

Assessing physical activity in temporary spaces: Application of SOPARC / iSOPARC® for Play Streets



The Issue

The System for Observing Play and Recreation in Communities (SOPARC) is an observation tool used to measure how people are physically active in permanent spaces such as parks. The accuracy of SOPARC has not been explored in spaces such as Play Streets, which are temporary closures of streets or other public spaces so children can safely play and be physically active in the area.

In this study, researchers examined how SOPARC could be used to document physical activity at Play Streets and provided recommendations for future use in temporary spaces.



Results

Using SOPARC or iSOPARC, a mobile application version of SOPARC available for iPads, at temporary spaces such as Play Streets is a reliable way to measure activity in a temporary space. By capturing physical activity among participants, this method can produce data to support the benefits of Play Streets, including documenting level of physical activity among children.



Temporary spaces can create challenges for observation. Play Street hosted by Choctaw Nation Health Services Authority in Talihina, OK. Photo by Renée Umstattd Meyer.



Implications

These results support the future use of iSOPARC and SOPARC in temporary spaces.

- ✓ While our research showed that interrater reliability was acceptable, there was room for improvement.
- ✓ Before using SOPARC or iSOPARC in temporary spaces, additional training that prepares researchers for the unique characteristics of temporary spaces could increase reliability and observer agreement.
 - ◇ For instance, when iSOPARC or SOPARC is conducted at permanent spaces, target areas for observation can be created before an observer needs to conduct observations.
 - ◇ Because Play Streets are temporary spaces, target areas could not be created until observers arrived at each Play Street.
 - ◇ Additionally, activities at Play Streets often could appear and/or disappear during the Play Street, and loose equipment such as jump ropes may have moved out of a target area leaving the area empty.
 - ◇ Changes like these occur more frequently and rapidly in temporary spaces, creating challenges for observation.



paresearchcenter.org

Connect with us on Twitter:
[@PAResearchCntr](https://twitter.com/PAResearchCntr)



Methodology

Twenty research staff (observers) were trained to use iSOPARC by attending classroom sessions and practice sessions in the field in May 2017. Observers used iSOPARC to record the physical activity levels of people at 16 different Play Streets in the summer of 2017. Observers divided the Play Streets into target areas they identified upon arrival, both by activities present (e.g., soccer area, jump ropes, hula hoops, inflatables) and characteristics of the area (pavilion, inflatable/ bounce house, open field). Overall, 189 target areas were observed, and each Play Street had an average of 12 target areas.



Research staff use iSOPARC during Play Street hosted by Texas A&M AgriLife Extension Service in Cameron, TX.
Photo by Renée Umstattd Meyer.

A primary observer recorded people's physical activity level, sex, and age (e.g., child, teen, adult, senior) in each of the target areas they created for a Play Street at six observation times during a three hour Play Street starting 15 minutes after the scheduled start of the Play Street. On the second, fourth, and sixth observation times, a secondary observer also recorded iSOPARC observations to determine reliability. In total, 1,109 iSOPARC observations were made by a primary observer and 554 observations were made by a secondary observer.

Based on commonly seen activities and equipment at the 16 Play Streets, target areas were separated into 8 categories for analysis: 1) inflatables (e.g., bounce houses), 2) open spaces, 3) loose equipment and general activities (e.g., jump ropes, hula hoops), 4) sedentary planned activity (e.g., arts and crafts), 5) food, water, and sitting areas, 6) sports fields and courts, 7) permanent playground structures, and 8) community gardens.

Observers also conducted an alternative observation method (i.e., triad scan) at four Play Streets to see if doing so showed any differences in physical activity levels recorded. This alternative method occurred during the third observation time at four Play Streets. While the primary observer conducted observations normally during the third observation time, a secondary observer observed each target area three times in a row waiting 10 seconds between each observation. To assess the results of the alternative observation method, data from the three observations for each target area were averaged and compared to the data from the primary observer's normal, third observation time. There were no significant differences between the physical activity levels observed in the alternative observation method and the usual observation method, which supported the validity of usual methods for Play Streets.

Statistical tests were used to assess the interrater reliability of iSOPARC observations, or how much agreement there was between the two observers. The interrater reliability was determined to be acceptable for activity levels as described by SOPARC; however, we believe the level of agreement could be increased by building in additional training.

Authors:

M. Renée Umstattd Meyer, Tyler Prochnow, Christina N. Bridges Hamilton, Emily Wilkins, Megan E. McClendon
Baylor University

Troy Carlton
Warner University

Thomas McKenzie
San Diego State University

Kimberly T. Arnold, Keshia M. Pollack Porter
Johns Hopkins University

Full article published in Research Quarterly for Exercise and Sport, available at:

<https://www.tandfonline.com/doi/full/10.1080/02701367.2019.1656793>

