# APPLYING THE SENIORS' OUTDOOR SURVEY (SOS) IN PRACTICE: AN OBSERVATIONAL TOOL FOR ASSESSING OUTDOOR ENVIRONMENTS AT RESIDENTIAL CARE FACILITIES FOR AGING

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**Abstract**

As the population ages, increasing numbers of older people are making their homes in residential care facilities in countries around the world. Where facilities allow residents to age in place, they become the settings in which seniors experience major changes in their physical, cognitive, and functional abilities. As a result, supportive outdoor spaces associated with these facilities play an increasingly important role, to take advantage of multiple health benefits that can be derived from contact with nature and the outdoors. While research has mainly focused on the indoor environment, new models of design for aging encourage the incorporation of usable outdoor environments, to supplement the quality of livability found in existing care facilities.

In 2014, the Seniors' Outdoor Survey (SOS) assessment tool was developed to evaluate how well outdoor spaces in long-term care settings support the preferences and outdoor usage of aging residents. The instrument contains 60 ratable items organized in five domains: Access to nature (14 items), Outdoor comfort and safety (15 items), Walking and outdoor activities (14 items), Indoor–outdoor connection (11 items), and Connection to the world (6 items). While the tool was developed in the U.S., it has recently been reliability-tested in Italy and Japan, with comparable results.

Content validity of the SOS was initially based on relevant literature and preliminary studies in diverse long-term care settings, with item validity examined using content analysis of resident survey responses (N = 1,128) in a large multiregional study. After pre-testing with 152 outdoor spaces at 68 assisted living facilities, and further validation from subject matter experts (N = 53), the instrument was substantially revised and tested for interrater and test–retest reliability, using 22 outdoor spaces at 12 long-term care settings. Interrater reliability tests found intraclass correlation coefficients (ICC) of .94 for the overall tool, ranging from .81 to .98 for the five main constructs. Test-retest reliability was .91 for the overall tool, ranging from .76 to .99 for individual constructs. Because results of .70 and above are generally considered adequate for environmental assessment, the SOS tool demonstrated a highly satisfactory level of reliability.

As a continuation of this research, a weighting and scoring protocol is being developed to provide more meaningful results for researchers, health design practitioners and care facility staff who use the SOS tool. This innovative tool will allow multiple stakeholders to share a common platform to evaluate the spatial continuum that connects the natural and built environments, in a wide range of long-term care settings. Having a reliable and easily understandable tool to assess usable outdoor space will provide decision-making support for facility and programmatic changes, toward the goal of promoting positive change and improved health in the lives of older adults in long-term care facilities.

**Key Words:** Environmental assessment instrument, Outdoor usage, Aging, Reliability, Validity, Access to nature, Long-term care residents