

## Further Reading

Oregon Research Institute is an independent behavioral sciences research center dedicated to understanding human behavior and improving the quality of human life through the prevention and treatment of health, educational, and social problems.

### ORI SCIENTISTS

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# ORI Research Bulletin

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## Neighborhoods and Physical Activity - What's the Connection?

Walk down the streets in one neighborhood and watch dozens of walkers and joggers out for an invigorating exercise session. The parks are abuzz with softball games and basketball games. Kids



shout and laugh as they play on the climbing structures and slides. Walk a few blocks farther to another neighborhood, and the crowds of people exercising and playing suddenly disappear. The residents of this neighborhood don't seem very interested at all in physical activity and recreation.

What accounts for the different levels of physical activity from neighborhood to neighborhood? Is it strictly a matter of individual choice, or does it have more to do with a neighborhood's "atmosphere", the friendliness and communication that takes place among residents in a neighborhood; the "social cohesion" of a neighborhood, as it is known scientifically? How important are other factors, such as neighborhood safety and the availability of facilities for exercising?

Recently a group of Oregon Research Institute (ORI) scientists surveyed hundreds of residents and business owners in several dozen neighborhoods to identify some of the reasons why the physical activity lifestyle of individuals changes dramatically depending on where those people live. They sought to determine the relative influence of several different neighborhood characteristics on the level of physical activity practiced by people living there, with the long-term goal of better understanding what motivates people to be more physically active or what keeps them from being so.

## Method

### *Participants and Procedures*

The researchers recruited 720 residents in 56 neighborhoods in Portland, Oregon. The participants were family members - one parent and one child 10 to 14 years of age from each of 360 different families.



They were asked to complete a survey about their level of physical activity and their beliefs about the characteristics of the neighborhood in which they lived. A similar survey was sent to business addresses within the 56 neighborhoods. A total of 665 business owners and employees returned these separate surveys.

## Measures

In addition to asking about the physical activity level of the 720

neighborhood residents, the survey measured their attitudes in three different categories related to neighborhood characteristics.

First, respondents were asked to note the extent to which they agreed or disagreed with statements related to (a) whether there were playgrounds, parks, and gyms available in the neighborhood; (b) whether it was safe to jog or walk alone in the neighborhood during the day; and (c) whether it was difficult to exercise because of traffic problems, lack of sidewalks, untended dogs, and other safety-related factors.

Second, neighborhood social cohesion was measured by asking residents to indicate how strongly they agreed or disagreed with five statements about whether people in the neighborhood were generally friendly with each other and were willing to help one another.

Third, residents were asked to rate the severity of 19 neighborhood problems, including gangs, graffiti, burglary, homelessness, abandoned buildings, and alcohol use.

Other data on neighborhood poverty and race characteristics were gathered from census bureau reports on the 56 neighborhoods.

## Analytic Method

A sophisticated statistical method called multilevel latent variable

modeling (MLM) was used to analyze the cumulative data collected from the surveys and census reports. The use of MLM techniques allowed the researchers to more accurately assess the nature of the relationship between many different neighborhood characteristics and the level of physical activity that residents in the neighborhood reported.

## Results

The ORI scientists found that residents and business people in the same neighborhood usually had similar perceptions about the number of physical activity opportunities available to those living in the neighborhood. Respondents in neighborhoods with lower poverty levels believed they had more opportunities for physical activity than did individuals in neighborhoods with higher poverty levels. The respondents also tended to agree about the level of neighborliness (or social cohesion) and the severity of the problems they believed existed in their neighborhood. The level of social cohesion and the opportunities for physical activity in a given neighborhood both correlated strongly with the level of physical activity the residents in that neighborhood reported.

## Discussion and Conclusions

The ORI scientists' findings are encouraging because they suggest that the continued careful study

of neighborhood factors affecting health-related behaviors such as physical activity may provide critical insights that city planners, health care professionals, and others can use to improve the health and well-being of residents living in a given area. For example, some simple, practical measures such as improving facilities for physical activity, publicizing their existence, and eliminating some basic safety hazards might well lead to larger numbers of healthier, more health-conscious residents. And the long-term payoff is this: The overall



quality of life will be better in any neighborhood where more people are healthy and physically active.

## Reference

Duncan, S. C., Duncan, T. E., Strycker, L. A., & Chaumeton, N. R. (2002). Neighborhood physical activity opportunity: A multilevel contextual model. *Research Quarterly for Exercise and Sport*, *73* (4), 457-463.

# Related Projects

## ***The Social Context of Adolescent Physical Activity***

Principal Investigator: Susan C. Duncan, Ph.D.  
Funded by: National Institute of Child Health and Human Development

Investigators in this five-year study are examining influences on adolescent physical activity so as to design successful interventions and policies to enhance adolescent physical activity. The influences of demographic, person, family, peer, school, and neighborhood factors are being assessed over time as are the relationships between adolescent physical activity patterns, substance use, diet, and depression.

## ***Elder Participation in Physical Activity***

Principal Investigator: K. John Fisher, Ph.D.  
Funded by: National Institute on Aging

Researchers in this study recruited 600 elderly participants from Portland, Oregon to participate in a thrice-weekly community walking program. The study examines neighborhood, environmental, and social influences which enhance or compromise healthy exercise behavior. Results are expected to lead to a greater understanding of the variables influencing senior physical activity.

## ***Tai Chi, Control, and Aging***

Principal Investigator: Fuzhong Li, Ph.D.  
Funded by: National Institute on Aging

Researchers on this four-year study are working to understand the long-term effectiveness of Tai Chi in promoting physical and mental health among the elderly. The results are expected to provide a better understanding of the effects of Tai Chi on the targeted psychosocial and physical characteristics in older individuals, its sustained effects on their health, quality of life and exercise participation, and the feasibility of such programs for relatively low cost implementation in community facilities.

## ***Social Influences on Adolescent Alcohol Use Development***

Principal Investigator: Susan C. Duncan, Ph.D.  
Funded by: National Institute on Alcohol Abuse and Alcoholism

The aim of this project is to test a longitudinal social context model of the development of alcohol use during pre-adolescence and adolescence across White and African-American youth. Within the theoretical model, family, peer, neighborhood, and school influences are hypothesized to be important risk factors for the development of alcohol use.