

PHYSICAL ACTIVITY MEASUREMENT

Active Living Research GRANTEE MEETING 2008

Visit the website for details of acknowledgement: <http://www.activelivingresearch.org>

SUBJECTIVE METHODS

All methods subject to self report bias

TRAVEL DIARIES & ACTIVITY LOGS

Examples:

Day One

PLACE 1

DAY ONE - BEGIN HERE

For this diary, each day begins at 3am. Most people are home asleep at 3 am. If this is the case with you, then check "My Home," record the exact time you left for the first time, and write all the activities you did before leaving.

IF YOU RIDE THE BUS OR TRAIN:

Please record each trip to and from the bus or train as a separate trip. For instance, if you walk from your home to the bus, that is considered one trip. If you make a transfer, be sure to check the box and provide the appropriate bus route and / or Sounder information.

A What is this **PLACE**?

My Home
 My Primary Workplace
 My School

Another PLACE

You have already provided us with the addresses of your home and, if applicable, your primary workplace and school in the survey. You only need to fill out the address if this is ANOTHER PLACE, otherwise check the correct box.

Place name: _____

Address: _____

City and Zip: _____

Please provide cross streets:

Cross streets: _____ & _____

B What **TIME** did you leave **PLACE 1**?
(Please be as exact as possible)

: am / pm

C What **ACTIVITIES** did you do at **PLACE 1**?

(Write code from ACTIVITY LIST on flap)

Main Activity at **PLACE 1**? _____

(one response only)

Other Activities:
(Record all that apply)

D Was this your only **PLACE** for the day?

NO → Next PLACE
 YES → Begin Day 2 at 3am

EXTRA PLACES - Travel Day Two

If you used all of the previous Day Two pages, use the chart below to keep information on other places you travelled. Don't forget to record your exact times!

PLACE #	What is this PLACE? (provide as much address info as possible)	What TIME did you ARRIVE? (Record exact times) (use LIST r code)	How did you get there? (use LIST r code)	What TIME did you LEAVE? (Record exact times) (use LIST code)	What ACTIVITIES?
11		: am/pm		: am/pm	
12		: am/pm		: am/pm	
13		: am/pm		: am/pm	
14		: am/pm		: am/pm	
15		: am/pm		: am/pm	
16		: am/pm		: am/pm	
17		: am/pm		: am/pm	
18		: am/pm		: am/pm	
19		: am/pm		: am/pm	
20		: am/pm		: am/pm	

Place Log – Your Sample

(Circle Day) **Mon Tues Wed Thurs Fri Sat Sun** **Date** _____

Time child put the meter on: _____ am / pm					
	Place Name or Number	Place Address		Time child got there...	
Where child woke up:		Number (or Nearest Cross Street)	Street	City	Time child woke up:
Where child went next...					
Where child went to bed:					Time child went to bed:
Time child took the meter off: _____ am / pm					
Time removed during the day (e.g. 10:30-11am): _____					
Why removed: _____					

Benefits:

- Assesses location, activity, purpose, time, travel modes
- GEI program at NIH is sponsoring development of electronic devices to track individuals' activity

Issues:

- High participant burden; missing data
- Great deal of manual processing if not electronic
- Reliability and validity
- Optimal sampling time period

SURVEYS

Benefits:

- Activity types
- Specific behaviors in locations

Issues:

- Over reporting
- Response bias

Older Adults

Examples:

CHAMPS

Think about the past 4 weeks. The next few pages list various activities you might have done.

Step 1: Number of times each week.

For each activity, write on the line provided how many times each week, on average, you did that activity. If you did an activity less than once a week, please write a zero "0" on the line provided.

Step 2: Total time, on average, each week.

If you did the activity at least once a week, circle one letter representing how much total time, on average, you spent doing it each week.

Social Activities:	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
EXAMPLE: Meet friends for lunch	<u>2</u> times per week	a	b	c	d	e	f
4. Visit with friends or family (other than those you live with)	___times per week	a	b	c	d	e	f
5. Go to the senior center	___times per week	a	b	c	d	e	f
6. Do volunteer work	___times per week	a	b	c	d	e	f

7. Attend church or take part in church activities	___times per week	a	b	c	d	e	f
8. Attend other club or group meetings	___times per week	a	b	c	d	e	f
Recreation and Hobbies:	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
9. Use a computer	___times per week	a	b	c	d	e	f
10. Dance (such as square, folk, line, ballroom). Do not include aerobic dance here.	___times per week	a	b	c	d	e	f
11. Do woodworking, needlework, drawing, or other arts or crafts	___times per week	a	b	c	d	e	f
12. Play golf, riding in a cart (count <u>riding time only</u>)	___times per week	a	b	c	d	e	f
13. Play golf, carrying or pulling your equipment from hole to hole (count <u>walking time only</u>)	___times per week	a	b	c	d	e	f

14. Attend a concert, movie, lecture, or sport event	___times per week	a	b	c	d	e	f
15. Play cards, bingo, or board games with other people	___times per week	a	b	c	d	e	f
16. Shoot pool or billiards	___times per week	a	b	c	d	e	f
17. Play singles tennis (do <u>not</u> count doubles)	___times per week	a	b	c	d	e	f
	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
18. Play doubles tennis (do <u>not</u> count singles)	___times per week	a	b	c	d	e	f
19. Skate (ice, roller, in-line)	___times per week	a	b	c	d	e	f
20. Play a musical instrument	___times per week	a	b	c	d	e	f
21. Read	___times per week	a	b	c	d	e	f
22. Watch TV	___times per week	a	b	c	d	e	f
23. Talk on the phone	___times per week	a	b	c	d	e	f
24. Sit and talk with friends (not on phone) or listen to music	___times per week	a	b	c	d	e	f

Work around the house:	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
25. Do heavy work around the house (such as washing windows, cleaning gutters)	___times per week	a	b	c	d	e	f
26. Do light work around the house (such as sweeping or vacuuming)	___times per week	a	b	c	d	e	f
	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
27. Do heavy gardening (such as spading or raking)	___times per week	a	b	c	d	e	f
28. Do light gardening (such as watering plants)	___times per week	a	b	c	d	e	f

Transportation	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
29. Drive in a car	___times per week	a	b	c	d	e	f
30. Ride in a car being driven by someone else	___times per week	a	b	c	d	e	f
31. Travel by bus, on a regularly scheduled service	___times per week	a	b	c	d	e	f
32. Travel by subway, metro, ferry, rail, or train	___times per week	a	b	c	d	e	f

33. Use a "dial-a-ride" service or other senior transport service	___times per week	a	b	c	d	e	f
34. Walk <u>to do errands</u> (such as to/from a store – count <u>walk time</u> only)	___times per week	a	b	c	d	e	f
35. Bicycle <u>to do errands</u> (count <u>bicycling time</u> only)	___times per week	a	b	c	d	e	f

Walking and Jogging (Including Treadmill)	Number of Times a week (if none, write "0")	Less than 1 hour Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
36. Walk <u>leisurely</u> for exercise or pleasure	___times per week	a	b	c	d	e	f
37. Walk your dog	___times per week or <input type="checkbox"/> NO DOG	a	b	c	d	e	f
38. Walk <u>fast or briskly</u> for exercise (do <u>not</u> count walking leisurely or uphill)	___times per week	a	b	c	d	e	f
39. Walk uphill or hike uphill (count only uphill part)	___times per week	a	b	c	d	e	F
40. Jog or run	___times per week	a	b	c	d	e	f

Other Types of Exercise	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
41. Ride a bicycle or stationary cycle using <u>legs only</u>	___times per week	a	b	c	d	e	f

42. Do aerobic machines involving <u>arms and legs</u> (such as rowing or cross-country ski machines)	___times per week	a	b	c	d	e	f
43. Do stair or step machine	___times per week	a	b	c	d	e	f
44. Swim gently	___times per week	a	b	c	d	e	f
45. Swim moderately or fast	___times per week	a	b	c	d	e	f
Other Types of Exercise	Number of Times a week (if none, write "0")	Less than 1 hour a Week	1-2½ Hours a week	3-4½ Hours a week	5-6½ Hours a Week	7-8½ Hours a week	9 or more Hours a Week
46. Do water exercises (do <u>not</u> count other swimming)	___times per week	a	b	c	d	e	f
47. Do stretching or flexibility exercises (do <u>not</u> include yoga or Tai-chi)	___times per week	a	b	c	d	e	f
48. Do yoga or Tai-chi	___times per week	a	b	c	d	e	f
49. Do aerobics or aerobic dancing	___times per week	a	b	c	d	e	f
50. Do moderate to heavy strength training (such as hand-held weights of <u>more than 5 lbs.</u> , weight machines, or push-ups)	___times per week	a	b	c	d	e	f
51. Do light strength training (such as hand-held weights of <u>5 lbs. or less</u> or elastic bands)	___times per week	a	b	c	d	e	f

52. Do general conditioning exercises, such as light calisthenics or chair exercises (do <u>not</u> count strength training)	___times per week	a	b	c	d	e	f
53. Play basketball, soccer, or racquetball (do <u>not</u> count time on sidelines)	___times per week	a	b	c	d	e	f
54. Do other types of physical activity not previously mentioned (please specify): _____	___times per week	a	b	c	d	e	f

Adults

Examples:

MSSE 1997 review of several measures

Sallis & Saelens: Research Quarterly for Exercise and Sport, 71(2 Suppl), 1 - 7. 2000

IPAQ

Your Physical Activity

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions are about the time you spent being physically active in the **last 7 days**. They include questions about activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport. Your answers are important.

Please answer each question even if you do not consider yourself to be an active person.



N. JOB-RELATED PHYSICAL ACTIVITY

The first section is about your work. This includes paid jobs, farming, volunteer work, course work and any other unpaid work that you did outside your home. Do not include unpaid work you might do around your home, like housework, yard work, general maintenance, and caring for your family. These are asked in Section P.

1. Do you currently have a job or do any unpaid work outside your home?

Yes

No [If No, go to SECTION O: TRANSPORTATION]

The next questions are about all the physical activity you did in the **last 7 days** as part of your paid or unpaid work. This does not include traveling to and from work.

2. During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, digging, heavy construction, or climbing up stairs as part of your work? Think about *only* those physical activities that you did for at least 10 minutes at a time.

_____ days per week or none [If none, go to question 4]

3. How much time did you usually spend **on ONE of those days** doing vigorous physical activities as part of your work?
_____ hours _____ minutes per day

4. Again, think about *only* those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do moderate physical activities like carrying light loads as part of your work? Please do not include walking.

_____ days per week or none [If none, go to question 6]

5. How much time did you usually spend **on ONE of those days** doing moderate physical activities as part of your work?
_____ hours _____ minutes per day

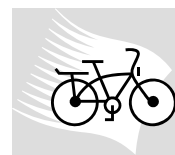
6. During the last 7 days, on how many days did you *walk* for at least 10 minutes at a time as part of your work? Please do not count any walking you did to travel to or from work.

_____ days per week or none [If none, go to SECTION O: TRANSPORTATION]

7. How much time did you usually spend **on ONE of those days** walking as part your work?
_____ hours _____ minutes per day



O. TRANSPORTATION PHYSICAL ACTIVITY



These questions are about how you traveled from place to place, including to places like work, stores, movies and so on.

1. During the last 7 days, on how many days did you travel in a motor vehicle like a train, bus, car or tram?

_____ days per week or none [If none, go to question 3]

2. How much time did you usually spend **on ONE of those days** traveling in a car, bus, train or other kind of motor vehicle?
_____ hours _____ minutes per day

Now think *only* about the *bicycling* and *walking* you might have done to travel to and from work, to do errands, or to go from place to place.

3. During the last 7 days, on how many days did you *bicycle* for at least 10 minutes at a time *to go from place to place*?

_____ days per week or none [If none, go to question 5]

4. How much time did you usually spend **on ONE of those days** to *bicycle from place to place*?

_____ hours _____ minutes per day

5. During the last 7 days, on how many days did you *walk* for at least 10 minutes at a time *to go from place to place*?

_____ days per week or none [If none, go to SECTION P: HOUSEWORK, HOUSE MAINTENANCE AND CARING FOR FAMILY]

6. How much time did you usually spend **on ONE of those days** *walking from place to place*?

_____ hours _____ minutes per day



P. HOUSEWORK, HOUSE MAINTENANCE, AND CARING FOR FAMILY

This section is about some of the physical activities you might have done in the last 7 days *in and around your home*, like housework, gardening, yard work, general maintenance work, and caring for your family.

1. Think about *only* those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do *vigorous* physical activities like heavy lifting, chopping wood, shoveling snow, or digging *in the garden or yard*?

_____ days per week or none [If none, go to question 3]

2. How much time did you usually spend **on ONE of those days** doing vigorous physical activities *in the garden or yard*?

_____ hours _____ minutes per day

3. Again, think about *only* those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do *moderate* activities like carrying light loads, sweeping, washing windows, and raking *in the garden or yard*?

_____ days per week or none [If none, go to question 5]

4. How much time did you usually spend **on ONE of those days** doing moderate physical activities *in the garden or yard*?

_____ hours _____ minutes per day

5. Once again, think about *only* those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do *moderate* activities like carrying light loads, washing windows, scrubbing floors and sweeping *inside your home*?

_____ days per week or none [If none, go to SECTION Q: RECREATION, SPORT AND LEISURE-TIME PHYSICAL ACTIVITY]

6. How much time did you usually spend on **ONE** of those days doing moderate physical activities *inside your home*?
_____ hours _____ minutes per day



Q. RECREATION, SPORT, AND LEISURE-TIME PHYSICAL ACTIVITY

This section is about all the physical activities that you did in the last 7 days solely for recreation, sport, exercise or leisure. Please do not include any activities you have already mentioned.

1. Not counting any walking you have already mentioned, during the last 7 days, on how many days did you walk for at least 10 minutes at a time *in your leisure time*?

_____ days per week or none [If none, go to question 3]

2. How much time did you usually spend on **ONE** of those days walking *in your leisure time*?
_____ hours _____ minutes per day

3. Think about *only* those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do *vigorous* physical activities like aerobics, running, fast bicycling, or fast swimming *in your leisure time*?

_____ days per week or none [If none, go to question 5]

4. How much time did you usually spend on **ONE** of those days doing vigorous physical activities *in your leisure time*?
_____ hours _____ minutes per day

5. Again, think about *only* those physical activities that you did for at least 10 minutes at a time. During the last 7 days, on how many days did you do *moderate* physical activities like bicycling at a regular pace, swimming at a regular pace, and doubles tennis *in your leisure time*?

_____ days per week or none [If none, go to SECTION R: TIME SPENT SITTING]

6. How much time did you usually spend **on ONE of those days** doing moderate physical activities *in your leisure time*?
_____ hours _____ minutes per day



R. TIME SPENT SITTING

The last questions are about the time you spend sitting while at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading or sitting or lying down to watch television. *Do not* include any time spent sitting in a motor vehicle that you have already listed.

1. During the last 7 days, how much time did you usually spend *sitting* on a *weekday*?

_____ hours _____ minutes per week day

2. During the last 7 days, how much time did you usually spend *sitting* on a *weekend day*?

_____ hours _____ minutes per weekend day

Children

From ACTIVE WHERE? study

Physical Activity Outside of School							
1. For the past <u>seven days</u> , how many days were you physically active for a total of at <u>least 60 minutes</u> per day (do not include school physical education or gym class)?							
0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days
2. Over a <u>typical or usual week</u> on how many days are you physically active for a total of at least <u>60 minutes</u> per day (do not include school physical education or gym class)?							
0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days
3. In the past year, how many sports teams or physical activity classes have you participated in outside of school ? If you play for more than 1 team of the same sport or across 2 seasons (i.e. two softball leagues) count this as 2.							
0	1	2	3	4 or more			

Physical Activity at School					
1. How many days per week do you have gym or Phys Ed class <u>at school</u> ?					
0 days	1 day	2 days	3 days	4 days	5 days
2. If you have PE, on average, how long is each PE period?					
1 _____minutes per class			2 Don't know		

3. How many days per week do you have recess <u>at school</u> ?					
0 days	1 day	2 days	3 days	4 days	5 days
4. If you have recess, on average, how long is the total time spent in recess?					
1 _____minutes per class			2 Don't know		
5. In the past year, how many sports teams or "after school" physical activity classes (not PE) have you participated in AT school ? If you play for more than 1 team of the same sport or across 2 seasons (i.e. two softball leagues) count this as 2.					
0	1	2	3	4 or more	

To and From School						
In an average school week, how many days do you use the following modes of transportation to get to and from school?						
Days per week TO school:	0 days	1 day	2 days	3 days	4 days	5 days
1. Walk	0	1	2	3	4	5
2. Bicycle	0	1	2	3	4	5
3. Bus	0	1	2	3	4	5
4. Car	0	1	2	3	4	5
Days per week FROM school:						
4. Walk	0	1	2	3	4	5
5. Bicycle	0	1	2	3	4	5
3. Bus	0	1	2	3	4	5
4. Car	0	1	2	3	4	5

Places for Physical Activity						
How often are you PHYSICALLY ACTIVE in/at the following locations?						
	Never	Once a month or less	Once every other week	Once a week	2 or 3 times/week	4 times/week or more
1. Indoor recreation or exercise facility (public or private; YMCA, boys & girls club)	1	2	3	4	5	6
2. Beach, lake, river, or creek	1	2	3	4	5	6
3. Bike/hiking/walking trails, paths	1	2	3	4	5	6
4. Basketball court	1	2	3	4	5	6
5. Other playing fields/courts (like football, softball, tennis)	1	2	3	4	5	6
6. Indoor swimming pool	1	2	3	4	5	6
7. Small public park	1	2	3	4	5	6
8. Large public park	1	2	3	4	5	6
9. Public open space that is not a park	1	2	3	4	5	6
10. Friend or relative's house	1	2	3	4	5	6
11. School grounds (during non-school hours)	1	2	3	4	5	6
12. Outdoor swimming pool (during warmer months)	1	2	3	4	5	6
13. Ski or other winter area (during colder months)	1	2	3	4	5	6

Walk/Bike						
How many days per week do you usually walk or bike to/from the following?						
	Never	Once a month or less	Once every other week	Once a week	2 or 3 times/week	4 times/week or more
1. Indoor recreation or exercise facility (public or private) e.g. YMCA / boys and girls club	1	2	3	4	5	6
2. Friend or relative's house	1	2	3	4	5	6
3. Outdoor recreation place (park, sports field, open space, creek)	1	2	3	4	5	6
4. Food store or restaurant/cafe	1	2	3	4	5	6
5. Other retail (e.g. music, clothes)	1	2	3	4	5	6
6. Non school social or educational activities (e.g. church group, band)	1	2	3	4	5	6
7. Public transportation stop (bus, train, light rail)	1	2	3	4	5	6
8. Work (check if not applicable ___)	1	2	3	4	5	6
9. Other: (please specify)	1	2	3	4	5	6

Physical Activity at Home & In the Neighborhood						
How often are you PHYSICALLY ACTIVE in the following places?						
	Never	Once a month or less	Once every other week	Once a week	2 or 3 times/week	4 times/week or more
1. Inside your home	1	2	3	4	5	6
2. In your yard or common area	1	2	3	4	5	6
3. In your driveway or alley	1	2	3	4	5	6
4. At a neighbor's house, yard or driveway	1	2	3	4	5	6
5. In a local street, sidewalk, or vacant lot	1	2	3	4	5	6
6. In a nearby cul-de-sac or dead end street	1	2	3	4	5	6
7. In a nearby park or open space	1	2	3	4	5	6

. Where Your Child is Active

Please tell us the top 3 most common places, outside of school, your child does active play or is physically active (including your home/yard), and how often he/she is active there.

Place #1	Once a month or less	Once every other week	Once a week	2-3 times/week	4 or more times/week
Organized sport or activity? <input type="checkbox"/> Yes <input type="checkbox"/> No Coding: Yes = 1, No = 0, n/a = -777					
1a. Name or type of place: _Coding: text. N/A (blank) = -777 for both text and rating scale. _____ 1b. Location: _____	1	2	3	4	5
Address or Nearest Intersection _____ City _____ 1c. My child usually walks or bikes to get there: Coding: 1-5, or -777 if N/A	1	2	3	4	5