

## Letters to the Editor

### RE: "AGING, RETIREMENT, AND CHANGES IN PHYSICAL ACTIVITY: PROSPECTIVE COHORT FINDINGS FROM THE GLOBE STUDY"

In their recent article, Slingerland et al. (1) state that retirement offers opportunities for changes in physical activity that may improve the health of older adults, where post-retirement physical activity is defined by participation in sports and nonsports leisure-time activity. The authors find that retirement reduces work-related transport activity without an offsetting increase in the other activities. That retirees experience a decrease in physical activity from work-related transportation (i.e., time expended walking or bicycling to work) is hardly surprising. That this reduction is not balanced by increased participation in sports or nonsports physical activity may be more important. Nevertheless, we do not believe that the authors' conclusions are supported by the data.

In this study, categorical classes are used to compare changes in physical activity in 1991 and 2004 between a group that retired during this period and a comparison group that remained in the labor force. Respondents indicated participation in work-related transportation, sports, and nonsports pursuits using the following four categories: "hardly ever," "<1 hour/week," "1–2 hours/week," and ">2 hours/week" (1, p. 1359). (The data on transportation activity, originally reported in minutes, were reclassified by the investigators to conform to these categories.) In both sports and nonsports activities, the authors report no increase among the retirees relative to participants who continued to work.

We believe that the upper truncation of physical activity at 2 hours/week poses potential problems for interpretation of the findings. Most importantly, in cases where respondents reported >2 hours at *both* data collection periods, the authors cannot accurately assess whether the involvement in physical activities varied between time points. Indeed, membership in the highest category at *either* survey period precludes calculation of the degree of physical activity change, although this appears to be of less relevance, given the authors' goal of merely assessing the direction of change. Nonetheless, the matter of whether there are differences in the change in physical participation between retirees and continuing workers remains undetermined.

The potential problems of upper censoring would be of minimal concern if a trivial proportion of respondents were classified within the highest category. This, however, is not supported by the data. Although the authors do not present the share of sample members who designate physical activity in the upper category at both survey points, the proportions in the categories above the censor point (i.e., 2 hours) at either time are substantial. For example, in 2004, 72 percent of workers and 85 percent of retirees report >2 hours of weekly leisure-time nonsports activity. In 1992,

these proportions were 44 percent for the employed and 46 percent for participants who would subsequently retire. Although the proportions are markedly lower for sports-related activities (in 2004, 35 percent of both workers and retirees were in the upper category; in 1992, the highest category comprised 23 percent and 21 percent for workers and subsequent retirees, respectively), we would argue that they are not immaterial. In fact, they may suggest that considerable variation in leisure-time activities is not being captured in the analysis.

To conclude, as the authors have, that there is decreased physical activity following retirement, we believe that a minimal requirement would be the capability to assess the exact number of hours spent weekly in physical activity, at both survey periods, among retirees and the comparison group. Without a more accurate measure of the total time spent on physical activity, before as well as after retirement, the authors are unable to establish the actual increase or decrease of this participation, and it is therefore premature to conclude whether and how physical activity patterns change after retirement.

#### ACKNOWLEDGMENTS

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#### REFERENCE

1. Slingerland AS, van Lenthe FJ, Jukema JW, et al. Aging, retirement, and changes in physical activity: prospective cohort findings from the GLOBE Study. *Am J Epidemiol* 2007;165:1356–63.

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