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Comparison of Sleep Health, Psychological Hardiness, and Social Responsibility in Community-Dwelling Older Adults and Nursing Home Residents

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Abstract

Background and Objective: With the rapid global growth of the elderly population, identifying factors associated with their psychological and social well-being has become increasingly important. This study aimed to compare sleep health, psychological hardiness, and social responsibility between community-dwelling older adults and nursing home residents.

Materials and Methods: This causal-comparative (ex post facto) study examined differences between two naturally existing groups of older adults. A total of 120 participants (50 nursing home residents and 70 community-dwelling older adults) were recruited through convenience sampling. Data were collected using the Personal-Social Responsibility Questionnaire, the Sleep Health Scale (SHS) by Brandolim Becker et al., and the Kobasa Hardiness Scale. Data were analyzed using SPSS software through descriptive statistics and independent samples t-tests with a significance level of 0.05.

Results: The mean age of participants was 66 years. Sleep health scores were significantly higher among community-dwelling older adults (19.31 ± 3.65) than nursing home residents (15.72 ± 3.11) [t(118) = -5.65, P = 0.001]. Similarly, social responsibility was significantly higher in community-dwelling participants (36.33 ± 6.13) compared with nursing home residents (24.74 ± 5.14) [t(118) = -10.91, P = 0.001]. No significant difference was observed in psychological hardiness between groups (P = 0.41).

Conclusion: The living environment appears to be associated with the sleep health and social responsibility of older adults, whereas psychological hardiness remains relatively stable across living conditions. These findings provide valuable insights for policymakers and healthcare professionals in designing programs to improve the quality of life (QOL) in the older population.

Keywords: Sleep health; Social responsibility; Psychological hardiness; Elderly population

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Introduction

Older adults currently constitute a significant proportion of social and healthcare settings and face multiple challenges (1). Population aging is accelerating globally, placing increasing demands on families, governments, and the healthcare system (2). Previous studies have highlighted the rapid expansion of long-term care systems, including home care, community-based care, hospital care, and nursing home care, as key components (2). Evidence indicates that symptoms of psychological disorders and problems in social functioning are generally less prevalent among older adults living at home than among those residing in nursing homes (3, 4).

Sleep is a fundamental physiological need essential for physical recovery, cognitive function, and emotional balance (5). Evidence suggests a significant association between sleep and social responsibility (6). Furthermore, studies have reported a close relationship between sleep quality

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and psychological hardiness in older adults, showing that sleep problems and insomnia are associated with lower resilience (7, 8). Approximately one-third of life is spent sleeping, and deviations from optimal sleep duration have been associated with increased risks of cardiovascular events, mortality, and cognitive decline (9, 10).

Hardiness, conceptualized as a behavioral trait comprising commitment, control, and challenge, enables individuals to cope with adversity and maintain psychological well-being under stress (7, 11). However, there is insufficient evidence on how these factors differ according to living arrangements in older populations. Despite these individual findings, limited research has directly compared sleep health, psychological hardiness, and social responsibility between community-dwelling older adults and those in care facilities.

Given the rapid growth of the elderly population and the potential impact of living environments, this study aimed to compare sleep health, psychological hardiness, and social responsibility between older adults living at home and those residing in nursing homes. Living arrangements may shape daily routines, social interactions, access to care, and opportunities for meaningful engagements, which in turn may influence both mental and physical health. Clarifying these differences can inform the development of targeted interventions to meet the specific needs of older adults. Moreover, such insights can guide policymakers, healthcare providers, and families in developing strategies to enhance well-being, promote adaptive coping, and improve social integration among older adults.

Materials and Methods

Study design participants: This causal-comparative (ex post facto) study compared two naturally occurring groups – older adults living at home and those residing in nursing homes – to examine differences in sleep health, psychological hardiness, and social responsibility. No variables were manipulated.

The sample size was determined using power analysis for independent samples t-tests. Assuming a medium effect size of 0.5, a significance level of 0.05, and a statistical power of 0.80, a minimum of 50 participants per group was required (12). Considering practical limitations and accessibility, a total of 120 participants were recruited through convenience sampling, including 50 nursing home residents and 70 community-dwelling older adults.

Nursing home residents were recruited from two nursing homes in Tehran City, Iran, while community-dwelling participants were recruited from public locations (e.g., parks). The inclusion criteria were age ≥ 60 years, ability to communicate and complete questionnaires, and willingness to participate in the study. Exclusion criteria included severe cognitive impairment, acute illness, or any condition precluding questionnaire completion. All participants provided written informed consent. The study adhered to the principles of the Declaration of Helsinki, and ethical approval was obtained from the Ethics Committee of Islamic Azad University, Science and Research Branch, Tehran (IR.IAU.SRB.REC.1403.164). Participants were informed of the study objectives; confidentiality was ensured, and data were used solely for research purposes. The authors declared no competing interests and received no specific funding.

Research Instruments

Personal-Social Responsibility Questionnaire: This instrument, developed by Ahmadi et al., consists of 9 questions rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Higher scores indicate greater responsibility (13). Construct validity was previously confirmed, and reliability was reported as Cronbach's alpha = 0.80.

Sleep Health Scale (SHS): Sleep health was assessed using the 5-item SHS developed by Brandolim Becker et al. Items are rated on a 6-point scale (0-5), where lower scores indicate poorer sleep health. Item 4 is reverse-scored. In Becker et al.'s original research, after confirmatory factor analysis (CFA), the number of questions was reduced from 6 to 5, and the final 5-question version was validated (14). The Persian version, adapted by Pordelan et al., demonstrated acceptable validity and reliability in an Iranian sample (15).

Kobasa Hardiness Scale: Psychological hardiness was measured using the 50-item Kobasa Hardiness Scale, designed to reflect an individual's ability to cope effectively with stress and adversity. Items are rated on a 4-point Likert scale ranging from 0 (completely incorrect) to 3 (completely correct), with Item 39 being reverse-scored. The instrument assesses three components: commitment, reflecting the extent to which individuals remain engaged in life activities de-

spite challenging circumstances; control, indicating the degree to which individuals perceive themselves capable of influencing events and outcomes; and challenge, reflecting the tendency to interpret change and stressors as opportunities for growth and development rather than as threats (16).

Previous studies have reported acceptable reliability and validity for this scale. In an Iranian sample, Cronbach's alpha coefficients ranged from 0.80 to 0.88 for commitment, 0.58 to 0.94 for control, 0.89 to 0.95 for challenge, and 0.87 to 0.94 for overall hardiness, indicating good internal consistency (17).

Statistical analysis: Data were analyzed using SPSS software (version 26, IBM Corporation, Armonk, NY, USA). Descriptive statistics were calculated for demographic and study variables. Independent samples t-tests were performed to compare sleep health, psychological hardiness, and social responsibility between groups. A significance level of 0.05 was considered for all tests.

Results

Descriptive statistics: A total of 120 older adults participated in the study, including 50 nursing home residents and 70 community-dwelling individuals. The mean age of the total sample was 66 years.

In the nursing home group, 52% (n = 26) were women and 48% (n = 24) were men. Regarding educational attainment, 42% (n = 21) had primary education, 28% (n = 14) had secondary education, and 30% (n = 15) had university-level education. In the community-dwelling group, 58% (n = 41) were women and 42% (n = 29) were men. As for educational background, 29% (n = 20) had primary education, 43% (n = 30) had secondary education, and 28% (n = 20) had university-level education.

Mean scores for the studied variables showed distinct patterns across groups. Social responsibility scores were higher among community-dwelling participants (36.33 ± 6.13) than among those in care facilities (24.74 ± 5.14). Similarly, sleep health scores were higher among home-dwelling older adults (19.31 ± 3.65) than among residents of care facilities (15.72 ± 3.11). Psychological hardiness scores were slightly higher in the community-dwelling group (90.46 ± 13.66) than in the nursing home group (88.46 ± 12.05). For the total sample, mean scores were 31.50 ± 8.10 for social responsibility, 17.82 ± 3.85 for sleep health, and 89.63 ± 13.00 for psychological hardiness (Table 1).

Table 1. Descriptive statistics of sleep health, social responsibility, and psychological hardiness

Variable	Group	N	Mean ± SD
Responsibility	Care facility	50	24.74 ± 5.13
	Home	70	36.33 ± 6.12
	Total	120	31.50 ± 8.09
Sleep health	Care facility	50	15.72 ± 3.11
	Home	70	19.31 ± 3.64
	Total	120	17.82 ± 3.85
Psychological hardiness	Care facility	50	88.46 ± 12.05
	Home	70	90.46 ± 13.66
	Total	120	89.63 ± 13.00

SD: Standard deviation

Comparative analysis: Results of the independent samples t-tests are presented in table 2. Levene's test indicated that the assumption of homogeneity of variances was met for all variables (P > 0.05).

Sleep health scores were significantly higher among community-dwelling older adults compared with nursing home residents, with a mean difference of -3.59 [95% confidence interval (CI): (-4.85, -2.34), t(118) = -5.65, P = 0.001]. Social responsibility was also significantly higher in the community-dwelling group than in the nursing home group, with a mean difference of -11.59 [95% CI: (-13.69, -9.49), t(118) = -10.91, P = 0.001]. In contrast, psychological hardiness did not differ significantly between the groups, showing a mean difference of -1.99 [95% CI: (-6.77, 2.78), t(118) = -0.83, P = 0.41].

Table 2. Comparison of sleep health, social responsibility, and psychological hardiness between groups

Variable	Levene's F	P-value*	t	df	P-value**	Mean difference	95% CI
Sleep health	0.450	0.499	-5.653	118.000	0.001	-3.594	-4.853, -2.335
			-5.805	114.230	0.001	-3.594	-4.821, -2.368
Responsibility	1.655	0.201	-10.907	118.000	0.001	-11.589	-13.693, -9.485
			-11.232	114.920	0.001	-11.589	-13.632, -9.545
Hardiness	2.302	0.132	-0.829	118.000	0.409	-1.997	-6.770, 2.776
			-0.846	112.780	0.399	-1.997	-6.673, 2.679

*Levene's test; **T-test
df: Degree of freedom; CI: Confidence interval

Discussion

This study examined the differences in sleep health, social responsibility, and psychological hardiness between community-dwelling older adults and nursing home residents. Significant differences were observed for sleep health and social responsibility, whereas psychological hardiness did not differ significantly between the groups. Although good sleep is critical for everyone, it is particularly vital for older adults, as poor sleep quality can have severe adverse effects on physical health and overall quality of life (QOL).

In this study, community-dwelling older adults demonstrated higher sleep health scores than nursing home residents. This difference may be attributed to variations in environmental and living conditions across these settings. Older adults living in their own homes typically remain in familiar, personalized environments, which promote psychological comfort and support healthier sleep habits. In contrast, older adults residing in nursing homes are often required to adapt to unfamiliar environments and shared living arrangements, which can elevate stress and disrupt sleep. Furthermore, institutional policies, fixed activity schedules, and caregiving routines vary across facilities and can fundamentally influence sleep patterns and general health. These results align with previous studies by Papi et al. (18) and Beyrami et al. (19), which reported poorer sleep quality among institutionalized older adults.

Regarding social responsibility, community-dwelling older adults reported significantly higher scores than nursing home residents. Social responsibility refers to an individual's commitment and willingness to fulfill duties toward others and society. This divergence may be rooted in variations in autonomy, functional capacity, and social engagement opportunities between the two cohorts. Older adults living at home typically maintain higher levels of independence and self-sufficiency, enabling continued participation in familial and community roles. Conversely, nursing home residents often require greater assistance and support due to chronic health conditions, which can diminish their active exercise of social responsibilities. Active social interaction also reinforces perceived responsibility; community-dwelling individuals have broader opportunities to engage with diverse networks, reinforcing social integration. These findings are consistent with previous research by Hosseini Nesar et al. (20) and Bagi and Abbasi Shavazi (21).

In contrast to sleep health and social responsibility, no significant difference was observed in psychological hardiness between community-dwelling older adults and those in nursing homes. Psychological hardiness refers to an individual's enduring ability to cope with stress, challenges, and adverse life events. The absence of group differences suggests that hardiness operates as a relatively stable personality disposition across living arrangements. A plausible explanation is that psychological hardiness is shaped primarily by long-term past experiences, personality traits, personal values, and life histories rather than current place of residence. Additionally, robust social support – whether derived from family, peers, or dedicated institutional staff – can buffer stress effectively, helping individuals maintain comparable levels of hardiness across different environments. These findings are consistent with those of Bahamin et al. (22), who reported no significant differences in psychological well-being components between home-dwelling and institutionalized older populations.

Limitations: Several limitations must be acknowledged. This study compared two groups of elderly individuals without controlling for potential confounding variables, such as detailed objective health status, number of children, income, or socioeconomic factors. Additionally, the community-dwelling sample was recruited primarily from public parks, which likely introduced a selection bias toward healthier, more mobile, and socially active individuals. Consequently, these findings may overrepresent optimal psychological and physical status and may not be fully generalizable to more frail or isolated community-dwelling older adults. Future studies should employ longitudinal or controlled designs and incorporate comprehensive medical and socioeconomic covariates to clarify the exact mechanisms underlying these associations.

Conclusion

This study demonstrates that community-dwelling older adults experience better sleep health and higher social responsibility than nursing home residents, while psychological hardiness remains stable regardless of living arrangements. Due to the cross-sectional, observational design and the absence of confounder control, direct causal conclusions cannot be drawn. Interventions

aimed at refining environmental design, enhancing comfort, and promoting autonomy within institutional facilities could provide meaningful benefits for nursing home residents.

Conflict of Interests

Authors have no conflict of interests.

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