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Kinaesthetics in 24-hour-care nursing homes and long-term-care for older adults: Observational competence of nursing staff

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ABSTRACT

The purpose of this study was to describe the observed level of kinaesthetics competence among nursing staff working in 24-hour-care nursing homes for older adults. Kinaesthetics is a training concept aimed at enhancing nursing staff's interaction and movement-support skills when assisting care-dependent individuals in their daily activities. This observational study was conducted using video recordings collected between 2023 and 2024. The Kinaesthetics Competence Observation (KCO) tool, developed by Gattinger, was used to assess competence. The target group included 15 nursing staff in a Finnish welfare region. The data were analyzed using descriptive statistics. The overall observed kinaesthetics competence of the nursing staff was rated as good (mean score 11.1/16). The subscale means ranged from 2.7 to 3.0 (on a scale of 1–4), with the highest scores being seen in the environmental consideration subscale. The findings show that kinaesthetics competence among nursing staff in 24-hour-care nursing homes was generally good. However, variations in individual performance indicate that formal training alone does not guarantee competence. Regular practical training in kinaesthetics and cooperation with a kinaesthetics tutor and a trainer will ensure that kinaesthetics skills are maintained after training. Attention should be given to improving interaction and promoting the active participation of older adults in care.

Introduction

Restorative care has become a central feature of many Western governments' strategies to support older adults in maintaining independence and reducing the demand for 24-hour-care nursing homes and long-term-care (Beresford et al., 2019). In older adults nursing, restorative care refers to resource-oriented practices in which nursing staff promote older adults' independent management of daily activities while encouraging physical, psychological, and social engagement (Beresford et al., 2019; Hjelle et al., 2017; Lehto et al., 2017). According to the Finnish Act on Supporting the Functional Capacity of the Older Population and on Social and Health Services for Older Persons (980/2012 1:3), an older adult is defined as an individual, aged 65 or above, whose physical, cognitive, psychological, or social functional capacity has deteriorated due to diseases or injuries that have begun, increased, or worsened with advanced age, or due to age-related decline (Act on supporting the functional capacity of the older population and on Social and Health services for older persons (980/2012), 2012).

Finland, the most rapidly aging welfare state in the Nordic region (Valkama & Oulasvirta, 2021), has implemented policy measures aimed at decreasing the number of older adults residing in

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24-hour-care nursing homes and long-term-care facilities, thereby enabling older people to live at home for as long as possible. Within 24-hour-care nursing homes and long-term care, functional capacity and rehabilitative approaches restorative care are emphasized as key policy priorities (Ministry of Social Affairs and Health, 2024). Although aging elevates the risk of disability, it does not inevitably lead to frailty or disease, underscoring the importance of nursing staff focusing on older adults' abilities rather than limitations. Previous research suggests that nursing staff often perceive their role primarily as bodily care, under-recognizing their restorative care functions (Lehto-Niskala et al., 2022)

Admission to 24-hour-care nursing homes facilities and long-term-care is most often driven by a decline in functional capacity (Lehto-Niskala et al., 2022). Evidence shows that physical performance of older adults deteriorates within the first year after relocation (Lotvonen et al., 2017), and most older adults require assistance with mobility and activities of daily living (Berger et al., 2025; Crocker et al., 2013). Mobility is not only essential for older adults in meaningful social, cultural, and physical activities but also a critical determinant of healthy aging and perceived quality of care (Rantakokko et al., 2010; Rantanen, 2013). Older adults' physical activity is often neglected in 24-hour-care nursing homes and long-term-care despite its importance for health, functioning, and wellbeing (Narsakka, 2026). Prolonged inactivity, including extended bed rest, exacerbates mobility decline, with studies indicating that 75–89% of older adults in 24-hour-care nursing homes and long-term-care experience impaired mobility, many of whom are unable to walk independently (Gattinger et al., 2018). This decline increases risks of falls, pressure ulcers, incontinence, dependence, confusion, and loss of postural control (Berger et al., 2025; Cardoso et al., 2022; Crocker et al., 2013; Lannering et al., 2016). In 24-hour-care nursing homes, older adults have a remaining life expectancy of less than two years. Currently, the number of 24-hour-care nursing homes living in places has been reduced, and care for older adults is focused on home living (Korhonen et al., 2024). Skilled nursing staff are therefore crucial for preventing mobility decline, encouraging active participation, and enhancing quality of life through strategies such as safe transfers, walking support, and individualized restorative exercise (Tasheva et al., 2020).

To strengthen nursing staff's competence in supporting mobility and participation, educational frameworks have been developed. One of the most widely implemented approaches in Europe is kinaesthetics. Kinaesthetics is a training concept aimed to enhancing nursing staff's interaction and movement support skills when assisting care-dependent people in their daily activities (Enke et al., 2010; Hatch, n.d.). Kinaesthetics emphasizes six core concepts – interaction, environment, functional anatomy, human movement, effort, and human function – through which nursing staff learn to adapt their own movements and support care for older adults' active participation (Enke et al., 2010; Fringer et al., 2014; Hatch, n.d.).

Kinaesthetics training consists of basic and advanced courses for social and health care professionals (particularly nursing staff) as well as for nursing leaders. Practical kinaesthetics training in nursing is an essential part of learning (European Kinaesthetics Association, n.d.). Peer tutors and nursing leaders play key roles in implementation. By 2024, approximately 24,000 healthcare and therapy professionals in Finland had completed kinaesthetics training, and units can earn a quality certificate from the Finnish Kinaesthetics Association (Finnish Kinaesthetics Association, n.d.). Despite its widespread adoption, scientific evidence of kinaesthetics in Finland and Europe remains scarce, and competence levels among Finnish nursing staff have not been systematically studied (European Kinaesthetics Association, n.d.).

The European Kinaesthetics Association defines kinaesthetics competence as the ability to fully utilize fundamental movement possibilities to realize personal or collective intentions in a health-enhancing and development-promoting way (European Kinaesthetics Association, n.d.). Competence involves awareness of one's own movements and those of care recipients, enabling supportive interaction that fosters participation and well-being. In the context of 24-hour-care nursing homes

and long-term-care, kinaesthetics competence reflects the nursing staff's ability to integrate these principles into everyday care practices (European Kinaesthetics Association, n.d.).

Despite the growing role of kinaesthetics in continuing education, there is a lack of validated instruments to operationalize and measure competence in this domain. The Kinaesthetics Competence in 24-hour-care nursing homes KCO -instrument has been developed to address this need, providing a structured framework to evaluate how care nursing staff integrate kinaesthetics principles into practice. It assesses the extent to which nursing staff apply the six core concepts in daily care, adapt their support to encourage active participation, and promote mobility and function in older adults (Gattinger, 2017). There is a notable lack of empirical evidence on how kinaesthetics training is translated into nursing practice, particularly within the Finnish context. This study contributes to filling the evidence gap by examining the competence of Finnish nursing staff in kinaesthetics and exploring its role in preventing mobility decline in 24-hour-care nursing homes settings.

Aim

The aim of the study was to describe the observed level of competence in kinaesthetics among nursing staff working in 24-hour-care nursing homes and long-term care for older adults in Finland.

Methods

Study design

An observational study was conducted by video recording nursing staff in various assistance situations with older adults, to capture real-life interaction objectively.

Participants

The target group consisted of entire nursing staff ($n = 521$) working in three cities within one welfare region, specifically in 24-hour-care nursing homes ($n = 5$) and long-term-care facilities ($n = 2$) for older adults. The units were small to medium-sized (for 15–34 residents) and operated as municipal facilities. Two units were designated as quality units for kinaesthetics. 24-hour-care refers to residence in a nursing home that provides a home-like environment. The older adults rent their own room, which can be furnished with personal furniture and belongings. Shared common areas are also available. Care and support are provided around the clock and include meals, cleaning, laundry services, and activities (Pohde, n.d.). Long-term -care is provided for individuals whose need for care cannot be met at home or in 24-hour nursing homes. In addition to nursing care, it includes nutrition, medication, hygiene, clothing, and services that promote social well-being. In Finland long-term -care for older adults will be phased out by December 31, 2027, after which needs-based long-term care will be delivered within 24-hour-nursing homes. Long-term-care is provided only when there are medical reasons for it or when reasons related to older adults' safety necessitate such care (Ministry of Social Affairs and Health, n.d.).

In 2022, the Kinaesthetics Self-Assessment (KCSE) questionnaire (Gattinger, 2017) was sent to 521 nursing staff members in these facilities, and 150 responded (29%). All ($n = 150$) respondents were invited to participate in this observational study. The responsible researcher introduced the study to the nursing staff and nursing leaders in work units either in person or via Teams. Following this, the nursing leaders and kinaesthetics coordinators encouraged the nursing staff to participate in the video recordings, which may have introduced participation bias. Twenty respondents (13%) agreed. The participants included social and health care professionals such as registered nurses, licensed practical nurses, and other graduates in social and health care, all working in direct care roles.

For the observational study, the nursing staff asked older adults in the 24-hour-care nursing homes and long-term-care care to participate for video recordings. Informed consent was obtained, clarifying that their voluntary role was only to act as the person being assisted in the videos and that the research was not directed at them. Three older adults signed their own consent forms, while 17 forms were signed by spouses or close relatives after they had been informed. In total, 20 older adults aged 72–101 years (mean age = 91 years) participated. All required assistance to get out of bed. More detailed health information was not collected due to ethical considerations. The participants were informed that they could withdraw from the study at any stage.

Instrument

The study used the Kinaesthetics Competence Observation (KCO) instrument developed and validated by Gattinger (2017). The KCO instrument evaluates four key domains, encompassing 12 items. These domains include interaction (three items), movement support for the individual (five items), the nursing staff's own movement (three items), and the environment (one item). Responses are rated on a four-point scale: poor = 1, fair = 2, good = 3, and very good = 4 (Tables 1 and 2). To ensure consistency in the assessment, specific criteria have been established to guide evaluators. A 'poor' rating indicates minimal awareness or ability, while 'fair' suggests a basic level of kinaesthetics competence. A 'good' rating signifies a developed skill level, and 'very good' represents best practices. The poor, fair, good, and very good levels are described in Table 2. Mean scores are calculated for each domain (ranging from 1 to 4), and the total score is determined by summing the mean scores of all four domains (ranging from 4 to 16) (Table 4). Nursing staff's competence in mobility care can be self-evaluated efficiently using the KCSE. In order to glean a more objective assessment, the KCO should be used alongside the KCSE. The KCO instrument can be used to assess nursing staff's competence in mobility care based on kinaesthetics by a kinaesthetics trainer or persons who are familiar with this concept. (24.)

Table 1. The kinaesthetics competence observation (KCO) instrument.

Criteria	Rating				
1 = poor 2 = fair 3 = good 4 = very good 0 = cannot be judged; please mark if you cannot observe the aspect and therefore cannot judge it.	not observable	poor	fair	good	very good
Interaction					
Nurse uses tactile, visual, and auditory guidance suitable for the situation.					
Nurse renders the process of mutual guiding in a way that the person can participate.					
Nurse adjusts time, space, and effort to the person's movement possibilities.					
Movement support of the person					
Nurse supports in a way that the person can use his/her movement possibilities.					
Nurse supports the person so he/she can move body parts individually.					
Nurse supports weight shift in direction of the person's bone structure.					
Nurse supports the person in finding a suitable position for the limbs to balance weight.					
Nurse supports the person in a way that he/she can shift weight using a supporting surface.					
Nurse`s movement					
Nurse uses his/her own movement possibilities adapted to the interaction.					
Nurse adapts his/her own effort tailored to the situation.					
Nurse uses his/her body in a way that weight is shifted onto bone structure.					
Adjustment of environment					
Nurse adjusts the environment in a way that supports the person's activity.					

Table 2. Categories and descriptions.

Category	Descriptions
poor	Lack of awareness or limited capability • significant area(s) of weakness or concern in communication/interaction • no/very limited understanding of functional movement in daily activities • little adaptation of own movement • no/inappropriate adaptation of environment
fair	Beginner level • beginning adaptation in communication/interaction • beginning understanding of functional movement in daily activities • beginning adaptation of own movement • beginning adaptation of environment
good	Capable • good adaptation in communication/interaction • good understanding of functional movement in daily activities • good adaptation of own movement • good adaptation of environment
very good	Best practice • very good adaptation in communication/interaction • very good understanding of functional movement in daily activities • very good adaptation of own movement • very good adaptation of environment

Data collection

Data was collected between 2023 and 2024 through video recordings of nursing staff ($n = 20$) supporting older adults with mobility and daily activities in one welfare area across two cities and seven care units. Some observations were video recorded by the nursing staff themselves following instructions, while others were recorded by the researcher. The recordings took place in older adults' rooms or common lounges during daytime hours. The average duration of the videos accepted for analysis was 13 minutes (range: 5–24 minutes). The inclusion criterion required that the video recordings were of sufficient quality to allow two independent kinaesthetics experts to evaluate the nursing staff's kinaesthetics competence. A video of 15 nursing staff members met this criterion and were included in the final sample. The exclusion criteria were: (1) the assisting staff's activities were not clearly observable, (2) the presence or instructions of the videographer influenced interaction, causing staff to focus on the videographer rather than the older adults, and (3) the video duration was too short for meaningful analysis. In such cases, kinaesthetics skills could not be assessed. Ultimately, the STROBE checklist (Strengthening the reporting of observational studies in epidemiology) for observational studies was used to guide reporting.

Data analysis

Due to the small sample size, only descriptive statistics such as frequencies, means, percentages, and standard deviations were used in the analysis in SPSS software version 29 (Table 4). Two kinaesthetics experts independently analyzed the video recordings using the KCO instrument. They then compared their results to find similarities and differences. In case of disagreement, the recordings were rechecked to achieve consensus. The difference between the two rates was assessed using the intraclass correlation coefficient (ICC) and percentage of agreement. The ICC for the entire scale was 0.82, with a percentage agreement of 75%. For the subscales, the ICC and agreement were as follows: interaction ICC 0.73, agreement 82%; movement support of the person ICC 0.80, agreement 72%; nurses' movement ICC 0.72, agreement 82%; and environment ICC 0.76, agreement 47%.

Table 3. Sociodemographic and professional characteristics of the nursing staff ($n = 15$).

Variable	*n*	%	
Age (years)			mean 47 years
24–49	6	40	
50–63	9	60	
Professional role			
Licensed practical nurse	11	73%	
Registered nurse	3	20%	
Other	1	7%	
Work setting			
24-hour-care nursing home	11	73%	
Long-term-care	4	27%	
Experience in elderly care (years)			
2–20	7	47%	mean 20 years
21–39	8	53%	
Employment status			
Full-time	13	87%	
Permanent position	13	87%	
Kinaesthetics training			
Basic course completed	8	93%	
Advanced course completed	6	40%	
No kinaesthetics training	1	7%	
In-house kinaesthetics guidance (past year)			
Attended 1–5 times	11	73%	
No participation	4	27%	
Kinaesthetics coordinator	6	40%	

Table 4. Observed kinaesthetics competence: subscores and total scores of the KCO instrument ($n = 15$).

Dimensions of the KCO instrument	No. of Items	*n*	Mean	SD	Min/Max
Interaction	3	15	2.7	0.82	1/4
Movement support of the person	5	15	2.7	0.78	1/4
Nurses' movement	3	15	2.7	0.82	1/4
Environment	1	15	3.0	0.85	2/4
Total score	12	15	11.1	3.26	5/16

Results

Sociodemographic and professional characteristics of the nursing staff

The sociodemographic and professional characteristics of the nursing staff are described in Table 3. The average age of the nursing staff was 47 years. Most of them (73%) were licensed practical nurses. The majority (73%) worked in 24-hour-care nursing homes, and 27% in long-term- care settings. The average number of years of experience in elderly care was 20 year. Nearly all the nursing staff worked full-time and held permanent positions. Most of them (93%) had completed a basic course in kinaesthetics, and nearly half had also completed an advanced course. More than half (73%) had participated in 1–5 in-house kinaesthetics guidance sessions during the past 12 months, while 27% had not attended any such training. Nearly half of the nursing staff worked as kinaesthetics coordinators.

Observed level of kinaesthetics competence

The overall observed competence of the nursing staff in kinaesthetics was rated as good (mean = 11.1, SD = 3.26). Subscale-specific mean scores also indicated good competence levels: interaction (mean = 2.7, SD = 0.82), support of the person's movement (mean = 2.7, SD = 0.78), nursing staff's own movement (mean = 2.7, SD = 0.82), and environmental considerations (mean = 3.0, SD = 0.85). The mean scores for the subscales ranged from 2.7 to 3.0 (Table 4). Among the subscales, environmental

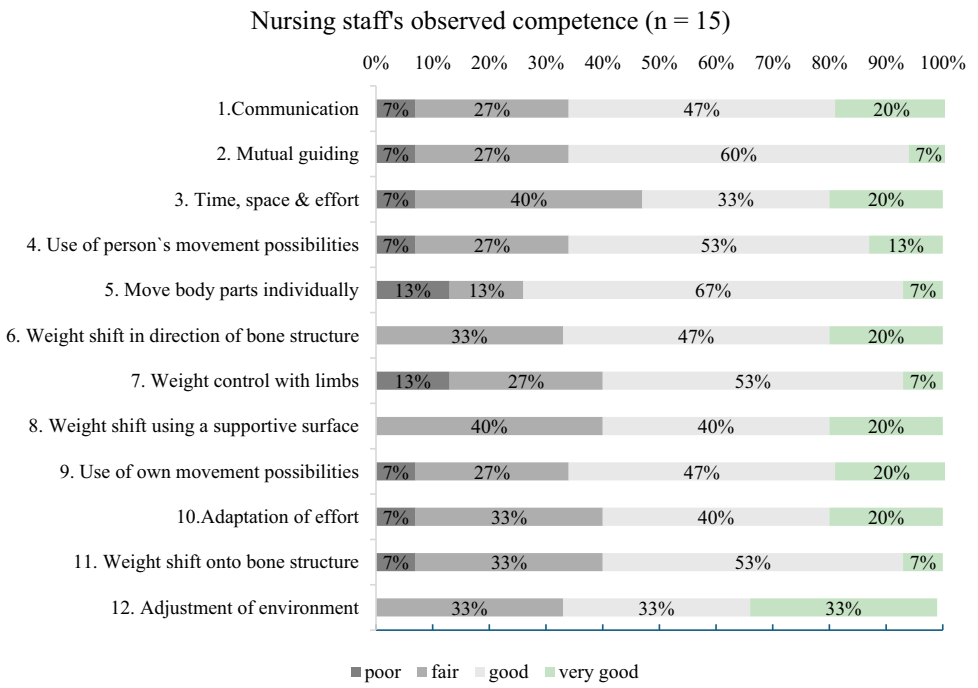

Figure 1. Nursing staff's observed competence ($n = 15$).

Table 5. Nursing staff´s observed competence levels based on the KCO instrument ($n = 15$).

	Competence levels ($n = 15$)			
Dimensions of KCO instrument	poor	fair	good	very good
	1–1.74	1.75–2.49	2.50–3.24	3.25–4
Interaction	7 (1)	33 (5)	40 (6)	20 (3)
Movement support of older adult	13 (2)	20 (3)	47 (7)	20 (3)
Nurses own movement	7 (1)	26 (4)	40 (6)	27 (4)
Adjustment of environment	0 (0)	33 (5)	33 (5)	33 (5)

consideration received the highest average rating. The distributions of competence ratings at the item level, subscale level, and total scale level are presented in Figure 1 and Table 5.

Nursing staff's interaction skills

Interaction was defined as a dialogue between nursing staff and older adults using multiple senses. It included the use of communication tools that enabled older adults to follow and participate in assistance situations. More than half of the nursing staff (60%, $n = 9$) assisted in ways that supported the older adults' participation (Table 5). They allowed sufficient time, a calm and professional demeanor, and organized the environment so that the older adults could engage according to their abilities. The staff used appropriate forms of communication, adapting verbal communication when the older adults understood speech, and employed touch and movement to encourage participation.

Based on the observations, 7% *($n = 1$)* of the nursing staff demonstrated a poor level 33% ($n = 5$) a fair level of interaction, 40% ($n = 6$) a good level, and 20% ($n = 3$) a very good level (Table 5). In freeing up time, space, and energy for the older adults, 7% *($n = 1$)* performed at poor level, 40% ($n = 6$) at a fair level, 33% ($n = 5$) at a good level, and 20% ($n = 3$) at a very good level (Figure 1).

Nursing staff's competence in mobility assistance

The aim of the assistance situations was to activate the older adults, enabling them to receive essential support. Providing excessive assistance or performing tasks on their behalf risked passivity and disengagement. The nursing staff supported the older adults by guiding movement of individual body parts and facilitating weight transfer onto bony areas.

In this study, 13% ($n = 2$) of the observed cases rated poor, 20% ($n = 3$) fair, 47% ($n = 7$) good, and 20% ($n = 3$) very good (Table 5). More than half (67%, $n = 10$) supported the older adults in moving individual limbs, while 13% ($n = 2$) demonstrated poor support (Figure 1).

Nursing staff's own movements

The nursing staff adjusted the use of force appropriately and applied body mechanics so that body weight was supported by the skeletal structure and directed toward support surfaces. Rotating and sliding, rather than lifting, the older adults' body parts helped maintain body awareness.

The observations showed that 7% *(n = 1)* performed at poor level, 26% ($n = 4$) at a fair level, 40% ($n = 6$) at a good level, and 27% ($n = 4$) at a very good level in using their own movements (Table 5). In transferring body weight to support surfaces, 40% ($n = 6$) performed at a fair level, 40% ($n = 6$) at a good level, and 20% ($n = 3$) at a very good level (Figure 1).

Considering the environment

One aspect of the observation situations focused on the nursing staff's ability adapt to the physical environment in a way that supports the older adults' own activity in movement and helping situations. In considering the environment, the use of assistive devices, such as wheelchairs, sliding boards, and grip surfaces, was considered in a way that enabled older adult participation and supported the nursing staff's ergonomic working posture. One-third of the nursing staff (33%, $n = 5$) demonstrated fair competence in adapting to the environment; one-third showed good competence, and one-third exhibited very good competence (Figure 1).

Discussion

This study provides new observational data on the kinaesthetics skills of nursing staff working in Finnish 24-hour-care nursing homes and long-term-care. Overall, the observed competence was rated as good across all assessed domains, indicating that kinaesthetics principles are generally integrated into everyday care practices in these settings. However, notable variation in individual performance highlights that competence is unevenly manifested in practice.

The overall competence levels observed in this study are consistent with those reported by Gattinger etal. (2017), who found generally good kinaesthetics competence among nursing staff using the KCO instrument in a Swiss cross-sectional observational study conducted in three medium-sized nursing homes (Gattinger, 2017). However, differences emerged in the subscale profiles. While Gattinger etal. (2017) reported higher ratings for nursing staff's own movement and lower ratings for supporting the older adult's movement (Gattinger et al., 2016, 2018), the present study showed the highest ratings in environmental adaptation. These differences may be explained by variations in care contexts and resident characteristics, as the present study also included long-term care settings, smaller units, and did not restrict participation based on older adults' physical or cognitive status. Given these contextual and methodological differences, direct comparison of subscale distributions should be interpreted with caution.

Although overall kinaesthetics competence was good, gaps were particularly evident in interaction practices. In this study, most of the older adults had memory and mobility impairments, which is a typical profile in 24-hour-care nursing homes and long-term-care settings and is known

to significantly affect daily functioning and quality of life (Baernholdt et al., 2012). Despite these impairments, many older adults retain resources for active participation. However, in several observations, nursing staff did not consistently provide sufficient time or opportunities for older adults to actively engage in care situations. Passive or overly rapid transfers were observed, especially when the older adult's activity level was low. Limited competence in facilitating interaction and participation may contribute to unnecessary dependency among older adults and increase physical strain on nursing staff (Gattinger et al., 2016). These findings are consistent with previous research emphasizing that restorative care requires nursing staff to be patient and sensitive to the individuality, pace, and communicative cues of each older adult (Lotvonen et al., 2017; Pakkonen et al., 2023). Together, these findings underline that kinaesthetics competence extends beyond technical movement support to include interactional sensitivity and the facilitation of active participation.

Nonetheless, in most cases, the nursing staff provided verbal guidance that enabled active participation. Communication was generally appropriate in tone and volume, and eye contact was used effectively. As Behuniak highlighted, interaction with nonverbal older adults can be enhanced by attention to speech rhythm and tone (Behuniak, 2010; Pakkonen et al., 2023). In instances where the nursing staff allowed the older adult time and space to act independently, the older adult often showed visible signs of trust and calmness. Few older adults clung to bedrails or displayed fear.

These observations suggest that interactional competence was present, but its consistent application varied across situations and individuals.

Although the overall kinaesthetics competence was good, individual performance varied. This variation may reflect the fact that competence is influenced by more than formal training alone. Formal training alone may therefore be insufficient to ensure the consistent application of kinaesthetics principles in everyday practice. Internal kinaesthetics guidance within the past 12 months was missing for some staff. Kärenlampi et al. (2025) reported that during the preceding 12 months, 60% (n = 90) of nursing staff reported in a self-assessment that they had not participated in kinaesthetics guidance (Kärenlampi et al., 2025). These findings support the interpretation that ongoing workplace-based guidance plays an important role in maintaining and translating competence into practice.

Competence development also requires strong leadership support (Maurer et al., 2021). Workplace factors such as peer support, leadership encouragement, and opportunities for on-the-job learning play a key role in translating theoretical knowledge into practice. Maurer et al. (Maurer et al., 2021) highlighted that kinaesthetics implementation can be influenced at three institutional levels: management, the nursing team, and individual staff, as well as by external factors. In nursing practice and science, a basic understanding of kinaesthetics in professional care is essential. Those responsible for management and implementation must recognize potential barriers and develop strategies to overcome them. A previous study emphasizes fostering a learning-oriented organizational culture in which kinaesthetics principles are reinforced through mentoring, feedback, and reflective practice (Maurer et al., 2021).

In light of the present findings, such organizational support may help reduce variability in individual performance and promote more consistent interactional and participatory practices.

Since 1997, kinaesthetics training has been offered in Finland. Despite its long-standing implementation, systematic observational evidence of nursing staff's kinaesthetics competence has been lacking. This study is the first to assess nursing staffs kinaesthetics competence in Finland using systematic observation in 24-care nursing home and long-term-care for older adults. The findings provide valuable insights for developing training and improving daily care practices in nursing homes.

Strengths and limitations

The reliability of this study is supported by using the previously validated Kinaesthetics Competence Observation (KCO) instrument (Gattinger 2017). The instrument demonstrated excellent content validity in earlier research, with a reported Cronbach's alpha of 0.97

(Gattinger 2017) and has consistently proven effective in assessing observational competence in kinaesthetics. In the present study, the Finnish version of the KCO also demonstrated high internal consistency: Cronbach's alpha was 0.96 for communication, 0.94 for assisting a person's movement, and 0.95 for the nursing staff's own movement. The overall Cronbach's alpha for the full instrument was 0.98. These results are consistent with the original validation study (Ministry of Social Affairs and Health, n.d.). However, it should be noted that the KCO instrument had not been previously used in the Finnish context, which may limit its cultural and contextual applicability.

The use of video-recorded real-life care situations allowed detailed observation of everyday practices but may also have influenced staff behavior, which should be considered when interpreting the findings. Observational research is inherently subject to potential biases related to researcher presence, interpretation, and observer expertise. Moreover, the potential for reactivity, known as the Hawthorne effect, must be acknowledged, as participants may alter their behavior when they are aware of being observed (Gattinger et al., 2018; Hjelle et al., 2017).

Data was collected through observation of nursing staff during real-life care situations. While the use of video-recorded real-life interactions is a major strength, as it allows for detailed and context-rich assessment of everyday practices, it may also have influenced staff behavior and interaction, which should be considered when interpreting the findings. Observational studies are inherently subject to potential biases related to researcher presence, interpretation, and observer expertise. Reactivity to being observed, commonly referred to as the Hawthorne effect, may have led participants to alter their behavior during the recordings (Gattinger et al., 2018; Hjelle et al., 2017). In addition, variability in video quality and situational constraints occasionally limited the clarity of the observations, potentially affecting the accuracy of competence assessments.

Practical challenges also influenced the consistency and quality of the video data. Recordings were made by multiple individuals, and despite standardized instructions, their quality varied. In some cases, care was provided collaboratively by multiple nursing staff members, which complicated filming. The nursing staff's actions were occasionally obstructed due to changes in bed height or position, wheelchair movement, or the presence of multiple individuals in the room. These factors sometimes reduce the clarity of the footage, limiting the accuracy of competence assessments. Additionally, although the instrument includes only one item addressing environmental considerations, environmental aspects were nonetheless often rated as good or very good.

The relatively small sample size ($n = 15$) also limits the generalizability of the findings. Due to the limited sample, potential correlations between background variables and observed competence could not be analyzed. Furthermore, the study only included 24-hour-care nursing homes ($n = 5$) and long-term care units ($n = 2$) where kinaesthetics were already actively implemented, which may have introduced selection bias and limited variation in competence levels. Further limitation relates to using the instrument with video data, as contextual factors such as the older adults' specific mobility impairments were not captured. In 24-hour-care nursing homes, opportunities for independent activity are often limited, and the quality of assistance and interaction may be influenced by situational constraints. Although video recordings provide both visual and auditory data, interpretation can be subjective. Observers may assess the same situation differently based on their professional background and experience. To minimize this limitation, two experienced raters independently evaluated the video material, and a consensus was reached through discussion.

Video observation proved to be a useful method for assessing real-world care practices, although limitations such as small sample size and variable video quality should be addressed in future studies. Despite these constraints, the findings offer meaningful insights into everyday kinaesthetics-based care and support the importance of fostering a care culture that promotes movement, autonomy, and human connection. Further research into larger and more diverse samples across multiple care settings is recommended to confirm and expand these findings. Comparative studies could evaluate the long-term effectiveness of different training levels, while longitudinal research should assess how

well kinaesthetics competence is maintained over time. Additionally, exploring the experiences of older adults themselves would provide a deeper understanding of how movement support and interaction impact observed care quality. Finally, refining observational tools could help capture the broader environmental and social dimensions of kinaesthetics-based care.

Conclusion

The findings of this study highlight the practical application of kinaesthetics in everyday care situations within Finnish 24-hour-care nursing homes and long-term-care. While the overall competence of the nursing staff was assessed as good, specific gaps were identified, especially in interactions in which older adults were not always actively involved in care situations. This underscores the need to emphasize communication and participation strategies in both initial education and continuing professional development, aligned with the principles of person-centered and restorative care. To improve care quality and reduce unnecessary dependence among older adults, organizations should not only invest in nursing staff training but also examine how environmental and social factors affect older adult participation and nursing staff well-being.

Ethics statement

Good scientific practice was followed throughout the study (TENK, n.d.). The researcher at the University of Oulu requested a statement from the Ethics Committee of the Humanities, which determined that ethical review was not required because the study involved healthcare personnel (Medical Research Act (488/1999), 1999). A scientific research privacy statement was prepared, and research permits were obtained from participating municipalities. Permission to use the KCO instrument was granted by its developer.

The nursing staff were informed verbally and in writing about the study and the voluntary nature of participation. Written informed consent was obtained. The older adults and their relatives were also informed, and consent was obtained either directly from the older adults or from relatives on their behalf. The study focused on interactions between nursing staff and older adults in assisted-living situations (including facial expressions, gestures, and verbal and nonverbal communication). Facial blurring was not performed, as it would have interfered with the interpretation of the interactions.

The video recordings were conducted during the older adults' normal daily rhythms. The observations were conducted only once and no psychological or physical burden was caused to the older adults, as the video recordings took place during familiar, routinely occurring assistance situations. They were analyzed by two kinaesthetics experts and stored securely on the researcher's password-protected computer. Data was reported in a format that prevents identification of individual respondents. The research data will be destroyed after publication (1999).

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