physical activity project. The children of that program, while waiting for their parents, ran as fast they could to the passing ice cream truck. The idea of a mobile unit, which brought the same joy and happiness to the children, was born. However this mobile unit would bring fun games to their neighborhoods, rather than ice cream, candy, chips and sugary drinks.

The MPAU went from an idea to a reality, when LHA conducted a park deficit analysis with The Trust for Public Land. The results demonstrated the need for parks or open spaces in the 92701 zip code of Santa Ana, California. LHA was in the process of building the park in that same area code. However with the opening of that park being several years away, the children needed a safe place immediately, where they could be physically active.

## **Methods**

### **Study Design**

The project was conducted in collaboration with Latino Health Access (LHA), California State University, Fullerton (CSUF) and St. Joseph's Catholic School, where the study was hosted twice a week for a total of 12 weeks. Baseline data was collected on families as well as feedback from parents before, during and after the intervention period.

### **Participants**

A total of 24 children and their families participated in the study. The selection of the participants was done by a non-random area sampling of families with children ages 6-14 years old living in the 92701 zip code of Santa Ana.

### **Measures**

Both quantitative and qualitative measures were selected to gain a better understanding of the barriers, aesthetics, proximity and availability of parks, open spaces or green belts in the 92701 zip code of Santa Ana and the time it takes to walk to the nearest physical activity amenity. The questionnaire utilized was translated in Spanish by personnel at LHA, to ensure it was culturally sensitive and appropriate. Daily

attendance logs were collected to document children’s utilization of the MPAU. Throughout the 12 week program, brief informal interviews were conducted with the parents and children to hear feedback about the project and its impact.

**Procedures**

An abandoned passenger bus was donated to LHA to serve as the MPAU. This bus was in poor condition- the windows were broken, it had graffiti and was in need of major body work and mechanical maintenance. With the hard work of volunteers and grant funds from the Centers for Disease Control and Prevention (CDC), the van was renovated and filled with playground equipment.

After a 2 week community-based outreach effort through the use of Latino Health Access promotoras, and other diabetes prevention classes within the target area, a total of 24 families were recruited. The participating families scheduled a home appointment, where a simple Spanish questionnaire was administered by the project staff and an overview of the project was provided in Spanish.

In preparation for the first physical activity day, the project staff and volunteers met to select and design physical activity games, utilizing proven physical activity curriculums like SPARK and CATCH (Levin & Martin, 2002; McKenzie, Nader, Strikmiller, Yang, & Stone, 1996). The games and activities selected ensured that all activities were fun, age-appropriate, non-competitive, safe, and that all children actively participated.

The MPAU was driven to St.Joseph’s school every Tuesday evening from 4pm to 6pm and Saturday mornings from 10am to 12pm, for a total of 12 weeks. An orientation was provided so parents knew what was expected of them (questionnaire completion, feedback) and their children (playing in teams, manners) during the study. Once the orientation was completed, the children were assigned into one of two age groups: 6-10 years old and 11-14 years old.

Children remained in their age group for the entire 12 weeks.

At each MPAU session, the families and children signed the daily attendance logs and then the research team and volunteers gave the children instructions and demonstrated the games and activities for the day. Once the children understood the rules of the game or activity, a colored jersey was given to them to help the research team and volunteers identify the different age groups. The colored jerseys were also useful for games and activities, where both age groups participated together and teams had to be selected.

A total of 3 different games and/or activities were selected and supervised by the research team and volunteers. In addition to the 3 games and/or activities, a total of 30 minutes were dedicated to “free play”, where the children were able to create and play games on their own, utilizing the playground equipment that was housed within the MPAU.

**Table 1**

Demographic characteristics of the participating families and children (n= 24)

	n	%
Gender (Children)		
Male	11	53
Female	13	47
Age (Children)		
6 years-10 years	14	58
11 years-14 years	10	42
Race/Ethnicity		
Latino/Hispanic	20	84
Other	4	16
Income (Yearly)		
Less than \$10,000	8	34
\$10,000-\$19,000	11	46
\$20,000-\$29,000	3	12
\$30,000 or more	2	8
Type of Residence		
Apartment	21	88
Other	3	12

Note: Gender and age is of participating children in the study, not the parents.

**Table 2**  
Time taken to walk to available physical activity resources/areas (n=24)

	1-10 minutes		11-20 minutes		20 minutes or more	
	n	(%)	n	(%)	n	(%)
Indoor recreation or exercise facility	5	(20%)	1	(4%)	18	(76%)
Beach, lake, river or creek	1	(4%)	2	(8%)	21	(88%)
Bike, hiking or walking trails	2	(8%)	5	(21%)	17	(71%)
Basketball court	8	(33%)	5	(21%)	11	(46%)
Other playing fields or courts	3	(12%)	3	(12%)	18	(76%)
YMCA	0	(0%)	4	(16%)	20	(84%)
Boys And Girls Club	0	(0%)	2	(8%)	22	(92%)
Swimming pool	5	(21%)	4	(17%)	15	(62%)
Walking or running track	1	(4%)	1	(4%)	22	(92%)
School or recreation facilities open to the public	2	(8%)	2	(8%)	20	(84%)
Small Park	2	(8%)	7	(29%)	16	(63%)
Large Park	0	(0%)	4	(17%)	20	(84%)
Public playground with equipment	4	(17%)	2	(8%)	18	(76%)
Public or open spaces	2	(8%)	2	(8%)	20	(84%)

Note: Walking time is an approximate estimate, time may vary.

**Table 3**

Barriers to physical activity at the nearest park/open space (n= 24)

	Strongly Disagree		Somewhat Disagree		Somewhat Agree		Strongly Agree	
	n	(%)	n	(%)	n	(%)	n	(%)
Lack of sidewalks or bike lanes	3	(12%)	1	(4%)	5	(21%)	15	(63%)
Poor lighting	4	(17%)	2	(8%)	6	(25%)	12	(50%)
Too much traffic	5	(21%)	3	(13%)	6	(25%)	10	(41%)
Dangerous crossings	4	(17%)	1	(4%)	10	(41%)	9	(38%)
No other children around	6	(25%)	2	(8%)	5	(21%)	11	(46%)
Unsafe and too much crime	5	(21%)	5	(21%)	2	(8%)	12	(50%)
Park is too far	4	(17%)	1	(4%)	7	(29%)	12	(50%)
Not enough space	6	(25%)	2	(8%)	1	(4%)	15	(63%)
No activities at park	6	(25%)	1	(4%)	3	(13%)	14	(58%)
No playground equipment	3	(12%)	1	(4%)	5	(21%)	15	(63%)
No adult supervision	6	(25%)	2	(8%)	4	(17%)	12	(50%)
Difficulty getting to the park	4	(17%)	1	(4%)	10	(41%)	9	(38%)

## Results

### Demographics

Participant characteristics highlighting the children's gender, race/ethnicity, type of residence and family income are demonstrated on Table 1. Slightly over half of the children were male (n= 13, 53%), and between the ages of 6 and 10 years (n=14, 58%) . The majority of the participating families were of

Latino/Hispanic decent, at 84% (n=20), and lived in an apartment (n=21, 88%). Only three families (12.5%) had an annual income of \$30,000+.

### Proximity of Physical Activity Amenities

The results of the pre-test questionnaire identified proximity of physical activity amenities as one of the barriers faced by families living within the 92701 zip code of Santa Ana.

Table 2 presents the walking time taken for participating families to walk from their home to the nearest open spaces. Over 70% of the participants stated that it took longer than 20 minutes to get to an indoor recreation or exercise facility, beach, lake, river or creek, biking/hiking or walking trails, and other fields and courts.

### **Barriers to Physical Activity at the Nearest Park/Open Space**

Families who indicated that they walked to the nearest park and/ or open space were also asked about the barriers they encountered along the way. Those barriers are shown on Table 3. The main barrier noted was lack of sidewalks or bike lanes, followed by not enough space, and no playground equipment. Additional concerns that were raised among half the participants included too much crime, no adult supervision, poor lighting, and too far.

### **Attendance of Children in the MPAU**

The MPAU was designed to “bring the playground” to the participating families living in the 92701 zip code of Santa Ana and allow the children and opportunity to play in safe and supervised environment. \ Very few children missed a session. During weeks 1,4,10 and 12, 100% (n=24) of the children participated. Week 11 was the lowest attended, with a total of 25% (n=6) absent. The majority (n= 15, 62%) did not miss a session at all. Drinks and fruit (orange slices) were provided during the weekly activities. No other incentives were provided for completion of all the activities.

## **Discussion**

The program involved mainly Latino children (84%) of both genders, both age groups, of low income and mainly lived in an apartment dwelling. Many commented on the need for such a program in a safe setting. Comments from several parents during the informal interviews were very moving and clearly demonstrated the need for this kind of projects in areas where there are very limited open spaces and/or parks.

One parent in particular said that she no longer worried about her child when they came to participate in the MPAU. Her worry came from an incident where her child was hit by a passing car in front of her home where her child would normally play. Other parents also expressed their feelings about the healthy and safe environment provided by the MPAU project and how the university volunteers, who assisted in the development and implementation of the physical activities, served as great role models to their children. One unexpected outcome of the MPAU came from the parents who approached one of the project staff members and expressed her interest in developing exercise classes for the parents as well. This comment demonstrated the capacity and power of involving the family as a unit while promoting physical activity. The children participating in the MPAU also had very positive and encouraging comments about their desire to play and be physically active. Many of the children wanted the project to be held seven days a week instead of two and some of the parents also expressed this feeling.

Some of the learned experiences from the project was the importance of academic institutions like California State University, Fullerton, community based organizations like Latino Health Access and faith based organizations like St. Joseph’s Catholic Church need to collaborate together to help underserved communities. Future collaborations with the local school district to have joint-use agreements to open after school to implement programs like MPAU, will have a great impact in the lives of the children that live within urbanized areas like the 92701 zip code in Santa Ana.

The success of the MPAU project can be attributed to many factors, but one of the most important factors was the community partnered with local organizations ,and were willing to participate in order to change their community into one that thrives and is healthy and safe for everyone living within it. The environment a child lives in should never be a cause for a greater risk of disease or mortality.

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## Author Information

\*Alejandro Espinoza, MPH  
Latino Health Access  
Po Box 4284, Santa Ana, CA 92701  
Tel: (714) 542-4853  
E-mail: [aespinoza@latinohealthaccess.org](mailto:aespinoza@latinohealthaccess.org)

Shari McMahan, PhD  
California State University, Fullerton  
College of Health and Human Development

Todd Naffzinger, MPH  
California State University, Fullerton  
Department of Health Science

Lenny Wiersma, PhD  
California State University, Fullerton  
Department of Health Science

\* corresponding author