



**MACQUARIE**  
University



THE UNIVERSITY OF  
**SYDNEY**



**UNSW**  
CANBERRA

## **System for Observing Outdoor Play (SOOP) Procedures Manual**

*Prepared by the Sydney Playground Project Team*

*(Latest updated, August 2017)*

### **Rationale**

The System for Observing Outdoor Play (SOOP) is a modified version of the System for Observing Play and Leisure Activity in Youth (SOPLAY) (McKenzie, 2006). It was modified to describe activities, levels of physical activity and the number of children involved in the Sydney Playground Project. The Sydney Playground Project is an intervention provided in schools in the Sydney area. 'Loose material' items are placed on school playgrounds to provide opportunities for social skills development and increase physical activity.

Although there are studies examining the change in physical activity and social skills following the Sydney Playground Project intervention, there is a lack of descriptive data reporting the activities and the number of children engaging with the equipment.

Similar to SOPLAY, the modified version will be an objective tool used to quantify physical activity in "open" environments such as recreational and leisure settings. There is difficulty in measuring activity in these environments due to the number of participants and the constant changes in activity and activity levels.

### **Summary**

SOOP is based on systematic scans of individuals and the activities they are involved in within a pre-determined area. During a scan, observations are recorded manually on a data sheet with a visual map of the school playground. Pictures are taken to supplement recorded data in addition to confirming numbers of children or descriptions of activities. Numbers of children involved in one activity are recorded as belonging to the same group. The number of males and females in each group is also recorded. The total number of children in the pre-determined area is calculated by adding the total number of children in each separate group. The activity is recorded during the scan and activity levels can be recorded after the set time has finished.

The time of day, temperature, rostering of equipment, presence of supervision and other equipment availability (such as jungle gyms or basketball courts) are also recorded.

### **Purpose**

SOOP was designed to record observational data on the number of children, activity, and physical activity levels during lunch and recess breaks on school playgrounds involved with the Sydney Playground Project before, during, and after the intervention.

## Activity categories

Activity categories have been modified to suit the use of the variety of activities involved with the equipment. For the activity level, The *Compendium of Energy Expenditures for Youth* (Ridley, Ainsworth, & Olds, 2008) and the *Compendium of physical activities 2011* (Ainsworth et al., 2011) were used to guide the activity levels of *low, medium, and high*. The rate of energy expenditure is expressed using Metabolic Units (METs). The definition at MET rate for each category is described in table 1. Limitations are acknowledged in that the MET rate does not take into account individual differences in energy expenditure, there are differences in adult energy expenditure compared to children due to size and proficiency in motor abilities, there is little data reporting playground games and sports activities for children, and no data is available reporting activities specifically involving the Sydney Playground Project equipment. Further studies to provide support for the activity levels remain to be investigated.

Activity Level	Definition	MET
Low	Includes sedentary activities such as sitting, eating, standing, lying down walking-pace locomotion activities such as walking or wandering.	1.0-2.9
Medium	Engaged in a physically active, non-sport, game, exercise or dance.	3-5.9
High	Engaged in a physically active game including modified sports games such as handball or engaged in a physically active movement such as running	>=6

**Table 1. Definition and MET rate of activity level**

Category Label	Description	Examples
Sedentary	Sitting or standing and not engaging with other person or activity.	Wait in line alone, sitting or standing alone, sitting or standing near another child but not interacting with them, observing others playing, but not participating, reading alone
Eating	Sitting or standing while eating	n/a
Socialising sedentary	Sitting or standing while socialising	Chatting with friends without moving much
Playing sedentary	Sitting or standing while playing	Sand pit, playing with a toy, board games, colouring in
Moving, not playing	Walking, running, skipping but not as part of a game.	Walking, running, skipping but not as part of a game. Packing away equipment.
Imaginary/pretend/creative play	Games and activities that involve an element of pretend or creativity.	Role playing, relating to piece of equipment as if it takes on a new identity.
Construction	Uses materials to build structures	Building villages, cubby houses, obstacle courses – this refers to the building stage of the play, not where they are playing inside the structure.
Active play	Play that involves physical activity, but is not a sport, construction or creative play. This may also include children who are waiting for their turn in the activity.	Tips/chasings, handball, other ball games that are not sports, dancing, hopscotch, jump rope, races, clapping games, verbal games, jumping onto crashmats, lifting or carrying items.
Sports		Basketball, soccer, football, pool noodle hockey

**Table 2. Activity type, definitions, and examples**

### Observation areas

1. Direct observations will be made in designated target areas in which the equipment will be available on school playgrounds. These areas will be pre-determined in consultation with staff at the school and members of the SPP team. A map of the pre-determined area will be provided to identify areas and a standard observation map established for each school.
2. For areas that are large or have a high student density, target areas will be divided into smaller scan spaces so that accurate measures can be recorded. Scan spaces will be detailed on the map and include court markings, benches, or fixed equipment.

## Preparation

1. Prepare an observation form that is relevant to your observations and aims. An example is provided in Figure 1 of Engelen et al. (2017). Ensure you have enough to cover the expected number of observations.
2. Complete a map of the school playground, recording where any fixtures, benches, fixed equipment, or court markings are placed.
3. Designate smaller scan spaces on the map of the target area.

## Recording

1. Arrive at the school at least 15 minutes before the start of lunch or recess to set up.
2. Complete observation form details.
3. Scan the target area and make sure you are familiar with the observation form and the layout of the playground.
4. Use a timer set to one minute. Set it when you are ready to begin and use the first minute to observe the area, when the alarm rings begin recording.
5. Record boys with a  $b$  and girls with a  $g$  and record them in the approximate area represented on the map. If there is a teacher supervising in the target area, record with a  $t$ .
6. Unless specified, scan each target area from the top left in an anti-clockwise direction.
7. Always record children and activities from left to right within a scan area. If an observed child reappears in the scan area, do not record a second time. Do not count new children entering observed and recorded target areas.
8. Record activities in clear objective terms and provide details on the activity as you observe.
9. Observe and record for up to 20 minute intervals to obtain at least 15 observations.
10. After the observations are complete, summarise the information for each scan to prepare for data entry.

## Data entry (for researchers)

We encourage consistency in basic data collection and recording for ease in comparing future studies using SOOP.

The columns in your datasheet should include the following information:

- Number of boys
- Number of girls
- Total number of children in target area
- Number of teachers supervising
- Brief description of the activity
- Activity level
- Activity type

## References

- Ainsworth, B., Haskell, W., Herrmann, S., Meckes, N., Bassett, D., Tudor-Locke, C., Greer, J., Vezina, J., Whitt-Glover, M., & Leon, A. (2011). 2011 Compendium of physical activities: A second update of codes and MET values. *Medicine and Science in Sports and Exercise*, 43(8), 1575-1581.
- Engelen, L., Wyver, S., Perry, G., Bundy, A., Chan, T. K. Y., Ragen, J., Bauman, A., & Naughton, G. (2017). Spying on children during a school playground intervention using a novel method for direct observation of activities during outdoor play. *Journal of Adventure Education and Outdoor Learning*, 1-10.
- McKenzie, T.L. (2006). *System for Observing Play and Leisure Activity in Youth (SOPLAY) Descriptions and Procedures Manual*. San Diego State University, San Diego, California. Available from [http://www.activelivingresearch.org/files/SOPLAY\\_Protocols.pdf](http://www.activelivingresearch.org/files/SOPLAY_Protocols.pdf)
- Ridley, K., Ainsworth, B. E., & Olds, T. S. (2008). Development of a compendium of energy expenditures for youth. *International Journal of Behavioural Nutrition and Physical*, 5, 45-53.

**The SOOP Procedures Manual is a free resource to be shared with researchers, practitioners and students. You are welcome to make copies and send copies to colleagues free of charge. Copyright remains with Sydney Playground Project. Contact Shirley Wyver [shirley.wyver@mq.edu.au](mailto:shirley.wyver@mq.edu.au) if further information is required.**