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**Sensory Processing of the Older
Adults
Living in Nursing Homes And in Home
Dwelling
A Comparison Study**

MSc. OT., Medine Nur Özata Değerli, Assoc. Prof. Onur Altuntaş

mnurozata06@gmail.com 

Hacettepe University, Department of Occupational Therapy
Ankara, Türkiye

Sensory Processing and Aging

Sensory processing is the process of collecting, integrating, and interpreting information from multiple sensory systems, including touch, movement, proprioception, vision, hearing, smell, and taste.

plays a key role in appropriate cognitive and emotional functioning, learning, socialization, and other activities.

- This situation may lead to social isolation, dependency, depression, and occasionally disorientation and confusion, thereby negatively affecting quality of life.
- Therefore, to minimize age-related sensory problems in older adults, **environmental modifications and individualized interventions** tailored to personal needs are required.

Difficulty distinguishing sensory information



Balance and Postural Problems

Difficulty Adapting to Sensory Changes



Why Living Environment Matters?

Sensory processing is shaped sensory properties of the environment in which they live.

Older adults can use knowledge of their own sensory processing patterns to organize **their environments**, daily routines, and leisure activities in ways that support their preferences and reduce sensory avoidance.

However, the opportunity to individualize and exert control over the environment is not equally available across all living settings



Nursing Home

- Institutional, hospital-like environment
- Shared living spaces
- Constantly changing social interactions
- Increased/decreased noise and visual
- Limited individual control over the environment



Home Environment

- Familiar surroundings
- Familiar and meaningful objects
- Personalized space
- Greater control over sensory stimuli
- Predictable daily routines



Despite the recognized importance of the living environment, direct comparisons of sensory processing between nursing home residents and home-dwelling older adults remain limited in the literature.

Method

Design

A cross-sectional comparison study

This study aims to compare the sensory processing characteristics of older adults living in nursing homes and those living in their own homes.

Participants

Inclusion Criteria	Being 65+ years
	Living in their own home or in a nursing home for at least one year
	A MMSE score of 24 or higher
Exclusion Criteria	Uncorrected visual/hearing impairments that could not be corrected
	Diagnosed neurological diseases

Measure

Adolescent/Adult Sensory Profile (AASP)

- Six sub-dimensions 60 questions
- 5-point likert Scale
- Total scores are rated “more than most people”, “similar to most people”, “more than most people”.

Older adults who met the inclusion criteria completed a sociodemographic information form and AASP at the Occupational Therapy Unit of Hacettepe University under the supervision of an OTs.

The assessments took approximately 30 minutes to complete, and the data were analyzed using SPSS version 26.0

Results

Variable	Nursing Home (n = 50)	Living at Home (n = 50)	p
Age (years), mean ± SD	75.1 ± 6.3	73.4 ± 5.8	0.18
Gender, n (%)			0.67
Female	27 (54.0)	25 (50.0)	
Male	23 (46.0)	25 (50.0)	
Marital Status, n (%)			0.08
Married / Partnered	14 (28.0)	24 (48.0)	
Single / Divorced / Widowed	36 (72.0)	26 (52.0)	
Education Level, n (%)			0.21
Primary school or less	20 (40.0)	16 (32.0)	
Secondary / High school	18 (36.0)	20 (40.0)	
University or higher	12 (24.0)	14 (28.0)	

The nursing home and home-dwelling groups were comparable in terms of age, gender, education level, and living arrangement ($p > 0.05$); however, a higher proportion of home-dwelling older adults were married or living with a partner.

Sensory Processing Pattern	Category	Living at Home (n = 50) n (%)	Nursing Home (n = 50) n (%)
Low Registration	Much less than most people	–	2 (4.0)
	Less than most people	2 (4.0)	5 (10.0)
	Similar to most people	18 (36.0)	24 (48.0)
	More than most people	20 (40.0)	14 (28.0)
	Much more than most people	10 (20.0)	5 (10.0)
Sensory Seeking	Much less than most people	–	9 (18.0)
	Less than most people	1 (2.0)	15 (30.0)
	Similar to most people	15 (30.0)	22 (44.0)
	More than most people	15 (30.0)	3 (6.0)
	Much more than most people	19 (38.0)	1 (2.0)
Sensory Sensitivity	Less than most people	1 (2.0)	8 (16.0)
	Similar to most people	9 (18.0)	24 (48.0)
	More than most people	29 (58.0)	8 (16.0)
	Much more than most people	11 (22.0)	10 (20.0)
Sensory Avoidance	Less than most people	2 (4.0)	2 (4.0)
	Similar to most people	17 (34.0)	18 (36.0)
	More than most people	18 (36.0)	17 (34.0)
	Much more than most people	13 (26.0)	13 (26.0)

Low Registration: Home-dwelling older adults were predominantly classified as *more than most people* (40%) or *much more than most people* (20%), whereas nursing home residents were mainly classified as *similar to most people* (48%).

Sensory Seeking: A large proportion of home-dwelling older adults showed *more than most people* (30%) and *much more than most people* (38%) sensory seeking, while nursing home residents were mostly classified as *similar to most people* (44%).

Sensory Sensitivity: Home-dwelling older adults were primarily classified as *more than most people* (58%) and *much more than most people* (22%), whereas a substantial proportion of nursing home residents fell into the *similar to most people* category (48%).

Sensory Avoidance: Distributions were comparable between groups, with most participants in both settings classified as *more than most people* or *much more than most people*.

Conclusion

- This study demonstrates that the living environment plays an important role in shaping sensory processing patterns in older adults. Older adults living at home were more frequently classified outside normative ranges in low registration, sensory seeking, and sensory sensitivity, whereas those living in nursing homes were predominantly classified within normative sensory processing ranges.
- These findings highlight the importance of considering environmental sensory demands when evaluating sensory processing in older adults. Understanding sensory processing characteristics across different living environments is critical for planning individualized, environment-sensitive interventions. Environmental modifications and daily routines structured according to sensory processing patterns may support participation, safety, and quality of life in older adults.

Thank you for attention.

Medine Nur Özata Değerli

mnurozata06@gmail.com



<https://www.linkedin.com/in/medine-nur-özata-değerli/>

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