

# Group A-2 | Residential Environments and Health of Community-Dwelling Older Adults: The Mediating Role of Physical and Social Activity



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**BACKGROUND AND PURPOSE** Physical and social activities are vital for healthy aging, bringing diverse physical, mental, and cognitive health benefits to older adults. Environmental interventions have shown promising results in boosting physical and social activities. However, few studies have comprehensively analyzed the interplay among residential environments, physical activity, social activity, and health outcomes. This study aims to explore these intricate relationships.

**METHODS** This study utilized a sample of 3,085 community-dwelling older adults from the National Health and Aging Trends Study (NHATS) round 11 dataset, collected in 2021. We employed structural equation modeling (SEM) to investigate the direct relationship between residential environments and the health conditions of older adults, as well as the indirect relationship mediated by physical and social activities. The health condition variable was assessed using a self-reported, 5-point health scale ranging from 1 (poor) to 5 (excellent). Residential environments were captured using four composite variables: 1) the number of indoor tripping hazards (0-2), 2) entrance accessibility (flat=0, with a ramp=1, only with stairs=0), 3) the count of well-maintained street and sidewalk features around the home (0-3), and 4) the number of neighborhood safety features (0-2). Physical activity was measured by the frequency of going outside in the last month, ranging from 1 (never) to 5 (every day). Social activity was assessed by counting the variety of social activities in which respondents participated in the last month (0-5). Demographics, including age, gender, and race/ethnicity, were included as covariates.

**RESULTS** The SEM showed a good fit, with a chi-square of 239.82 ( $p < .01$ ), a root mean square error of approximation (RMSEA) of 0.055, a comparative fit index (CFI) of 0.907, and a Tucker–Lewis index (TLI) of 0.83. All paths from residential environments to self-reported health, physical activity, and social activity were significant. Residential environments had a direct effect of 0.328 on self-reported health and additional indirect effects of 0.077 through social activity (SI) and 0.036 through physical activity (PA).

**CONCLUSIONS** The findings reveal the direct impact of residential environments on the health conditions of community-dwelling older adults, as well as the indirect effects mediated by both physical and social activities. Notably, the direct effect was stronger than the indirect effects, highlighting the significance of residential environments. This study provides further evidence confirming the importance of residential environments in enhancing the health of older adults residing in community settings.