

Home and Community Environment (HACE) Survey: Instrument and Scoring Manual
April 17, 2008

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Home and Community Environment (HACE) Survey

The following questions are about your home and community. There are no right or wrong answers. I just want **your** thoughts based on **your current situation**.

Let's begin with a few questions about your home. Your "home" is the place where you live, sleep, and eat. If you live in a building (for example, an apartment building, an assisted living center, or a nursing home), your home would include *both* the building *and* the rooms in which you live. Do you have any questions before we begin?

01. What type of home do you live in?

Single
Family

 1

Multi-
Family

 2

Apartment Building
or Condominium
Complex

 3

Congregate Housing
or
Assisted Living

 4

Nursing/
Rest Home

 5

Other

 6

02. How many steps are at the main entrance of your home? (Probe, by main entrance we mean the entrance the respondent uses or is likely to use. A side entrance is acceptable)

None

 1 (Skip to #03)

One or two

 2

Several

 3

10 or more

 4

02b. Is there a railing at the steps?

No

 2

Yes

 1

03. Is there a ramp at the main entrance? (Probe for main entrance is in question #2)

No

 2

Yes

 1

04. Does the door at the main entrance of your home open electronically or is someone available to open the door? (Probe for main entrance is in question #2)

No

 2

Yes

 1

05. (IF RESPONDENT LIVES IN SINGLE FAMILY HOME, DO NOT ASK THE NEXT TWO QUESTIONS)

How many steps are there from the main entrance of your building to your main living areas. By main living area, we mean the rooms in which you live, sleep, and eat.

None	One or two	Several	10 or more
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

06. Is there a chairlift or elevator inside your building?

No	Yes
<input type="checkbox"/> 2	<input type="checkbox"/> 1

07. How many steps are there in your main living area. By main living area, we mean the rooms in which you live, sleep, and eat.

None	One or two	Several	10 or more
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

08. Is there a chairlift or elevator inside your main living area? By main living area, we mean the rooms in which you live, sleep, and eat.

No	Yes
<input type="checkbox"/> 2	<input type="checkbox"/> 1

9. Do you have a car available to you at your home?

No	Yes
<input type="checkbox"/> 2	<input type="checkbox"/> 1

10. Do you drive?

No	Yes
<input type="checkbox"/> 2	<input type="checkbox"/> 1

11. During the past week, how many days did you go away from your home for at least part of the day? (Check 1 box.)

Every day	5+ days	3-4 days	1-2 days	Never
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Now please tell me whether you strongly agree, agree, disagree, strongly disagree, or neither agree nor disagree with the following statements.

(IF RESPONDENT LIVES IN SINGLE FAMILY HOME, DO NOT ASK THE NEXT TWO QUESTIONS)

12. People in your building have negative attitudes toward persons with limitations in daily activities.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

13. People in your building are willing to help persons with limitations in daily activities.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Now please tell me whether you have any of the following items. Please say Yes or No.

14. Do you have a manual wheelchair?

Yes (1)

No (2)

15. Do you have an electric wheelchair or electric scooter?

Yes (1)

No (2)

16. Do you have a walker?

Yes (1)

No (2)

17. Do you have a cane or crutch?

Yes (1)

No (2)

18. Do you have a bedside commode, raised toilet seat or grab bars near toilet?

Yes (1)

No (2)

19. Do you have grab bars or bench in tub or shower?

Yes (1)

No (2)

20. Do you have reachers (for example, something to help you pick up something on the floor)?

Yes (1)

No (2)

21. Do you have dressing aids such as button adapters or zipper pulls?

Yes (1)

No (2)

22. Do you have eating aids such as built-up silverware or kitchen aids such as cutting boards that hold food or utensils that are designed to be used with one hand?

Yes (1)

No (2)

23. Do you have aids to help you communicate with people such as boards or papers with pictures or telephones with big dials and hearing devices?

Yes (1)

No (2)

24. Do you have voice-output communication aids, such as voice generating computers?

Yes (1)

No (2)

25. Do you have a computer?

Yes (1)

No (2)

26. Do you have access to the internet?

Yes (1)

No (2)

Section B

Now I would like to learn about your local community. By “local community” I mean the neighborhood you live in.

Using the answers listed on the card please tell me whether your community has “a lot,” “some,” or “not at all” of what I describe. If you don’t know, please answer “don’t know.” Do you have any questions?

To what extent does your local community have...	A lot	Some	Not at all	Don't Know
27. Uneven sidewalks or other walking areas	1	2	3	4
28. Parks and walking areas that are easy to get to and easy to use	1	2	3	4
29. Safe parks or walking areas	1	2	3	4
30. Places to sit and rest at bus stops, in parks, or in other places where people walk	1	2	3	4
31. Curbs with curb cuts. By curb cuts we mean little ramps at sidewalk and street corners that make it easy for wheel chairs to move through these areas. (rephrased to improve agreement)	1	2	3	4
32. Public transportation that is close to your home	1	2	3	4
33. Public transportation with adaptations for people who are limited in their daily activities, such as buses that lower to the ground and chairlifts for wheelchairs.	1	2	3	4
34. Adequate handicap parking				

Now please tell me whether you strongly agree, agree, disagree, strongly disagree, or neither agree nor disagree with the following statements.

35. People in your community have negative attitudes toward persons with limitations in daily activities.

Strongly Agree 1 Agree 2 Neither agree nor disagree 3 Disagree 4 Strongly Disagree 5

36. People in your community are willing to help persons with limitations in daily activities.

Strongly Agree 1 Agree 2 Neither agree nor disagree 3 Disagree 4 Strongly Disagree 5

SAS Programming:

Note: The “e” notion in the programming refers to the instrument question item. For example, e2 corresponds to 2. We used the “e” indicator to score the environment instrument in our databases.

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/*(A) Home Mobility*/

/*1.Barrier at main entrance*/

** frontstep = a measure of number of steps at the main entrance, including
the presence of
    a ramp;
** e2 = the number of steps at the main entrance
    1 = none
    2 = 1 or 2
    3 = several
    4 = 10 or more;
** e3 = whether a ramp is present at the main entrance
    1 = yes
    2 = no;
** if a ramp is present, frontstep = 0
    if a ramp is not present, frontstep = (value of e2-1);
** Score Range: 0 - 3;

if e2=1 and e3=1 then frontstep=0;
if e2=2 and e3=1 then frontstep=0;
if e2=3 and e3=1 then frontstep=0;
if e2=4 and e3=1 then frontstep=0;
if e2=1 and e3=2 then frontstep=0;
if e2=2 and e3=2 then frontstep=1;
if e2=3 and e3=2 then frontstep=2;
if e2=4 and e3=2 then frontstep=3;
/*Alternative programming for the above*/
/*if e3 = 1 then frontstep = 0;
else frontstep = (e2-1)*/

** frontaccess = a measure of barriers at the main entrance, including the
number of steps
    and whether a railing is present;
** e2b = whether a railing at the steps is present
    1 = yes
    2 = no
    if missing, e2b is assumed to be equal to 2;
** if a railing is present and frontstep = 0, frontaccess = 0
    if a railing is present and frontsteps > 0, frontaccess = (score of
frontsteps - 1)
    if a railing is not present, frontaccess = score of frontstep;
** Score Range: 0 - 3;

if e2b=. then e2b=2;
if frontstep=0 and e2b=1 then frontaccess=0;
if frontstep=1 and e2b=1 then frontaccess=0;
if frontstep=2 and e2b=1 then frontaccess=1;
if frontstep=3 and e2b=1 then frontaccess=2;
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if frontstep=0 and e2b=2 then frontaccess=0;
if frontstep=1 and e2b=2 then frontaccess=1;
if frontstep=2 and e2b=2 then frontaccess=2;
if frontstep=3 and e2b=2 then frontaccess=3;
/*Alternative programming for the above*/
/*if frontstep=0 then frontaccess=0;
else if e2b=1 then frontaccess=(frontstep-1);
else if e2b = 2 then frontaccess = frontstep;*/

** frontaccess2 = a measure of barriers at the main entrance, including the
number of steps,
    whether a railing is present, and whether someone is available to
open the door;
** e4 = whether someone is available to open the door
    1 = yes
    2 = no;
** if someone is available to open the door, frontaccess2 = score of
frontaccess
    if no one is available to open the door, frontaccess2 = (score of
frontaccess + 1);
** Score Range: 0 - 4;

if frontaccess=0 and e4=1 then frontaccess2=0;
if frontaccess=1 and e4=1 then frontaccess2=1;
if frontaccess=2 and e4=1 then frontaccess2=2;
if frontaccess=3 and e4=1 then frontaccess2=3;
if frontaccess=0 and e4=2 then frontaccess2=1;
if frontaccess=1 and e4=2 then frontaccess2=2;
if frontaccess=2 and e4=2 then frontaccess2=3;
if frontaccess=3 and e4=2 then frontaccess2=4;
/*Alternative programming for the above*/
/* if e4 = 1 then frontaccess2 = frontaccess;
if e4 = 2 then frontaccess2 = (frontaccess +1);*/

/*2.Barriers from main entrance to main living areas*/

** stepstomain = a measure of number of steps from main entrance to main
living area;
** e1 = the type of home you live in;
** e5 = the number of steps from main entrance to main living area
    1 = none
    2 = 1 or 2
    3 = several
    4 = 10 or more;
** if e1 = 1 (single family home), stepstomain = 0
    assumption: main living areas in single family home will be on entry
level, including split
        ranch (note: not a common occurrence in most housing
district)
    if e1 not equal to 1, stepstomain = (e5-1);
** Score Range: 0 - 3;

if e1=1 and e5=. then stepstomain=0;
if e1=1 and e5=1 then stepstomain=0;
if e1=1 and e5=2 then stepstomain=0;

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if e1=1 and e5=3 then stepstomain=0;
if e1=1 and e5=4 then stepstomain=0;
if e1=2 and e5=1 then stepstomain=0;
if e1=3 and e5=1 then stepstomain=0;
if e1=4 and e5=1 then stepstomain=0;
if e1=5 and e5=1 then stepstomain=0;
if e1=6 and e5=1 then stepstomain=0;
if e1=2 and e5=2 then stepstomain=1;
if e1=3 and e5=2 then stepstomain=1;
if e1=4 and e5=2 then stepstomain=1;
if e1=5 and e5=2 then stepstomain=1;
if e1=6 and e5=2 then stepstomain=1;
if e1=2 and e5=3 then stepstomain=2;
if e1=3 and e5=3 then stepstomain=2;
if e1=4 and e5=3 then stepstomain=2;
if e1=5 and e5=3 then stepstomain=2;
if e1=6 and e5=3 then stepstomain=2;
if e1=2 and e5=4 then stepstomain=3;
if e1=3 and e5=4 then stepstomain=3;
if e1=4 and e5=4 then stepstomain=3;
if e1=5 and e5=4 then stepstomain=3;
if e1=6 and e5=4 then stepstomain=3;
/*Alternative programming for the above*/
/*if e1 =1 then stepstomain = 0;
else stepstomain = (e5-1);*/

** accesstomain = a measure of the degree to which barriers are present from
main entrance to
    main living areas, including number of steps and whether a chairlift or
elevator is present;
** e6 = whether a chairlift or elevator is present from main entrance to main
living areas
    1 = yes
    2 = no;
** if a chairlift or elevator is present, accesstomain = 0
    if neither chairlift nor elevator is present, accesstomain = score of
stepstomain;
** Score Range: 0 - 3;

if stepstomain=0 and e6=. then accesstomain=0;
if stepstomain=1 and e6=. then accesstomain=1;
if stepstomain=2 and e6=. then accesstomain=2;
if stepstomain=3 and e6=. then accesstomain=3;
if stepstomain=0 and e6=1 then accesstomain=0;
if stepstomain=1 and e6=1 then accesstomain=0;
if stepstomain=2 and e6=1 then accesstomain=0;
if stepstomain=3 and e6=1 then accesstomain=0;
if stepstomain=0 and e6=2 then accesstomain=0;
if stepstomain=1 and e6=2 then accesstomain=1;
if stepstomain=2 and e6=2 then accesstomain=2;
if stepstomain=3 and e6=2 then accesstomain=3;
/*Alternative programming for the above*/
/*if e6 = . then e6 = 2;
if e6=1 then accesstomain = 0;
else if e6=2 then accesstomain = stepstomain;*/

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/*3.Barriers inside the main living area */

** stepsinside = a measure of the degree to which barriers are present inside
main living areas,
    including number of steps and whether a chairlift or elevator is
present;
** e7 = the number of steps inside the main living area
    1 = none
    2 = 1 or 2
    3 = several
    4 = 10 or more;
** e8 = whether a chairlift or elevator is present inside the main living
area
    1 = yes
    2 = no;
** if a chairlift or elevator is present, stepsinside = 0
    if neither chairlift nor elevator is present, stepsinside = (e7-1);
** Score Range: 0 - 3;

if e7=1 and e8=1 then stepsinside=0;
if e7=2 and e8=1 then stepsinside=0;
if e7=3 and e8=1 then stepsinside=0;
if e7=4 and e8=1 then stepsinside=0;
if e7=1 and e8=2 then stepsinside=0;
if e7=2 and e8=2 then stepsinside=1;
if e7=3 and e8=2 then stepsinside=2;
if e7=4 and e8=2 then stepsinside=3;
/*Alternative programming for the above*/
/*if e8=1 then stepsinside=0;
else if e8=2 then stepsinside=(e7-1);*/

** totalhome = a measure of the degree to which barriers are present at the
main entrance,
    from the main entrance to the main living areas, and inside main living
area;
** Score Range: 0 - 10;
totalhome=sum(frontaccess,accesstomain,stepsinside);
** totalhome2 = in addition to totalhome, whether there is someone available
to open the door
    is taken into account;
totalhome2=sum(frontaccess2,accesstomain,stepsinside);

/*(B) Assistive Technology Facilitators;*/

** e14 = whether the person has a manual wheelchair
    e15 = whether the person has an electric wheelchair or electric scooter
    e16 = whether the person has a walker
    e17 = whether the person has a cane or crutch
    e18 = whether the person has a bedside commode, raised toilet seat or grab
bars near toilet
    e19 = whether the person has grab bars or bench in tub or shower
    e20 = whether the person has a reacher
    e21 = whether the person has dressing aids

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e22 = whether the person has eating aids
e23 = whether the person has aids to help communicate with people
e24 = whether the person has voice-output communication aids
e25 = whether the person has a computer
e26 = whether the person has access to internet

** e14rc-e26rc = recoded e14-e26
    1 = yes, facilitator
    0 = no, not a facilitator;

array tech_fac {13} e14-e26;
array tech_facrc {13} e14rc-e26rc;
do i=1 to 13;
if tech_fac{i}=1 then tech_facrc{i}=1;
if tech_fac{i}=2 then tech_facrc{i}=0;
if tech_fac{i}=. then tech_facrc{i}=.;
end;

** totaltechnology_mobility = a measure of the degree to which assistive
technology
                                facilitators are present;
technology_mobility=sum(e14rc,e15rc,e16rc,e17rc,e18rc,e19rc,e20rc,e21rc,e22rc
);

technology_communication=sum(e23rc,e24rc,e25rc,e26rc);

/*(C) Attitude Barriers*/

** e12 = a measure of degree to which negative attitudes people in the
building have toward
    persons with limitations in daily activities
e36 = a measure of degree to which negative attitudes people in the
community have toward
    persons with limitations in daily activities
    1 = strongly agree
    2 = agree
    3 = neither agree nor disagree
    4 = disagree
    5 = strongly disagree;
** e12rc = recoded e12
e36rc = recoded e36
    1 = agree
    0 = neutral or disagree
    Note: this recoding could be done in different ways;

array att_barrier {2} e12 e36;
array att_barrierc {2} e12rc e36rc;
do i=1 to 2;
if att_barrier{i}=1 then att_barrierc{i}=1;
if att_barrier{i}=2 then att_barrierc{i}=1;
if att_barrier{i}=3 then att_barrierc{i}=0;
if att_barrier{i}=4 then att_barrierc{i}=0;
if att_barrier{i}=5 then att_barrierc{i}=0;
if att_barrier{i}=. then att_barrierc{i}=.;
end;
do i=1 to 2;

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/*Alternative programming for the above*/
/*if att_barrier{i}= . then att_barrierrc{i}=.;
else if att_barrier{i} lt 3 then att_barrierrc{i}=1;
else if att_barrier{i} ge 3 then att_barrierrc{i}=0;
end;*/

** e13 = a measure of degree to which people in the building are willing to
help persons
    with limitations in daily activities
    e37 = a measure of degree to which people in the community are willing to
help persons
    with limitations in daily activities
        1 = strongly agree
        2 = agree
        3 = neither agree nor disagree
        4 = disagree
        5 = strongly disagree;
** e13rc = recoded e12
    e37rc = recoded e37
        0 = neutral or agree
        1 = disagree
    Note: this recoding could be done in different ways;

array att_barrier2 {2} e13 e37;
array att_barrierrc2 {2} e13rc e37rc;
do i=1 to 2;
if att_barrier2{i}=1 then att_barrierrc2{i}=0;
if att_barrier2{i}=2 then att_barrierrc2{i}=0;
if att_barrier2{i}=3 then att_barrierrc2{i}=0;
if att_barrier2{i}=4 then att_barrierrc2{i}=1;
if att_barrier2{i}=5 then att_barrierrc2{i}=1;
if att_barrier2{i}= . then att_barrierrc2{i}=.;
end;
/*Alternative programming for the above*/
/*if att_barrier2{i}= . then att_barrierrc{i}=.;
else if att_barrier2{i} lt 4 then att_barrierrc{i}=0;
else if att_barrier{i} ge 4 then att_barrierrc{i}=1;
end;*/

** negattitude = a measure of the degree of people's negative attitude in
helping persons
    with limitations in daily activities in both building
and community;
negattitude=sum(e12rc,e13rc,e36rc,e37rc);

/*(D) Community Mobility*/

** e28 = a measure of the presence of uneven sidewalks or other walking areas
such as gravel,
    uneven dirt paths, or hills
        1 = A lot
        2 = Some
        3 = Not at all
        4 = Don't Know;

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** none_e28 = recoded e28
    1 = a lot or some community barriers
    2 = no community barrier at all;

if e28=1 then none_e28=1;
if e28=2 then none_e28=1;
if e28=3 then none_e28=0;
if e28=4 then none_e28=.;
if e28=. then none_e28=.;

** e29 = a measure of the presence of parks and walking areas used for
exercise that are easy
    to get to and easy to use
    e30 = a measure of the presence of safe parks or walking areas
    e31 = a measure of the presence of places to sit and rest at bus stops, in
parks, or in
    other places where people walk
    e32 = a measure of the presence of curbs with curb cuts
    1 = A lot
    2 = Some
    3 = Not at all
    4 = Don't Know;
** none_e29-none_e32 = recoded e29-e32
    1 = yes, there are community barriers
    0 = no, there is no barrier;

array barrier1 {4} e29-e32;
array recodebarrier1 {4} none_e29-none_e32;
do i=1 to 4;
if barrier1{i}=1 then recodebarrier1{i}=0;
if barrier1{i}=2 then recodebarrier1{i}=0;
if barrier1{i}=3 then recodebarrier1{i}=1;
if barrier1{i}=4 then recodebarrier1{i}=.;
if barrier1{i}=. then recodebarrier1{i}=.;
end;

** totalcommunity1 = a measure of degree to which community barriers are
present;
totalcommunity1=sum(none_e28,none_e29,none_e30,none_e31,none_e32);

/*(E) Transportation Facilitators*/

** e33 = a measure of the presence of public transportation that is close to
home
    e34 = a measure of the presence of public transportation with adaptations
for people who
    are limited in their daily activities
    e35 = a measure of the presence of adequate handicap parking
    1 = A lot
    2 = Some
    3 = Not at all
    4 = Don't Know;
** yes_noe33=yes_noe35 = recoded e33-e35

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    1 = yes, there are positive facilitators
    2 = no, there is no facilitator;

array communitytrans2 {3} e33 e34 e35;
array communitytransrc2 {3} yes_noe33 yes_noe34 yes_noe35;
do i=1 to 3;
if communitytrans2{i}=1 then communitytransrc2{i}=1;
if communitytrans2{i}=2 then communitytransrc2{i}=1;
if communitytrans2{i}=3 then communitytransrc2{i}=0;
if communitytrans2{i}=4 then communitytransrc2{i}=.;
if communitytrans2{i}=. then communitytransrc2{i}=.;
end;

** e9 = whether the person has a car
   e10 = whether the person drives
       1 = yes
       2 = no;
** e9rc = recoded e9
   e10rc = recoded e10
       1 = yes
       0 = no;

if e9=1 then e9rc=1;
if e9=2 then e9rc=0;
if e9=. then e9rc=.;

if e10=1 then e10rc=1;
if e10=2 then e10rc=0;
if e10=. then e10rc=.;

**transportations2 = a measure of degree to which transportation facilitators
are present;
**transportation2 used in reliability paper;
transportation2=sum(yes_noe33,yes_noe34,yes_noe35,e9rc,e10rc);

run;

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