

# Stanford SOCIAL INNOVATION<sup>Review</sup>

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*Grantmakers In Health Supplement*  
**How to Improve Physical Activity and Health  
for All Children and Families**

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# How to Improve Physical Activity and Health for All Children and Families

Physical activity is critical for healthy development in the young, but many children are being left behind. Physical Activity Research Center (PARC) investigators examine physical activity across built environments, parks and recreation, schools, and rural areas—all through an equity lens.

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**Y**ears of research tell us there are many influences on young people's physical activity (PA), including psychological, social, educational, and environmental. Researchers have evaluated interventions focused on these factors and found several to be effective.<sup>1</sup> However, little of what has been proven effective has been widely implemented or translated for underresourced communities and communities of color. Applying an equity lens to promoting PA requires evaluation of evidence-based interventions in one population and then adaptation and implementation in other populations. Underlying inequities that lead to disparities in PA can be addressed by tailoring interventions to appeal to different cultures. We recommend high-priority studies, paying specific attention to equity.

**The built environment** | There is a growing body of evidence on the influence of the built environment—places where we live, work, and play—on youth obesity, physical inactivity, and chronic diseases. Studies have established relationships between PA and availability of green and recreational space,<sup>2</sup> higher degrees of neighborhood safety,<sup>3</sup> more walkable neighborhood design,<sup>4</sup> increased access to healthy food,<sup>5</sup> and active modes of transportation (e.g., walking, biking).<sup>6</sup> Strategies to improve these environmental features span various scales, from small areas like individuals' homes to schools, neighborhoods, and communities at large. Although this relationship between environmental factors and population health

manifests across all ages, youth health behavior is especially influenced by the form, quality, and design of the built environment in which they live.<sup>7</sup>

The American Planning Association (APA) acknowledges the importance of relationships between various urban planning "fields" and PA prevalence, especially among youth.<sup>8</sup> Its 2006 report *Planning Active Communities* identifies five methods for how planning and public health professionals can collaborate to promote PA, from large-scale plan making to more granular site design. The report promotes aspects of new urbanism (e.g., complete streets, safe routes to school) that directly apply to youth safety, active transportation, and PA. Various professional divisions of the APA—including Housing and Community Development and Urban Design and Preservation—emphasize the influence of the built form (such as gathering places and connections between places) on health.<sup>9</sup> Another perspective considers the scale at which health happens. From the built-environment perspective, scale can range from the home (small) to other community institutions where youth spend much of their out-of-school time (large). PA happens at the neighborhood, city, and regional levels: from recreation and play to physical education classes and organized sports, to active commuting, institutions, community markets, parks, and other social and physi-

cal activities. Ensuring safe, accessible, and attractive routes and destinations (e.g., play spaces) can ensure positive behavior choices for increased PA across most communities.

**Parks and recreation** | When people live near parks, especially within a 10-minute walk, they get used more frequently. Their proximity also creates opportunities to gain PA by walking or biking to and from parks. Unfortunately, not every child is within a 10-minute walk of a safe, well-maintained, and programmed park or playground. Youth from lower-income communities of color tend to be those with limited access, and the parks near them often have inadequate amenities and programming.

Recent experiments and evaluations show that park renovations and improvements create short-term gains, including better access, greater interest from residents, and more people using park spaces for recreation.<sup>10</sup> Beyond physical changes, offering a range of programs and activities is needed to engage and retain new users. Children and families should feel welcomed, have positive experiences, discover new ways of using park spaces, and see other users and staff representative of their cultures and identities in parks. Little is known about how the type, frequency, duration, modes of instruction, and marketing of programs relate to park and

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playground use. With continued urbanization and a growing mix of diverse cultures within the United States, especially in large cities, there is limited knowledge of how these trends influence desires and preferences for park amenities and services.

Presence and use of parks and playgrounds are becoming easier to evaluate with social media and big data. Families can tweet or post Instagram photos from parks and review them on Google, TripAdvisor, and Yelp. Google tracks visitation data from cell tower pings. But the use of such data, including social media posts, online reviews, and smartphone location, is not well understood, especially how

The authors are investigators for the Physical Activity Research Center (PARC), an initiative supported by the Robert Wood Johnson Foundation. See more at [paresearchcenter.org](http://paresearchcenter.org).

representative such data are for children and families of color. Many questions related to tech evaluation await answers but struggle to attract funding. Traditional public health funders have been reluctant to fund projects where the health behavior is not captured via primary surveys or direct engagement with communities. Funders have not seen the use of big data to understand health-promoting environments, such as parks and playgrounds, as a proper focus. This presents an opportunity for health funders to collaborate with computer scientists and social scientists on projects that advance technology within the context of parks and PA.

**Schools, early care, and education** | Current approaches to school PA promotion recognize multiple strategies to achieve the recommended 30 minutes daily of moderate-to-vigorous physical activity (MVPA) within school time. The Institute of Medicine recommended a “whole-of-school approach” to school PA: This means that educators promote active transport to and from school, active classroom breaks, recess, and after-school programs, as well as daily physical education.<sup>11</sup> One study found that students attending schools implementing multiple PA strategies did twice as much MVPA at school (40 minutes) as students whose schools implemented no effective strategies (20 minutes). Thus, it appears feasible for schools to implement a combination of interventions. However, in a troubling finding, schools serving mainly lower-income students offered fewer PA strategies.

Physical education has been a part of US schools for more than a century, and several evidence-based programs provide substantial PA during the school day. Though almost all states have physical education requirements, implementation of requirements is poor, and most schools do not use evidence-based programs.

Almost all effective or promising youth PA strategies take place in school settings. These strategies include more comprehensive approaches, such as programs throughout the school day, and parental involvement. Specific strategies target enhanced physical education programs that emphasize PA during class, brief PA breaks in classrooms, and recess in elementary schools that includes teacher training, sport/play equipment, and playground markings. Schools can also implement interventions outside of the school day. Although they are promising, active transport strategies, such

as Safe Routes to School, and after-school PA programs need further research.

For the first time, the 2018 PA guidelines recommended at least three hours of PA per day for children 3 to 5 years old. Promising strategies in early childcare or preschool settings include increasing outdoor time, using portable play equipment, training staff, and using PA to teach other subjects.

**Rural settings** | Rural America includes up to 97 percent of US land area and 21 percent of the population (about 65 million people), with

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the most dramatic population growth occurring among communities of color.<sup>12</sup> Rural areas often have pronounced equity challenges related to PA engagement, opportunities, infrastructure, and disease.<sup>13</sup> Rural areas have significant geographic dispersion, persistent poverty, limited preventive resources, and a lack of accessible places and opportunities for PA and active play. However, rural communities also look different from one community to another and exhibit great diversity in employment, resources, geography, topography, age, ethnicity, and culture.

It cannot be assumed that what works in urban or suburban America is also going to work in rural America, or that the people of rural America want to be like urbanites or suburbanites. Current PA research conveys a lack of effort in collecting evidence from rural settings. For example, in the 779 pages of the 2018 Physical Activity Guidelines issued by the US Department of Health and Human Services, the word “rural” is used only twice.<sup>14</sup> Rural settings are not small cities or suburbs, and evidence derived from urban contexts cannot simply be scaled down to fit rural communities. This is not to say, however, that this evidence should be ignored for rural contexts. Rather, efforts are needed to identify “promising” interventions proven effective for majority populations in urban and suburban settings that also show promise for rural settings. Then, research can examine if and how these initiatives can be adapted and translated for rural and high-need populations.

Current evidence suggests that rural settings are “active-play deserts”—settings with few places for children to play—which offers actionable opportunities for research.<sup>15</sup> It is imperative to think broadly about where children, youth, and families in rural areas can be physically active and to expand upon urban approaches, which focus mostly on traditional spaces like parks, playgrounds, and sports facilities or fields. In rural settings, PA spaces can be traditional or nontraditional (e.g., many rural settings have open fields and natural resources) and can include community-wide programming and events (e.g., festivals, back-to-school bashes, summer meals programs, or National Night Out).

These strategies address two challenges in rural settings: transportation and limited human and physical resources. It is important to build on community strengths by starting with current community infrastructure and resources to create low-cost accessible PA opportunities where people already are. These solutions bring together families and community organizations from multiple sectors to enhance the lives of children and youth—providing opportunities for social engagement, connection and active play; addressing perceptions regarding accessibility for all residents; building awareness of community resources; and improving health.

### EVALUATING PRIORITIES BY SECTOR

There are several research areas with great potential for improving youth PA and should thus be prioritized. We present these research priorities by sector, but more effort is needed to develop partnerships across sectors to support them.

#### Built-Environment Priorities

- Evaluate promising strategies to enhance out-of-school time with developmentally appropriate PA opportunities for lower-income and underrepresented children of color and youth in urban and rural communities.
- Conduct macro- (community design) and micro-scale (street design) environmental analyses to guide investment in built-environment improvements to equitably promote PA and walkability.

- Evaluate dissemination and implementation approaches for youth community engagement and advocacy programs that can lead to better PA resources, opportunities, and access for all children and families.

#### Parks and Recreation Priorities

- Improve access to existing parks and other PA spaces for children and families. Specifically, examine local concerns such as safety, elements of the built environment, and quality of park facilities to inform policies and interventions designed to increase park use and PA.
- Evaluate innovative PA programming for parks and other PA spaces to better understand community preferences for programs and effectiveness of alternative models (e.g., public-private, shared use).
- Increase evaluation and surveillance of PA spaces using big data sources to make current data available, accessible, and useful for community leaders, planners, and researchers.

#### Schools, Early Care, and Education Priorities

- Evaluate implementation and sustainment of multicomponent strategies (active physical education, recess, classroom activity breaks) in schools and early care settings serving lower-income youth.
- Evaluate methods to improve communication of academic achievement benefits of school PA programs to school decision makers.<sup>16</sup> Improved understanding of academic benefits should encourage more adoption of evidence-based PA programs.
- Identify effective strategies to increase the adoption and implementation of classroom activity breaks and evidence-based recess programs in schools on an equitable basis.

#### Rural Priorities

- Examine and identify rural-specific characteristics associated with active children, youth, and families, learning from diverse communities already doing this well. Simultaneously, determine which urban and suburban evidence-based approaches to increasing PA are applicable across rural America, and how these need to be tailored for implementation in rural settings.

- Increase access to PA and active-play opportunities and spaces for all youth, children, and families residing in rural America, considering traditional and nontraditional PA spaces, and including natural resources and open spaces often located in rural settings.
- Examine PA outcomes, broader community impacts, implementation, and sustainability of two promising solutions for increasing access to PA opportunities

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for all children in rural settings: creating temporary PA opportunities and activating current community programming and spaces with PA opportunities.

#### END RESEARCH SILOS

Building regular PA back into young people's days is challenging, but even more so for children from communities of color, and those living in lower-income and/or rural communities. PARC has identified some effective strategies, such as youth advocacy and Play Streets in rural communities (Play Streets involve temporary closure of streets or other public spaces, mostly during the summer, to create safe places and opportunities for active play), but additional innovative strategies are needed.

The research priorities we have outlined call for specific next steps to move the United States forward in improving the health of all children, youth, and families through multiple PA settings. It is especially important to implement multiple PA interventions in underresourced communities and communities of color to help advance health equity. Failure to consider equity creates potential for PA disparities to widen between subpopulations because the underlying inequities have not been addressed or interventions have been implemented differently and have had differential effects. PA research must make health equity an explicit priority in ensuring that all children, youth, and families achieve optimal PA levels.

It is imperative to build evidence in these areas with an equity lens to move toward

stronger translation, implementation, and dissemination, to help improve health and well-being for all children and families. The siloing of research in separate disciplines stifles the potential impact of collective expertise and vantages, so multidisciplinary research is needed to address the challenges preventing all children and youth from being active. ♦

#### NOTES

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