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ANNUAL NARRATIVE REPORT – Year 1

January 15, 2007

**Children’s Guide to Active Living:
Analyzing children’s use and perceptions of their
local environments for physical activity**

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Diversity Partnership Grantee
RWJ ID#: 55699 – Active Living Research

Report dates: 12-15-05 to 12-14-06

Total award: \$70,327
Year 1: \$36,925
Year 2: 33,402

Project goals: This research focuses on three related objectives, including: 1) studying children’s use and perceptions of their local environment as it relates to their levels of physical activity; 2) examining caretaker norms and practices in relation to children’s use of their neighborhood as a support or barrier for physical activity, and 3) comparing and contrasting caretakers’ and children’s environmental perceptions to understand how children negotiate their use of the local environment for physical activity with caretakers. This research also involves producing socially and culturally relevant resources consisting of children’s guidebooks to the neighborhood to promote community awareness about barriers and supports to children’s active living.

1. What did you accomplish during this reporting period? How did these accomplishments help you reach the goals of your project? If relevant, what indicators or benchmarks were used to determine your progress?

Partners: Numerous partnerships were developed or enhanced to implement this research, including: 1) the Learning Landscapes project team, 2) Denver Public Schools, 3) Children, Youth and Environments Center for Research and Design, 3) Kaiser Permanente Thriving Communities Grantee, and 4) Denver's Mayor's Office of Education and Children.

Training/supervision: Three doctoral students were hired to carry out specific research tasks for this project, including geographic information systems (GIS) analysis and the facilitation of methods within the schools. In addition, two undergraduate students participated in an independent study for this research, conducting research in local newspapers and assisting with project methods in the schools. All students were provided with training and mentorship in human subjects, children's participation, mapping, active living research and community analysis. The students who worked on this project received an award for "Excellence in Graduate Student Research," a recognition given by the Chancellor each year to one study, selected among all entries submitted from all the departments on campus.

Research implementation: This project was conducted in collaboration with two elementary schools in culturally diverse communities in Denver, CO, consisting of 48, 4th and 5th grade students. At one school, we worked with 12 students aged 10-11, a technology teacher and a parent-school liaison in an after school program. At another school, we worked with 36 students aged 10-11 and their 5th grade teacher during the school day. A variety of participatory and qualitative methods were employed in this research, including:

- *Mapping* – students worked in small groups using aerial photographs of their neighborhood to identify assets and risks in their community;
- *Photography* – students used disposable cameras to take pictures of places important to them in the neighborhood and discussed the significance of these places in their daily life;
- *Pedometers* – students wore pedometers for a period of one week;
- *Time diary* – students kept a diary of how they spent their time during a weekday and weekend, in addition to providing an inventory of their home and drawing images of their community;
- *Focus groups* – a series of ongoing focus groups were conducted with students to involve them in the analysis of the data;
- *Production of children's guide to physical activity* – students helped design and produce a children's guide to their neighborhood;
- *Community research* – including archival research, Census data analysis, observations of public space, and school district data;
- *Field notes* – researchers documented student comments and insights about their communities and our relations with the teachers, families and communities; and
- *Dissemination of guidebook:* at community events with parents and teachers and a special event with the Mayor of Denver.

Preliminary Analysis: Data are currently being analyzed in a variety of different ways, including both quantitative and qualitative techniques (see summary chart below).

Type of analysis	Sources of data	Description
Spatial	Mapping data from students and from existing data sources such as the US Census	We are currently analyzing a range of spatial themes, including (but not limited to): travel to school by distance, method of transportation and gender; foodscapes by quantity, gender and method of transportation used to travel there; and perceived vs. real risks and opportunities in the community by quantity, gender, and method of transportation. We are using geovisualization techniques in GIS to examine spatial relationships in the data, including “hot spot mapping,” and network analysis.
Quantitative	Time diaries, pedometer counts, home inventories	We are currently examining how children spend their time engaged in technology related activities, physical activities, social activities, educational activities, and work-related activities by gender.
Qualitative	Field notes, newspaper articles and other community reports, content of mapping data, photographs	We are using Atlas.ti to analyze the written data for its thematic content and discourse. We are also conducting a content analysis of the types of activities students mapped and the photographs they took.

Preliminary Results: The following variables appear to be influential in how children negotiate their local environment for incidental physical activity.

- *Walkability:* size of sidewalks, weather/heat index, distance to destinations for recreation, food and socialization, traffic density, size of street, time intervals of crossing signals, parental fears for children’s safety to cross street independently.
- *Social hazards:* teasing and bullying (often about different racial/cultural groups) and gang activity in alleys, parks and on school grounds, as well as the prevalence of liquor stores and their clientele.
- *Community assets vs. risk factors* supporting physical activities, such as a lack of neighborhood-based stores (food deserts) and recreational facilities within walking distance.

Three dominant environmental socialization models were observed in our research with the children. These models were employed by caretakers, who consist of parents as well as extended family members. We will investigate the validity of these models with caretakers in Year 2.

- *Restrictive models* - in which children are “locked up” in their homes to protect them from the environment, primarily driven by fear of kidnapping or illegal immigration status. The restrictive models appear to be employed more frequently with girls than with boys.
- *Training models* – in which caretakers deliberately teach children about social and physical hazards in their communities and actively develop strategies to empower them to make informed decisions and safely negotiate their environment.

- *Situational models* – in which time, money, access to resources and trusted adults, knowledge of community opportunities and other variables that inhibit a caretaker’s ability to socialize children about the environment.

2. What, if any proposed activities were not completed? Briefly describe those activities, the reasons they were not completed and your plans for carrying them out.

While we originally planned on working in three schools with 60 students, the third school we proposed to work with obtained a new 5th grade teacher since we submitted our proposal who was overwhelmed by her first year of teaching, and therefore, declined to work with us. The intention of the original proposal was to mirror the study design of the principal grant which examines the effects of different years in which a Learning Landscape playground was built for its impact on physical activity levels. Instead, our project worked with one school that had a Learning Landscape since 2003, and another school scheduled to have a playground built in 2007. The current project worked with 48 students (12 in the school *without* a Learning Landscape and 36 in the school *with* a Learning Landscape). We intend to work with another 12 students in the second year of the grant in the school *without* a Learning Landscape to reach our target of 60 students. We will treat each school neighborhood as a case study.

We also planned to have the data analyzed and a journal article submitted at this stage in the process, but the analysis has taken longer than expected due to a lack of availability and expertise among the PhD student population in the College of Architecture and Planning to carry out specific tasks in GIS. I have developed a partnership with a geography professor at the University of Colorado at Denver and Health Sciences Center who has the expertise I need to analyze my data with the support of her graduate students. I plan on hiring a geography graduate student to help me with the analysis and to work through the datasets with her students in a course entitled “GIS and Health.” I anticipate a completed journal article by June 1, 2007. I also am seeking funding assistance from RWJF and the Active Living Research Group to publish a guidebook for health practitioners and researchers who would like to incorporate participatory methods and mapping with children to understand neighborhood level influences on their physical activity.

3. Is there anything else you want to tell RWJF?

I would like to mention that I feel incredibly supported by the Active Living Research Group and RWJF in this process. This support is crucial to the success of the grant to date. This success is measured by the publication of two neighborhood guidebooks in Spanish and English that were distributed to the community and the mayor of Denver, along with an award of recognition for “Excellence in Graduate Student Research” from the Chancellor of UCDHSC.

4. What was produced during the reporting period?

See ANNUAL BIBLIOGRAPHY.