Scoring for the Neighborhood Environment Walkability Scale – Youth (NEWS-Y)

Updated: December 4, 2009

Suggested reference: Rosenberg, D. Ding, D., Sallis, J.F., Kerr, J., Norman, G.J., Durant, N., Harris, S.K., & Saelens, B.E. (2009). Neighborhood environment walkability scale for youth (NEWS-Y): Reliability and relationship with physical activity. Preventive Medicine, 49, 213-218.

The NEWS-Y can be found at: http://www.drjamessallis.sdsu.edu/Documents/NEWS-Yadolescent.pdf OR http://www.drjamessallis.sdsu.edu/Documents/NEWS-Yparent.pdf

The NEWS-Y is an adapted version of the Neighborhood Environment Walkability Scale (NEWS) (see http://www.drjamessallis.sdsu.edu/measures.html; Saelens, B.E., Sallis, J.F., Black, J., Chen, D. (2003). Neighborhood-based differences in physical activity: An environment scale evaluation. American Journal of Public Health, 93, 1552-1558).

The NEWS-Y was created in an attempt to provide a more succinct and empirically-derived measure of various aspects of the built environment we purport to be related to walking in youth. The results of multi-level confirmatory factor analysis, based on data from the Neighborhood Quality of Life Study, are reported elsewhere (see Cerin, E., Saelens, B.E., Sallis, J.F., & Frank, L.D. (2006). Neighborhood Environment Walkability Scale: validity and development of a short form. Medicine and Science in Sports and Exercise, 38, 1682-1691) and the scoring procedures proposed below stem from these confirmatory factor analyses.

The residential density and land use mix-diversity subscales were not evaluated as part of the multi-level CFA (see the original NEWS scoring at http://www.drjamessallis.sdsu.edu/NEWSscoring.pdf for scoring of these components).

The multi-level confirmatory factor analysis allowed for the establishment of individual-level subscales and blockgroup level subscales. For reasons provided in the discussion of Cerin et al. (2006), scoring below refers to the individual-level subscale scoring.

The original NEWS-A contained 3 types of recreation facilities in the list of destinations in the "land use mix-diversity" subscale. The "Active Where?" parent survey contained a new expanded measure of proximity to 14 recreation facilities, including indoor facilities, walking/hiking trails, YMCA, swimming pool, parks, and public open space (see www.drjamessallis.sdsu.edu; Sallis JF, Johnson MF, Calfas KJ, Caparosa S, Nichols J. Assessing perceived physical environment variables that may influence physical activity. Res Quart Exerc Sport. 1997;68:345-351).

Subscale A: Land-use mix – diversity (higher score denoting higher walkability)
A1. Convenience/small grocery store
A2. Supermarket
A3. Hardware store
A4. Fruit/vegetable market
A5. Laundry/dry cleaners
A6. Clothing store
A7. Post office
A8. Library
A9. Elementary school
A10. Other schools
A11. Book store
A12. Fast food restaurant
A13. Coffee place
A14. Bank/credit union
A15. Non-fast food restaurant
A16. Video store
A17. Pharmacy/drug store
A18. Salon/barber shop
A19. Your job or school
A20. Bus or trolley stop
Responses:
1-5 min(1) 6-10 min(2) 11-20 min(3) 21-30 min(4) 31+ min(5) don't know (5)
Note: A 'don't know' response is coded as a "5" because if it is not known whether the facility is within walking distance, the actual walk is likely more than 31 minutes.
Reverse coding items: All items must be reverse coded
Score on subscale A: Mean of items
Alternative scoring: For some purposes it may be useful to tally the number of stores or facilities within a 5, 10, or 20-minute walk.

Subscale B: Neighborhood recreation facilities (higher score denoting higher walkability)
B1. Indoor recreation facility
B2. Beach, lake, river or creek
B3. Bike/hiking/walking trails, paths
B4. Basketball court
B5. Other playing fields/courts
B6. YMCA
B7. Boys and girls club
B8. Swimming pool
B9. Walking/running track
B10. School with recreation facilities open to public
B11. Small public park
B12. Large public park
B13. Public playground with equipment
B14. Public open space that is not a park
Responses:

1-5 min(1) 6-10 min(2) 11-20 min(3) 21-30 min(4) 31+ min(5) don't know (5)
Note: A 'don't know' response is coded as a "5" because if it is not known whether the facility is within walking distance, the actual walk is likely more than 31 minutes.
Reverse coding items: All items must be reverse coded
Score on subscale B: Mean of items
Alternative scoring: For some purposes it may be useful to tally the number of recreation facilities within a 5, 10, or 20-minute walk.

Subscale C: Residential density (higher score denoting higher walkability)
C1. How common are separate or stand along one family homes in your neighborhood?
C2. How common are connected townhouses or row houses in your neighborhood?
C3. How common are multiple family or duplex homes in your neighborhood?
C4. How common are apartment or condo buildings in your neighborhood?
Responses:
None (1) A few (2) Some (3) Most (4) All (5)
Score on subscale C = A1 + (12 * A2) + (2 * A3) + (25 * A4)

Subscale D: Land-use mix – access (higher score denoting higher walkability)
D1. Stores are within easy walking distance.
D2. Parking is difficult in local shopping areas.
D3. There are many places to go within walking distance at my home.
D4. From our home, it is easy to walk to a transit stop (bus, train).
D5. The streets in my neighborhood are hilly, making our neighborhood difficult to walk in.
D6. There are major barriers to walking in our local area that make it hard for my child to get from place to place.
Responses:
Strongly disagree (1) Somewhat disagree (2) Somewhat agree (3) Strongly agree (4)
Reverse coding items: #5 ('streets are hilly') and #6 ('barriers to walking')
Score on subscale D = (D1 + D2 + D3 + D4 + D5r + D6r) / 6

Subscale E: Street connectivity (higher score denoting higher walkability)
E1. The streets in our neighborhood do not have many cul-de-sacs.
E2. The distance between intersections in my neighborhood is usually short.
E3. There are many different routes for getting from place to place in our neighborhood.
Responses:
Strongly disagree (1) Somewhat disagree (2) Somewhat agree (3) Strongly agree (4)
Score on subscale E = (E1 + E2 + E3) / 3

Subscale F: Walking/cycling facilities (higher score denoting higher walkability)
F1. There are sidewalks on most of the streets in my neighborhood..
F2. Sidewalks are separated from the road/traffic in my neighborhood by parked cars.
F3. There is a grass/dirt strip that separates the streets from the sidewalks in my neighborhood.
Responses:
Strongly disagree (1) Somewhat disagree (2) Somewhat agree (3) Strongly agree (4)
Score on subscale F = (F1 + F2 + F3) / 3

Subscale G: Neighborhood aesthetics (higher score denoting higher walkability)
G1. There are trees along the streets in my neighborhood.
G2. There are many interesting things to look at while walking in my neighborhood.
G3. There are many beautiful natural things to look at in my neighborhood.
G4. There are many buildings/homes in my neighborhood that are nice to look at.
Responses:
Strongly disagree (1) Somewhat disagree (2) Somewhat agree (3) Strongly agree (4)
Score on subscale G = (G1 + G2 + G3 + G4) / 4

Subscale H: Pedestrian and automobile traffic safety (higher score denoting lower walkability)
H1. There is so much traffic along nearby streets that it makes it difficult or unpleasant to walk in my neighborhood.
H2. The speed of traffic on most nearby streets is usually slow.
H3. Most drivers exceed the posted limits while driving in my neighborhood.
H4. Our neighborhood streets have good lighting at night.
H5. Walkers and bikers on the streets in our neighborhood can be easily seen by people in their homes.
H6. There are crosswalks and signals to help walkers cross busy streets in our neighborhood.
H7. When walking in our neighborhood there are a lot of exhaust fumes.
Responses:
Strongly disagree (1) Somewhat disagree (2) Somewhat agree (3) Strongly agree (4)
Reverse coding items: #2 ('speed of traffic'), #4 (‘street lighting’), #5 (‘walking and bikers can be seen’), and #6 (‘crosswalks’)
Score on subscale H = (H1 + H2r + H3 + H4r + H5r + H6r + H7) / 7

Subscale I: Crime safety (higher score denoting lower walkability)
I1. There is a high crime rate in our neighborhood.
I2. The crime rate in my neighborhood makes it unsafe to go on walks at night.
I3. I am worried about letting my child play outside along around our home because I am afraid of them being taken or hurt by a stranger.
I4. I am worried about letting my child be outside with a friend around our home because I am afraid my child will be taken or hurt by a stranger.
I5. I am worried about letting my child play or walk alone or with friends in our neighborhood and local streets because I am afraid my child will be taken or hurt by a stranger.
I6. I am worried about letting my child play alone or with friends in a local or nearby park because I am afraid my child will be taken or hurt by a stranger.
Responses:
Strongly disagree (1) Somewhat disagree (2) Somewhat agree (3) Strongly agree (4)
Score on subscale I = (I1 + I2 + I3 + I4 + I5 + I6) / 6