

## PLAYGROUND AND NEIGHBORHOOD OBSERVATION BEHAVIOR MAPS

1. Playground Observation Behavior Map
2. Neighborhood Observation Behavior Map
3. Supplementary Coding Sheet

A structured observation instrument--called a "behavior map"--has been developed for studying children's environments following the procedures outlined in Ittelson, Rivlin, and Proshansky (1971; cf. Moore, 1982). Based on a conceptualization of the dimensions of analysis of any environment-behavior interaction (Moore, 1979), behavior maps for applications in environmental psychology and environment-behavior studies have three major components: (1) description of the environmental setting, (2) description of the subject characteristics, and (3) description of the behavior (cf. Moore, Tuttle, & Howell, 1985). The setting (physical environmental variables) and subject descriptions (social environmental variables) constitute the independent variables, while the behavior observed constitutes the dependent variables. A properly constructed behavior map allows for the recording and coding of all three.

A review of the literature on child-environment relations (e.g., Moore, 1982) and observations of playground and neighborhood play settings has led to the identification of the most prevalent types of physical environmental behavior settings. A total of 11 different types of playground settings have been identified and operationally defined (e.g., gate area, houses, forts, open areas, climbing equipment). Similarly, a total of 20 different types of neighborhood settings have been identified and operationally defined (e.g., residential street, sidewalk, front yard). In addition, four conceptually different types of objects involved in play have been observed (found objects, natural objects, bought objects, and other).

Subject variables of interest in the study of play environments include age, gender, race or ethnicity, number of children in the setting, other people present, and the role of the other people.

Based on the developmental literature and preliminary observations, 26 different types of relevant play behaviors have been identified, categorized, and operationally defined (Moore, 1982) including wheel toy play, arts and crafts, fantasy play, talking, etc. They have been categorized into six major categories of social-motor, motor, cognitive-motor, cognitive, social-cognitive, and social development.

Two alternative forms of this instrument have been developed, one for playgrounds and similar planned play settings, and one for neighborhood unplanned or spontaneous play settings, with an accompanying definition and coding sheet.

**Reliability.** These instruments have been pilot tested in both playground and neighborhood settings by two trained observers. The instruments were refined and interjudge reliabilities calculated, with percent exact agreement found to be consistently high across the entire observation schedules (84% exact agreement,  $p < .001$ ; Moore, 1982)).

Several subsequent studies have been conducted using these observation instruments to test frequencies and proportions of the six different types of play in traditional, adventure playground, and neighborhood play settings (Moore, 1982, 1985; Moore, Burger, & Katz, 1979).

**Procedure for Using the Behavior Maps.** Observations should be conducted by trained observers (and after checking on interjudge reliabilities if more than one observer is being used) at sites and times randomly selected over the course of the study (time and space random sampling of behavior). The space should be divided into equal area segments, and a base map drawn and reduced for ease of reference. All forms should be able to fit on a clip-board. For playground observations, it is recommended that the observer become familiar with the children and then sit in an inconspicuous corner of the playground. The observer may then observe a spatial segment for a set period of time (a maximum of 5 minutes is suggested), then record the observations, then rest for a few minutes, and at the next set time observe the next randomly pre-selected segment, and so on. This procedure can be carried out in 2 to 2-1/2 hour sessions. For neighborhood observations, the observer can walk or bicycle through randomly pre-selected blocks and observe for set times (again 5 minutes); then record the information observed, rest, then continue through the next randomly pre-selected block or back alley, and so on for 2-1/2 hour sessions.

Data can be analyzed using standard SPSS or SAS bivariate and multivariate parametric and non-parametric routines depending on the purposes of the study, the research questions being pursued, and/or the hypotheses under investigation.





UNIVERSITY OF WISCONSIN-MILWAUKEE  
SCHOOL OF ARCHITECTURE AND URBAN PLANNING  
ENVIRONMENT-BEHAVIOR STUDIES RESEARCH GROUP

Evaluation of Children's Outdoor Recreation Environments

NEIGHBORHOOD OBSERVATION SUPPLEMENTARY CODING SHEET

**ENVIRONMENT:**

Location Street name and block number (plus alley to (NSEW) as appropriate)

Environmental Setting

RESidential Street  
COMMercial Street  
SIDEwalk  
CORner  
ALLEY  
PORCH  
FRont Yard  
Back YarD  
Side Yard  
DRive incl. sidewalk to house

SCHOOL  
CHURCH  
PLAYGRound  
CEMetry  
PUBLIC INSTitution incl.. clubs etc.  
VACant lot  
PARKing lot  
COMMercial FACilities  
RAILway lines and right-of-way

Objects Involved

FouND object  
BoughT or BuilT object  
NATural object  
Not Applicable

Range of Activity

● with fixed object  
○ confined to a particular, well-defined area  
S no fixed setting, or moving

**GROUP:**

Sex & Size of Group

One column for each group of individual observed: data on M/F and size of each

Race

Black, White, Other, and numbers of each

Age

Preschool, Elementary, Teenager, and numbers of each

Who with

ADult, TEENager, Not Applicable (i.e., only peers)

Role of other People

INVolved, SUPervisory, SURveillance, Not Applicable

**BEHAVIORAL CATEGORIES:**

Wheel Toy Play  
Sports  
Informal Ball Play  
Gross-Motor Play  
Raucous Play  
Sidewalk games  
Numerical & Letter Games  
Fine-Motor Play  
Fine-Motor Games  
Toy Play  
Arts & Crafts  
Making  
Fantasy  
Gardening & Animals  
Music & Dance  
Walking  
Listening to Radio  
Observing  
Resting  
Working on Cars  
Household Chores  
Picnicking  
Vandalism  
Talking  
Transit  
Eating  
Other

bicycling, skateboarding, roller skating, big wheels, etc.  
basketball, baseball, etc. *organized games*  
outdoor informal volleyball, badminton, frisbee, throwing, kicking, etc.  
climbing, swinging, sliding, rocking, running by self, other than with balls  
pushing, chasing, wrestling, running with body contact, etc.  
skipping, hop-skotch, etc.  
dice, cards, reading, playing with letters, etc.  
with dirt, sand, mud, water, hosing, small manipulative play without toys  
'indoor games', foosball, bowling, etc.  
fine-motor play with loose toys  
fine-motor crafts, two-dimensional arts  
building, constructing, fixing, putting things together, etc.  
spontaneous or with rules, dress-up, role-playing, etc.  
digging, playing with plants, bushes, animals, etc.  
making music, instruments, drumming, singing, dancing, etc.  
walking, hanging around, talking, bopping, etc.  
radio, tv, stereo  
sitting, watching, etc.  
sitting, lying, *not observing*  
washing, repairing, fixing up, etc.  
working on or around the house, garage, garbage, sweeping, etc.  
picnicking, barbecuing, etc.  
destruction not in the service of construction  
primary activity of talking, not while walking  
movement between two activities, not active walking  
*outdoor eating not picnicking, snacks, primary activity*  
(write in: to be content analyzed later)

**QUALIFYING SCALES:**

Interaction solitary, alone, by oneself  
parallel, beside, similar, etc. without obvious interaction  
cooperative, working together for a common purpose, helping  
competitive, working toward opposite purpose, contest, opposition, rivalry showing off, display, acting up  
fighting, aggressive, physical opposition

**Note:** leave blank if no category applies  
attempt to enter observation into existing category before using the write-in