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# The health care aide position in nursing homes: A comparative survey of nurses' and aides' perceptions

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ABSTRACT

*Background:* The health care aide position embodies one of the most basic paradoxes of long-term care for older adults: those who have the most contact and most intensive interaction with nursing-home residents are also those having the least training, authority, and status within the system. They therefore hold one of the keys to quality care in many settings, especially nursing homes. In the absence of agreement on the position's roles, responsibilities, and authority, it is important to examine how the position is perceived by the key members in the long-term-care framework.
*Objectives:* The current study examined and compared health care aides' and nurses' perceptions of the position in nursing-home settings in Israel, using a standardized tool developed for this inquiry. The comparison accounted for potential intervening factors that may help better understand the job requirements and boundaries.
*Design:* A comparative survey design.
*Settings:* 30 nursing homes (of at least 20 beds) in northern Israel.
*Participants:* We used convenience sampling to recruit 369 health care aides and 261 nurses (a total of 630 participants).
*Methods:* The main instrument of data collection was specially designed and validated for this study. It was based on a qualitative study that defined basic content units representing tasks importance, knowledge, and personal characteristics for the job.
*Results:* Participants found it difficult to prioritize the job components or to differentiate between core tasks and characteristics and the secondary aspects of their job. General care, profession-specific knowledge, and emotional abilities were endorsed the most by participants. Cleaning, communication, and safety were ranked lower (although rankings were still considerably high). However, previous experience as a health care aide undermined incumbents' perceptions of their own responsibilities and professionalism. Incumbent health care aides rated most factors higher than nurses did, with the exception of the importance of communication.
*Conclusion:* Our results may help decision makers understand the complexity around the health care aide position, manage and develop it more effectively while setting standards (training and certification, performance appraisal, and more) for professionalization processes and better defining the division of nursing work between health care aides and nurses.



## What is already known about the topic?

- The health care aide position is of high importance in long-term-care settings worldwide, with this workforce providing most of the "hands-on" care.
- The health care aide position is usually characterized by low pay, lack of formal training, high burden, little to no professional

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authority or autonomy, and, in some cases, counterproductive behavior.
- Standardized job descriptions for this pivotal position vary across countries and are nonexistent in many.

**What this paper adds**

- This paper identifies areas of agreement and disagreement in the perceptions of the health care aide position through the eyes of key stakeholders in the nursing-home setting.
- It explores the dynamics of individual experiences and training, vis-à-vis organizational role in shaping the perceptions of the health care aide position.

## 1. Introduction

The quality of nursing-home care is an international concern, prompting a global agenda for clinical practice improvements and research (Rolland et al., 2014; Shippee et al., 2017; Tolson et al., 2011). Tackling nursing-home quality at an international level is challenging because of the myriad differences in structures and processes used in these settings across countries. For example, there are variations in care models – that is, social, physician-led, nurse-led (Tolson et al., 2013) – in the use of professional staff, and in other characteristics such as size, funding sources, and access, as well as in the terminology used to describe the nursing-home-care setting (Sanford et al., 2015). Notwithstanding these differences, there is growing attention to the role of health care aides in managing and understanding care processes and organizational outcomes in long-term-care settings (Berta et al., 2013; Cooper et al., 2016; Hewko et al., 2015). Health care aides are usually unlicensed, non-professional individuals providing care in diverse healthcare settings. Various terms are used for this workforce, including health care aide, unlicensed assistive personnel, care assistant, nursing assistant, certified nursing assistant, and nursing aide. The use of varying names and titles also reflects the lack of consistency and wide variations in the definition of responsibilities, tasks, and authority across settings and institutions (Eldercare Workforce Alliance, 2014). For this paper, we use the term health care aide.

### 1.1. Health care aides

In long-term-care/nursing-home settings, health care aides have been recognized for their critical role in enhancing residents' quality of life (Morley, 2014). As the least-educated and least-trained members of the care team in nursing homes, health care aides spend the most time providing hands-on, direct care to residents (Schnelle et al., 2004). Their general responsibilities center around residents' personal and functional care needs, such as bathing, grooming, feeding, and toileting. Evidence suggests that the work carried out by health care aides represents up to 80%–90% of all direct-care activities performed in the nursing home (Berta et al., 2013; Pennington et al., 2003).

A review of the literature suggests that health care aides carry out their work in sometimes hostile work environments, with reports of on-the-job injuries, low pay, high rates of job burnout, and turnover supporting this notion (Bowers et al., 2003; Brannon et al., 2002; Chamberlain et al., 2017; Cooper et al., 2016; Donoghue and Castle, 2009; Kovner and Harrington, 2002; Quinn et al., 2016) and persistent concerns regarding the adequacy of their training (Morley, 2014; Sengupta et al., 2010; Yeatts et al., 2010). Understanding these circumstances and settings may help better describe the need for job analysis for this position. The health care aides perform their nursing-home roles and responsibilities under the direction and supervision of nurses and face multiple role conflicts and contradictory expectations each day as they manage role demands (Clarke, 2001; Cooper et al., 2016). Health care aides report workload as a barrier to care delivery (Crogan and Shultz, 2000; Lekan-Rutledge et al., 1998) and a lack of clarity regarding their role autonomy (Liu et al., 2011). Whereas the nurse, as supervisor of the health care aides, is in a critical position to address these challenges, the literature reveals gaps in the effectiveness of supervisory practices, including nurses' limited or lack of training for their role supervising health care aides (Eaton, 2000; Siegel et al., 2008) and ineffective or unproductive communication practices and/or the presence of interpersonal conflict (Castle and Engberg, 2005). These gaps have been associated with various quality problems (Budden, 2012; Corazzini et al., 2013). Although most of these studies were conducted in the United States, where there are regulatory standards for training and certification, this literature – as a whole – highlights the important need for evidence-based policy and education focused on the health care aide workforce in Israeli nursing homes.

### 1.2. Israeli nursing homes

Israel has 292 nursing homes providing long-term care for older adults, of which 57% are privately owned and the rest are owned by the government and the state's health maintenance organizations (Brodsky et al., 2017). In those nursing homes, most employees are health care aides (65.3%), and only a minority are nurses, physicians, or other professionals (Israel Ministry of Health, 2012). Until recently, the health care aide position in Israel required no formal training and had no specific prerequisites; thus, each institution could set its own requirements. As late as 2008, less than half of the aides in these settings reported receiving any training for the job (Ron, 2008). In 2015, the Ministry of Health issued a set of prerequisites for health care aide positions in long-term-care/nursing-home facilities including a basic training program. Although these prerequisites are a step in the right direction, research to fully understand the role demands of the position in Israeli nursing homes is lacking, as there is currently no standardized job description for the position.

To ensure that the new basic training program requirements support the actual role demands, a job analysis is needed to develop an evidence-based description for the position. Job analysis is the process by which organizational positions are examined, analyzed, and systematically described to allow organizational design, training, performance assessment, and promotion, as well as recruitment, selection, and training of candidates for the position (the immediate goals most relevant in our case) (Franklin, 2005). The first step in a job analysis for the health care aide position is to develop consensus among key stakeholder groups around the position's mandated tasks, through research in the perspectives of health care aides and their nurse supervisors.

Therefore, this study compared current health care aides' and nurse supervisors' perceptions of the health care aides' job content (i.e., tasks) and the required job characteristics and knowledge.

### 1.3. The organizational perspective

As this study aimed to examine cross-role perceptions of the health care aide position, it is of added value to understand what these perceptions and the differences between them represent: theories of strategic organizational leadership emphasize the importance of alignment in organizational effectiveness (Cameron, 2010). Effective alignment requires anchors or reference points that allow calibration of processes and agreement over goals and

paths to achieve the goals. The lack of consistent standards leaves ample room for subjective perceptions of the health care aide's job responsibilities and duties and of the characteristics required to successfully perform job tasks.

The organizational literature is replete with evidence of the perception gap between health care aides and other relevant members of the organization with regard to how they perceive the job (Conley and Sackett, 1987; Kacmar et al., 2009; Meier and Semmer, 2018; Spector and Jex, 1991). While numerous biases affect job and performance evaluations by both health care aides and their supervisors, the literature suggests that personal involvement and the different organizational roles of employees, supervisors, and other stakeholders may vary dramatically, especially where there is no formal agreement on how things should be (Aguinis et al., 2009).

The literature also acknowledges sources of bias and ways to decrease it: the main sources of such biases are motivations embedded in self-serving biases and intergroup conflict within the organization (Cascio, 2010). These motivations drive individuals at the subconscious level to either magnify or belittle their own perceptions of a target object – in this case, a specific job or position within the organization. Two factors have been repeatedly mentioned as countermeasures for such biases: education or training, and personal experience (for a review, see Myers, 2012). These were, therefore, defined in the current study as potential intervening factors examined to provide a deeper understanding of the job analysis and perceptions.

In the current study we set out to examine and compare health care aides' and nurse supervisors' perceptions of the health care aide job in long-term nursing-home settings in Israel, using a standardized tool developed for this inquiry. Such analysis may help decision makers understand the complexity around the position, and may serve as a basis for setting job-related standards (training and certification, performance appraisal and more). Such knowledge will also allow better defining the division of nursing work between health care aides and their nurse supervisors.

## 2. Method

### 2.1. Study design and settings

We used a comparative survey study design, relying on nurses and health care aides in a sample of nursing homes in northern Israel.

### 2.2. Participants

We conducted a structured-interview-based survey to collect and compare perceptions of the health care aide position between late 2016 and early 2017. We contacted executives in all the nursing homes in the northern and Haifa districts of Israel that have at least 20 beds (a total of 32) and that include nursing units and/or dementia units. Nursing homes specializing in advanced nursing care were excluded from our sampling frame. Thirty nursing homes consented to participate, from which we used convenience sampling to recruit 369 health care aides and 261 nurses (total sample: 630), based on their availability and willingness to be interviewed. The sample represented 40% of the total workforce in the consenting institutions. We recruited only participants who could communicate in basic Hebrew at the very least. Interviewers visited each nursing home at various hours and on different weekdays to allow for a more representative sampling of the workforce.

### 2.3. Instrument design and validation

The main instrument of data collection was specially designed and validated for this study in two phases.

Phase 1 included input from a qualitative study using semi-structured open-ended interviews with 18 health care aides, 15 nurses, 12 nursing-home residents, and two social workers sampled from six nursing homes in northern Israel (fully described in Band-Winterstein et al., 2018). In the interviews, each participant was asked to describe the position from their perspective and the following aspects of the position: the most important tasks on the job, the type of knowledge required on the job, and the personal characteristics required to do the job well. The data collected underwent thematic analysis to define these basic content units. We followed the analysis model presented by McCormick et al. (1972) to define components of a job analysis and description.

The list resulting from the above analysis included six dimensions or job-content categories: Technical tasks, Residents' physical care, Personal-human care, Professional authority hierarchy and borders, Qualifications and abilities, and Skills acquired over time. Based on this list, we designed a structured job-perception questionnaire that allows quantitative ranking of each of the care activities, interpersonal abilities, and other characteristics. Each item was rated for level of importance on the job, using a 5-point Likert-style scale. We pilot-tested the health care aide job-perception questionnaire with a sample of 30 nurses and aides to establish feasibility and examine its applicability (the extent to which participants may find the questionnaire items easy to understand and can rank them using the response scale). Based on feedback from this pilot, we modified phrasing for six items to make them clearer to potential participants and deleted items regarded as redundant by the pilot participants. The final version of the questionnaire was then tested for construct validity and was found to yield four factors for task importance (Care, Safety, Communication, and Cleaning), two factors for required knowledge (Specific related knowledge and Technical skills), and four factors for personal characteristics required for the job (Emotional abilities, Discipline, Social skills, and Professionalism). The factorial grades showed reliabilities ranging from .65 to .90, thus yielding adequate psychometric properties (Table 1).

We also collected self-reported demographic data, including gender, place of birth, ethnicity, level of education, age, position, and tenure on the job, as well as position description and training in care of older adults. Nurses were also asked whether they had ever worked as a health care aide before their current job.

### 2.4. Procedure and ethics

After the preliminary construction and validation phases of the scale, as described above, were completed, and after institutional review board approval at the researchers' institutions was obtained, a trained research assistant contacted nursing homes in northern Israel, presenting the research and asking for permission to arrive during various shifts and to interview nurses and health care aides. About 94% of the nursing homes approached gave permission. Research assistants arrived at various shift times to sample a broad range of workers. They used a structured interview technique to administer the questionnaires because some of the health care aides needed help reading the questions and understanding some of the items. Each structured interview was conducted in Hebrew and took 40–50 minutes to complete. Participants received no benefits for participating, but interviews were conducted during their worktime with the consent of their employers, and without their pay or worktime being reduced.

### 2.5. Data analyses

At the first stage, we calculated descriptive statistics for the main job-description components as mentioned in the instrument

**Table 1**
Factorial structure of measure items.

| Factor | No. items | Sample item/s | Cronbach's alpha |
|---|---|---|---|
| Importance | | | |
| Care | 25 | Helping residents in position changing; Helping residents with bathing; Checking residents' fingernail condition | .90 |
| Safety | 8 | Making sure resident take their medicines as provided by the nurse | .70 |
| Communication (beyond instrumental) | 4 | Communicating with residents for fun | .72 |
| Cleaning | 9 | Room cleaning; Changing bed sheets | .83 |
| Knowledge | | | |
| Specific | 8 | Notice unsusal symptoms and reporting them to the nurse; General knowledge of health conditions that are relevant to the residents | .79 |
| Skills | 5 | Speaking relevant languages (spoken by residents); Technical skills | .65 |
| Characteristics | | | |
| Emotional abilities | 7 | Attentiveness; Compassion | .87 |
| Discipline | 9 | Hard working; Reliable | .86 |
| Social skills | 5 | Willingness to work in a team; Sociable | .76 |
| Professionalism | 5 | Working effectively with methods and tools | .79 |

design and validation section. Mean scores ranging from 4.15 to 4.88 (out of 5), and standard deviations were relatively small. In addition, all the scores were negatively skewed.

To allow parametric analyses, we then used the Log10 transformation to modify the distributions to meet the prerequisites for analysis of covariance (ANCOVA). This type of data transformation is acceptable in such cases (Shachar et al., 2018). We used a mixed-model ANCOVA to account for the clustered nature of our data, where health care aides and nurses are nested in 30 different facilities from which data were gathered. We ran 10 separate models for each of the factorial grades, with random intercepts for facility cluster levels. After running simple comparison analyses, we identified the main potential intervening variables that may influence perceptions of the job. We included them in the analyses as follows. These intervening variables may potentially help identify restrictions and limitations to the job description and deepen the understanding of the circumstances in which the job is performed. As fixed factors we defined the position (health care aide vs. nurse) to compare the factorial grades in the job description, previous experience in work as a health care aide, having geriatric training/education, and the interaction terms between the variables: Position × Previous experience as health care aide, Position × Training in geriatrics, and Training in geriatrics × Experience as health care aide. We included tenure as a covariate in the analyses.

We used IBM SPSS version 23.0 (2017) to run the statistical analyses.

## 3. Results

### 3.1. Sample characteristics

Table 2 summarizes the main characteristics of the sampled institutions. Unit-type, ownership, and facility-size indicators are very close in our sample to the general characteristics of nursing homes in Israel (Israel Ministry of Health, 2012): having private ownership, and most including a dementia or nursing unit or both.

Table 3 summarizes the demographic characteristics of the study participants. Nurses and health care aides did not statistically differ in age or gender distribution (77% and 80% female, respectively), and most were either Muslim or Jewish. Nurses had higher levels of education than health care aides did (54% of nurses had academic degrees vs. only 11.4% of health care aides). Most nurses reported having special training in older adult care (77%), whereas about half the health care aides (53%) reported the same. Nurses' tenure working with older adults in nursing homes was higher than that of the health care aides, suggesting higher turnover rates among the latter (9.4 years for nurses vs. 6.7 for health care aides). Almost a third (30.7%) of the nurses reported working as health care aides in the past.

### 3.2. Overall ratings of health care aide job characteristics

The descriptive analysis of overall ratings of the factorial grades in the health care aide job-perception questionnaire suggested a few notable emerging trends. Most factors were rated highly by most participants, with moderate to low dispersion, suggesting that participants found it difficult to prioritize the job components (rating most components "very important"). However, a few differences in ratings are noticeable. General care, Profession-specific knowledge, *Discipline* and Emotional abilities were ranked highest by most participants. Cleaning, Communication, and Safety were ranked relatively lower (although rankings were still considerably high). At the item level, the following were ranked highest: Feeding residents and Changing incontinence briefs when needed, Noticing unusual signs that may reflect change in the residents' well-being, Knowledge of adult care, Knowing what and when to direct issues to the nurse, Personal responsibility, Compassion, and Teamwork. Items ranked the lowest were Curiosity, Independence, Creativity, Flexibility, Problem solving,

**Table 2**
Characteristics of facilities and units (N = 30).

| Characteristic | n (%) |
|---|---|
| Unit type | |
| Nursing units only | 13 (43.3) |
| Secure dementia only | 1 (3.3) |
| Combined nursing & dementia | 12 (40) |
| All types of care facility | 4 (13.3) |
| Facility ownership | |
| Private for profit | 19 (63.3) |
| Public not for profit | 2 (6.7) |
| Private voluntary not for profit | 9 (30) |
| Facility size | |
| Small (20–49 beds) | 6 (20) |
| Medium (50–99 beds) | 12 (40) |
| Large (100+ beds) | 12 (40) |

**Table 3**
Characteristics of health care aides and nurses.

| | Health care aides (N = 369) | Nurses (N = 261) | P-value |
|---|---|---|---|
| Age, mean (SD) | 42.7 (12.2) | 41.3 (12.1) | .143 |
| Gender female, n (%) | 284 (77.0) | 208 (79.7) | .415 |
| Place of birth, n (%) | | | .000 |
| Israel | 247 (66.9) | 158 (60.5) | |
| Former Soviet Union | 79 (21.4) | 94 (36.0) | |
| Other | 43 (11.7) | 9 (3.45) | |
| Ethnicity, n (%) | | | .177 |
| Jewish | 116 (31.4) | 96 (36.8) | |
| Muslim | 185 (50.1) | 103 (39.5) | |
| Christian | 43 (11.7) | 38 (14.6) | |
| Druze | 12 (3.3) | 8 (3.1) | |
| Other | 13 (3.5) | 8 (3.1) | |
| Education, n (%) | | | .000 |
| Elementary | 73 (19.7) | – | |
| High school | 200 (54.2) | 18 (6.9) | |
| Professional (13–14y) | 54 (14.6) | 102 (39.1) | |
| Academic | 42 (11.4) | 141 (54.0) | |
| Position | | | .011 |
| Full time | 346 (93.8) | 210 (80.5) | |
| Part time | 22 (6.0) | 47 (18.0) | |
| Worked in the past as an aide, Yes, n (%) | 144 (39.0) | 80 (30.7) | .031 |
| Seniority in long term care (years), mean (SD) | 6.7 (6.7) | 9.4 (6.0) | .007 |
| Received training for older adult care, Yes, n (%) | 196 (53.1) | 202 (77.4) | .000 |

Providing residents with information re their rights, and Communicating with the medical staff.

### 3.3. Differences in health care aides and nurses' evaluations of health care aide job dimensions

Significant differences in bivariate comparisons emerged between nurses and health care aides in all domains except for Skills/knowledge. After adjustment for site and the relevant factors (see above), differences remained in only five of the 10 domains: Safety, Communication, Specific knowledge, Emotion, and Discipline (see Fig. 1 and Table 4 for effect directions and sizes). Health care aides rated most factors higher than nurses did, with the exception of Communication.

### 3.4. Examination of intervening factors relationship with health care aide job definitions

We next examined the effects of the potential intervening factors.

#### 3.4.1. Previous experience as health care aide

About a third (30.70%) of the nurses in our sample reported having worked as a health care aide in the past (before gaining Registered nurse status). Among the health care aides, 40% reported past experience in the position. This fact allowed us to test the effect of previous health care aide experience beyond the effect of the current position. The results are presented in Table 4. Individuals with previous experience in the position ranked the following lower than individuals without such experience: Importance of general care (ranked 4.82; 4.86 respectively on a scale of 1–5, $p < .05$), Emotional abilities (4.76; 4.83, $p < .01$, Professionalism (4.62; 4.71, $p < .01$), and Communication (4.30; 4.14, $p < .01$). (All the above are marginal means and significance levels).

#### 3.4.2. Geriatric training

Surprisingly, having training in the field of geriatrics had an effect only on the ranking of the importance of Communication, with individuals who reported geriatric training ranking the importance of communication higher than those who had no such training (4.32; 4.09, $p < .01$).

#### 3.4.3. Ethnic/cultural background

We also did not find significant differences between the ethnic groups in our sample in how they ranked the aspects of the aide position, with the exception of a single sub-scale (discipline) in which Jewish aides and nurses born in Israel saw the item as more

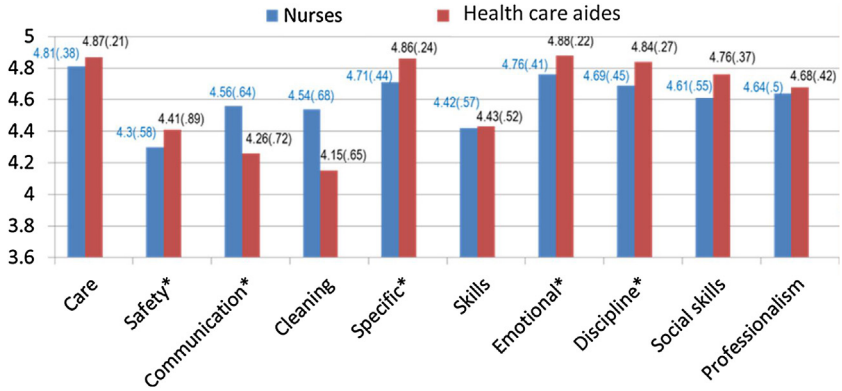


**Fig. 1.** Comparison of 10 dimensions of health care aide job description marginal means beetween nurses and health care aides. Note: (*) notes statistically significant differences at $p < .05$ or better.

**Table 4**
Summary of ANCOVA analysis across 10 dimensions of the health care aide job description.

| | | Importance | | | | Knowledge | | Traits | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Care | Safety | Communication | Cleaning | Specific | Skills | Emotional | Discipline | Social skills | Professionalism |
| Position (RN vs. HCA) | F μ2 | $0.72_{(1,35.45)}$ 0.02 | $12.32_{(1,31.69)}$ 0.28** | $27.24_{(1,43.57)}$ 0.39** | $0.08_{(1,30.32)}$ 0.00 | $13.77_{(1,34.32)}$ 0.29** | $0.11_{(1,40.51)}$ 0.03 | $5.70_{(1,36.16)}$ 0.14* | $6.59_{(1,34.40)}$ 0.16* | $1.61_{(1,37.84)}$ 0.04 | $0.01_{(1,36.48)}$ 0.00 |
| Previously HCA | F μ2 | $5.38_{(1,60.61)}$ 0.08* | $0.75_{(1,59.58)}$ 0.12 | $7.18_{(1,88.66)}$ 0.08** | $0.35_{(1,50.89)}$ 0.07 | $1.12_{(1,51.06)}$ 0.21 | $1.26_{(1,50.15)}$ 0.24 | $4.40_{(1,48.44)}$ 0.08* | $1.28_{(1,46.21)}$ 0.27 | $3.60_{(1,52.53)}$ 0.06 | $8.05_{(1,53.86)}$ 0.13** |
| Geriatric training | F μ2 | $0.77_{(1,38.59)}$ 0.02 | $1.58_{(1,41.40)}$ 0.04 | $4.21_{(1,51.40)}$ 0.08** | $0.01_{(1,46.03)}$ 0.00 | $4.02_{(1,38.78)}$ 0.94 | $3.96_{(1,41.26)}$ 0.09 | $3.58_{(1,38.56)}$ 0.09 | $3.59_{(1,39.20)}$ 0.08 | $0.16_{(1,45.61)}$ 0.00 | $1.63_{(1,41.70)}$ 0.04 |
| Tenure# | F μ2 | $7.32_{(1,447)}$ 0.02** | $6.06_{(1,447)}$ 0.13* | $0.54_{(1,447)}$ 0.00 | $7.80_{(1,446)}$ 0.17** | $0.66_{(1,451)}$ 0.01 | $0.68_{(1,451)}$ 0.00 | $1.24_{(1,449)}$ 0.03 | $0.20_{(1,449)}$ 0.00 | $0.28_{(1,449)}$ 0.00 | $0.33_{(1,449)}$ 0.00 |
| Position × Previously HCA | F μ2 | $0.16_{(1,25.84)}$ 0.01 | $0.36_{(1,25.83)}$ 0.01 | $0.00_{(1,24.99)}$ 0.00 | $0.97_{(1,23.64)}$ 0.39 | $0.12_{(1,24.08)}$ 0.01 | $0.25_{(1,24.03)}$ 0.10 | $0.04_{(1,24.42)}$ 0.00 | $0.09_{(1,25.08)}$ 0.00 | $0.22_{(1,25.03)}$ 0.01 | $0.74_{(1,25.69)}$ 0.03 |
| Position × Geriatric training | F μ2 | $1.65_{(1,20.78)}$ 0.07 | $0.18_{(1,16.43)}$ 0.11 | $1.08_{(1,18.45)}$ 0.06 | $1.37_{(1,16.51)}$ 0.76 | $1.27_{(1,20.72)}$ 0.13 | $0.05_{(1,21.48)}$ 0.02 | $0.00_{(1,20.53)}$ 0.00 | $0.17_{(1,24.32)}$ 0.01 | $2.14_{(1,17.51)}$ 0.11 | $0.21_{(1,19.02)}$ 0.01 |
| Previously HCA × Geriatric training | F μ2 | $2.78_{(1,18.63)}$ 0.13 | $5.51_{(1,21.42)}$ 0.03* | $4.18_{(1,18.78)}$ 0.18 | $2.41_{(1,20.23)}$ 0.11 | $1.86_{(1,25.79)}$ 0.07 | $2.57_{(1,35.15)}$ 0.07 | $4.05_{(1,22.00)}$ 0.16 | $5.83_{(1,24.25)}$ 0.19 | $10.61_{(1,30.17)}$ 0.26 | $6.33_{(1,23.10)}$ 0.22* |

# Included as a covariate.
** p < .01.
* p < .05.

important than others (ranked 4.79 by Israeli born participants and 4.68 by non-natives of Israel, p < .01). We also tested for potential interactions between position and ethnicity and found no significant interactions on any of the items.

#### 3.4.4. Interactions

We found only two significant interactions between previous experience in health care aide's work and geriatric training regarding the importance of Safety and Professionalism. The first implies that having training in geriatrics reversed the effect of previous experience on the perceived importance of Safety at work. The second suggests that training in geriatrics overrides the negative effect of previous experience on the job in the ranking of the importance of Professionalism at work (Fig. 2). No other interactions were found to be significant.

## 4. Discussion

This study explored perceptions of the health care aide position through the eyes of the health care aides themselves and the nurses who supervise them in a representative sample of Israeli nursing homes. Critically examining differences between health care aides' and nurses' perceptions of the job using the same scales and ranking system allows us to highlight the position's aspects that are not agreed upon between different position-holders and provides information to be used in future discussion of the position and its management in any organizational setting. In addition, our investigation highlighted a few potential intervening factors that may account for intricate effects on job perception.

### 4.1. Job component ratings

The descriptive statistics for the participants' ratings of the job components may offer insight into their subjective views of what is most and least important on the job and help identify central and relatively redundant components that define the job's essence (Brannick and Levine, 2002).

A few noteworthy patterns emerge from the study findings. First, we found little differentiation between the various aspects rated by the participants, especially among health care aides (differentiation was better among nurses). Rankings, on the other hand, tended to be high for both samples. These findings suggest that the position-holders tended to rank all aspects of their work as very important, with limited prioritization or identification of core tasks and characteristics versus secondary aspects of their job. This pattern indicates not high agreement rates but rather difficulties prioritizing tasks or job description items (see, for example, Watkins and Cheung, 1995). These might be explained, in part, by limited training. Findings from a study of Israel nursing assistants revealed that fewer than half (49%) received training for their job (Ron, 2008).

Nurses' rankings, on the other hand, suggest that they may be more capable of distinguishing aspects of the job that are more central to the position from those that are somewhat less so. Nurse and health care aide differences in prioritizing the position tasks are consistent with the literature suggesting differences in expectations for the health care aide role (Liu et al., 2011; Siegel and Young, 2010); An alternative explanation may suggest that nurses, being better formally trained in the health care sciences, are better equipped to take an analytic and systematic look at the health care aide position. This finding calls for further study and reconciliation, considering the importance of role clarity among different members of the nursing staff (Liu et al., 2011; McGilton et al., 2016) and the potential conflict that can ensue in its absence. Findings from studies of nurses and health care aides in nursing homes suggest that ongoing attention to the interpersonal

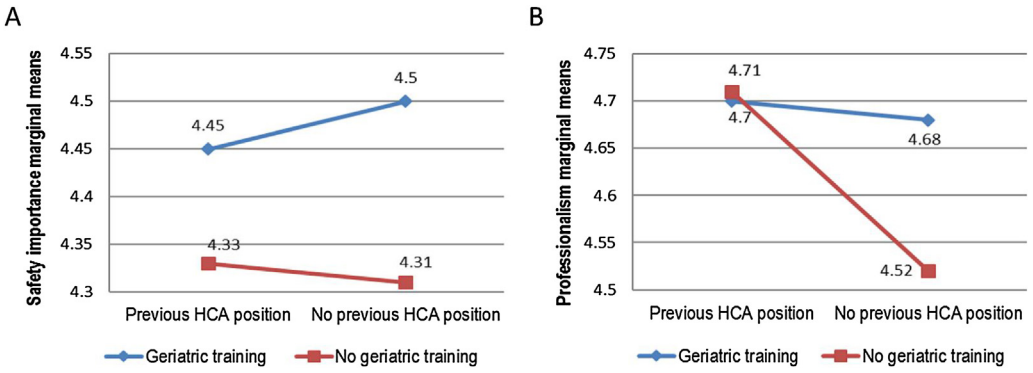


**Fig. 2.** Comparison of simultaneus effect of previous health care aide (HCA) position and geriatric training on (A) safety importance and (B) characteristics of professionalism.

relationships of these key members of the caregiving team is needed (Bishop et al., 2009; Bowers et al., 2003; Buljac-Samardžić and van Woerkom, 2018; McGillis Hall et al., 2005), given the potential for conflict at the core of many negative interactions.

Generally speaking, aspects of General care, Position-specific know-how, and Emotional abilities were ranked highest, emphasizing the position's technical aspects, on one hand, and its relational aspects, on the other.

### 4.2. Differences in health care aides' and nurses' ratings

A central question leading the study focused on potential differences between health care aides and nurses in their perceptions of the health care aide position. Our results indicated that of the 10 aspects of the position assessed by our measure, nurses and health care aides differed on five: aides ranked four of the five aspects of the job (Safety, position-specific know-how, Emotional abilities, and Discipline) higher than nurses did. Nurses' rankings were higher than the health care aides' rankings for Communication.

How can we account for these differences? First, inconsistencies may reflect lack of clarity emanating from lax or incongruent job specifications, similar to what may be reflected by poor inter-rater reliability (Voskuijl and van Sliedregt, 2002). Another interpretation may relate to biases inherent in fulfilling the said job versus supervising it: these gaps may reflect different perceptions painted by the realities and ideologies of each of the respective professions within their organizational settings: role theory posits that many of our behaviors are determined by our perceptions of the expectations of us within a given social role: parents, males or females, professionals, and so on (Broderick, 1999; Zhang and Xie, 2017). This interpretation may be useful to our exploration of how various position-holders perceive and construe the health care aide's job. These results also highlight the importance of inter-professional communication to establish an agreed-upon basis for the job definition to attain professional autonomy, clearer goals, higher efficiency – and, at the end of the value chain, better quality of care (McGilton et al., 2016; Siegel and Young, 2010).

Additional interpretations of the gaps may stem from identifying potential intervening factors that may interact with our comparisons; in this case, we identified two such factors: training in older adult care and previous experience as a health care aide.

### 4.3. Intervening factors

Understanding the role that potential intervening factors play in the differences between nurses and health care aides may help highlight the conditions and factors shaping perceptions of the job responsibilities, characteristics, and outputs. All of our respondents work within settings in which older adult care is a central theme, and because there are currently no professional training prerequisites for either health care aides or nurses working with older adults in nursing-home settings, it was therefore important to ask whether our respondents had any specific professional training (of any sort) in geriatric / older adult care. Fifty-three percent of the aides and 77% of the nurses reported taking such training. Our analyses showed that having such training had a limited effect (differences were significant only for communication) on the results at the bivariate-comparison level.

Another potential intervening factor of interest was previous experience in the position. While we were not surprised to find that 39% of the health care aides themselves had worked before the current position in their profession, it was quite surprising to find that about 31% of the nurses reported working in the past as health care aides, suggesting that the position may serve as part of the nurse's career ladder. Our results suggested that individuals with previous health care aide experience tended to view the position more simplistically, with less emphasis on Professionalism, Communication, or Emotional abilities on the job.

Even more interesting findings emerged when we examined the two-way interactions between both factors: geriatric/older adult care training and previous experience in the position. Although only two significant interactions emerged, both suggested that professional training reversed the effects of previous experience on the job. These hint at a grim direction for future study: the position's conditions and resulting experience may be so aversive that they actually undermines health care aides' perceptions of their own responsibilities and professionalism. However, proper training may override this worrying trend – at least in our preliminary results. This direction finds some support in the literature suggesting that education and training may counteract burnout and negative affect at work (Castle et al., 2007; Cooper et al.,2016; Kroon et al., 2009).

### 4.4. Study limitations and directions for future research

A few limitations should be considered when interpreting or considering implementation of the study results. The sample, although representative at the national level (i.e., representative of the nurse and aide populations in nursing homes in Israel), is typical of a specific national setting and is shaped by rules and regulations that are unique to that country and culture. Since these vary dramatically from one national setting to another, the specific circumstances should be considered when trying to interpret or apply conclusions from this study to different target populations. Future studies may wish to compare countries with similar legal settings but perhaps varying cultural assumptions. The reliance on

face-to-face interviews may have, on one hand, increased participation rates and provided better response rates for the measures used but may also have, on the other hand, biased responses. Although we trained our interviewers to minimize response biases, these cannot be completely mitigated. Future studies may consider, for example, approaching participants outside the work setting, thus reducing the potential for social desirability. Finally, the effect sizes of most of our findings, although statistically significant, were moderate and thus should be considered with care.

In sum, the health care aide position embodies one of the most basic paradoxes of long-term care for older adults – those who have the most contact and most intensive interaction with nursing-home residents are also those with the least training, authority, and status within the system (Morley, 2014). It is therefore imperative that more empirical attention be paid to this position and to how it is perceived by health care aides' and other position-holders within the very system they work for. In turn, such a knowledge base would provide a valid and effective basis for job descriptions, training systems, and professional development of those in charge of daily care-related contact with nursing-home residents.

This study addressed a target population of health care aides in nursing homes in a health-system setting where no binding or mandatory regulations regarding training and selection of employees for the position are currently implemented. We used a tool for job analysis and description to compare rating patterns of job elements, thus (1) presenting a profile description of the position, and (2) exploring differences in ratings between health care aides and nurses reflecting slightly differing views of the job.

Despite its limitations, the study may offer a better understanding of aspects of the position and the biases in perceiving its content domains and characteristics. The findings may also serve as a basis for more effective communication between different position-holders in nursing homes as well as other care systems that will better define tasks, responsibilities, and authority (autonomy) for the position, thus leading the way to improved organizational alignment and effectiveness. Such developments may be important steps in improving nursing-home care and improving health care aides' performance, turnover issues, and potential liability due to job incompatibility.

## Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.ijnurstu.2019.03.007

## References


Aguinis, H., Mazurkiewicz, M.D., Heggestad, E.D., 2009. Using web-based frame-of-reference training to decrease biases in personality-based job analysis: an experimental field study. Person. Psychol. 62 (2), 405–438. doi:http://dx.doi.org/10.1111/j.1744-6570.2009.01144.x.

Band–Winterstein, T., Doron, I., Shulyaev, K., Zysberg, L., Zisberg, A., 2018. The meanings of the unlicensed assistive personnel role in nursing homes: a triadic perspective qualitative job analysis. J. Nurs. Manag..

Berta, W., Laporte, A., Deber, R., Baumann, A., Gamble, B., 2013. The evolving role of health care aides in the long-term care and home and community care sectors in Canada. Hum. Resour. Health 11 (1), 25. doi:http://dx.doi.org/10.1186/1478-4491-11-25.

Bishop, C.E., Squillace, M.R., Meagher, J., Anderson, W.L., Wiener, J.M., 2009. Nursing home work practices and nursing assistants' job satisfaction. Gerontologist 49 (5), 611–622. doi:http://dx.doi.org/10.1093/geront/gnp040.

Bowers, B.J., Esmond, S., Jacobson, N., 2003. Turnover reinterpreted CNAs talk about why they leave. J. Gerontol. Nurs. 29 (3), 36–43. doi:http://dx.doi.org/10.3928/0098-9134-20030301-09.

Brannick, M.T., Levine, E.L., 2002. Job Analysis: Methods, Research, and Applications for Human Resource Management in the New Millennium. Sage Publications, London.

Brannon, D., Zinn, J.S., Mor, V., Davis, J., 2002. An exploration of job, organizational, and environmental factors associated with high and low nursing assistant turnover. Gerontologist 42 (2), 159–168. doi:http://dx.doi.org/10.1093/geront/42.2.159 discussion 157–158.

Broderick, A., 1999. Role theory and the management of service encounters. Serv. Ind. J. 19 (2), 117–131. doi:http://dx.doi.org/10.1080/02642069900000022.

Brodsky, J., Shnoor, Y., Be'er, S., 2017. The 65+ Population in Israel: Statistical Abstract 2016 [Hebrew report]. Myers-JDC-Brookdale, Jerusalem. http://mashav.jdc.org.il/?CategoryID=233&ArticleID=162.

Budden, J.S., 2012. A national survey of medication aides: education, supervision, and work role by work setting. Geriatr. Nurs. (Minneap.) 33 (6), 454–464. doi:http://dx.doi.org/10.1016/j.gerinurse.2012.05.001.

Buljac-Samardžić, M., van Woerkom, M., 2018. Improving quality and safety of care in nursing homes by team support for strengths use: a survey study. PLoS One 13 (7) e0200065 doi:http://dx.doi.org/10.1371/journal.pone.0200065.

Cameron, K.S., 2010. Organizational Effectiveness. Edward Elgar, Cheltenham, UK.

Cascio, W., 2010. Applied Psychology in Human Resource Management. Pearson, NY.

Castle, N.G., Engberg, J., 2005. Staff turnover and quality of care in nursing homes. Med. Care 43 (6), 616–626. doi:http://dx.doi.org/10.1097/01.mlr.0000163661.67170.b9.

Castle, N.G., Engberg, J., Anderson, R., Men, A., 2007. Job satisfaction of nurse aides in nursing homes: intent to leave and turnover. Gerontologist 47 (2), 193–204. doi:http://dx.doi.org/10.1093/geront/47.2.193.

Chamberlain, S.A., Gruneir, A., Hoben, M., Squires, J.E., Cummings, G.G., Estabrooks, C.A., 2017. Influence of organizational context on nursing home staff burnout: a cross-sectional survey of care aides in Western Canada. Int. J. Nurs. Stud. 71, 60–69. doi:http://dx.doi.org/10.1016/j.ijnurstu.2017.02.024.

Clarke, E., 2001. Role conflicts & coping strategies in caregiving. A symbolic interactionist view. J. Psychosoc. Nurs. Ment. Health Serv. 39 (1), 28–37.

Conley, P.R., Sackett, P.R., 1987. Effects of using high- versus low-performing job incumbents as sources of job-analysis information. J. Appl. Psychol. 72 (3), 434–437. doi:http://dx.doi.org/10.1037/0021-9010.72.3.434.

Cooper, S.L., Carleton, H.L., Chamberlain, S.A., Cummings, G.G., Bambrick, W., Estabrooks, C.A., 2016. Burnout in the nursing home health care aide: a systematic review. Burn. Res. 3 (3), 76–87. doi:http://dx.doi.org/10.1016/j.burn.2016.06.003.

Corazzini, K.N., Mueller, C., Anderson, R.A., Day, L., Hunt-McKinney, S., Porter, K., 2013. Pain medication management in nursing homes and nursing scope of practice. J. Gerontol. Nurs. 39 (4), 40–46. doi:http://dx.doi.org/10.3928/00989134-20130220-02.

Crogan, N.L., Shultz, J.A., 2000. Nursing assistants' perceptions of barriers to nutrition care for residents in long-term care facilities. J. Nurses Staff Dev. 16 (5), 216–221. doi:http://dx.doi.org/10.1097/00124645-200009000-00004.

Donoghue, C., Castle, N.G., 2009. Leadership styles of nursing home administrators and their association with staff turnover. Gerontologist 49 (2), 166–174. doi:http://dx.doi.org/10.1093/geront/gnp021.

Eaton, S.C., 2000. Beyond' unloving care': linking human resource management and patient care quality in nursing homes. Int. J. Hum. Resour. Manag. 11 (3), 591–616. doi:http://dx.doi.org/10.1080/095851900339774.

Eldercare Workforce Alliance, 2014. Advanced direct care worker. Ann. Longterm Care 22 (12), 2–5.

Franklin, M., 2005. Guide to Job Analysis. American Society for Training and Development.

Hewko, S.J., Cooper, S.L., Huynh, H., Spiwek, T.L., Carleton, H.L., Reid, S., Cummings, G.G., 2015. Invisible no more: a scoping review of the health care aide workforce literature. BMC Nurs. 14 (1), 38. doi:http://dx.doi.org/10.1186/s12912-015-0090-x.

Israel Ministry of Health, 2012. Personnel Standards in Nursing Units. Ministry of Health [Hebrew report], Jerusalem. https://www.old.health.gov.il/download/ng/0_3_2.pdf.

Kacmar, K.M., Collins, B.J., Harris, K.J., Judge, T.A., 2009. Core self-evaluations and job performance: the role of the perceived work environment. J. Appl. Psychol. 94 (6), 1572–1580. doi:http://dx.doi.org/10.1037/a0017498.

Kovner, C.T., Harrington, C., 2002. CMS study: correlation between staffing and quality. Am. J. Nurs. 102 (9), 65–66. doi:http://dx.doi.org/10.1097/00000446-200209000-00038.

Kroon, B., Van de Voorde, K., Van Veldhoven, M.J.P.M., 2009. Cross-level effects of high-performance work practices on burnout: two counteracting mediating mechanisms compared. Person. Rev. 38 (5), 509–525. doi:http://dx.doi.org/10.1108/00483480910978027.

Lekan-Rutledge, D., Palmer, M.H., Belyea, M., 1998. In their own words: nursing assistants' perceptions of barriers to implementation of prompted voiding in long-term care. Gerontologist 38 (3), 370–378. doi:http://dx.doi.org/10.1093/geront/38.3.370.

Liu, L.-F., Liu, W.-P., Wang, J.-Y., 2011. Work autonomy of certified nursing assistants in long-term care facilities: discrepant perceptions between nursing supervisors and certified nursing assistants. J. Am. Med. Dir. Assoc. 12 (7), 524–534. doi:http://dx.doi.org/10.1016/j.jamda.2010.05.006.

McCormick, E.J., Jeanneret, P.R., Mecham, R.C., 1972. A study of job characteristics and job dimensions as based on the Position Analysis Questionnaire (PAQ). J. Appl. Psychol. 56 (4), 347–368. doi:http://dx.doi.org/10.1037/h0033099.

McGillis Hall, L., McGilton, K.S., Krejci, J., Pringle, D., Johnston, E., Fairley, L., Brown, M., 2005. Enhancing the quality of supportive supervisory behavior in long-term care facilities. J. Nurs. Adm. 35 (4), 181–187.

McGilton, K.S., Bowers, B.J., Heath, H., Shannon, K., Dellefield, M.E., Prentice, D., Siegel, E.O., Meyer, J., Chu, C.H., Ploeg, J., Boscart, V.M., Corazzini, K.N., Anderson,

R.A., Mueller, C.A., 2016. Recommendations from the international consortium on professional nursing practice in long-term care homes. J. Am. Med. Dir. Assoc. 17 (2), 99–103. doi:http://dx.doi.org/10.1016/j.jamda.2015.11.001.
Meier, L.L., Semmer, N.K., 2018. Illegitimate tasks as assessed by incumbents and supervisors: converging only modestly but predicting strain as assessed by incumbents, supervisors, and partners. Eur. J. Work Organ. Psychol. 27 (6), 764–776. doi:http://dx.doi.org/10.1080/1359432X.2018.1526785.
Morley, J.E., 2014. Certified nursing assistants: a key to resident quality of life. J. Am. Med. Dir. Assoc. 15 (9), 610–612. doi:http://dx.doi.org/10.1016/j.jamda.2014.06.016.
Myers, D., 2012. Social Psychology. McGraw-Hill, NY.
Pennington, K., Scott, J., Magilvy, K., 2003. The role of certified nursing assistants in nursing homes. J. Nurs. Adm. 33 (11), 578–584. doi:http://dx.doi.org/10.1097/00005110-200311000-00007.
Quinn, M.M., Markkanen, P.K., Galligan, C.J., Sama, S.R., Kriebel, D., Gore, R.J., Brouillette, N.M., Okyere, D., Sun, C., Punnett, L., Laramie, A.K., Davis, L., 2016. Occupational health of home care aides: results of the Safe Home Care Survey. Occup. Environ. Med. 73 (4), 237–245. doi:http://dx.doi.org/10.1136/oemed-2015-103031.
Rolland, Y., Tolson, D., Morley, J.E., Vellas, B., 2014. The International Association of Gerontology and Geriatrics (IAGG) nursing home initiative. J. Am. Med. Dir. Assoc. 15 (5), 307–308. doi:http://dx.doi.org/10.1016/j.jamda.2014.03.002.
Ron, P., 2008. Relations between work stressors and well-being among nursing assistants in nursing homes. Aging Clin. Exp. Res. 20 (4), 359–367. doi:http://dx.doi.org/10.1007/BF03324869.
Sanford, A.M., Orrell, M., Tolson, D., Abbatecola, A.M., Arai, H., Bauer, J.M., Cruz-Jentoft, A.J., Dong, B., Ga, H., Goel, A., Hajjar, R., Holmerova, I., Katz, P.R., Koopmans, R.T.C.M., Rolland, Y., Visvanathan, R., Woo, J., Morley, J.E., Vellas, B., 2015. An international definition for "nursing home". J. Am. Med. Dir. Assoc. 16 (3), 181–184. doi:http://dx.doi.org/10.1016/j.jamda.2014.12.013.
Schnelle, J.F., Simmons, S.F., Harrington, C., Cadogan, M., Garcia, E.M., Bates-Jensen, B., 2004. Relationship of nursing home staffing to quality of care. Health Serv. Res. 39 (2), 225–250. doi:http://dx.doi.org/10.1111/j.1475-6773.2004.00225.x.
Sengupta, M., Harris-Kojetin, L.D., Ejaz, F.K., 2010. A national overview of the training received by certified nursing assistants working in U.S. nursing homes. Gerontol. Geriatr. Educ. 31 (3), 201–219. doi:http://dx.doi.org/10.1080/02701960.2010.503122.
Shachar, N., Mitelpunkt, A., Kozlovski, T., Galili, T., Frostig, T., Brill, B., Marcus-Kalish, M., Benjamini, Y., 2018. The importance of nonlinear transformations use in medical data analysis. JMIR Med. Inform. 6 (2), e27. doi:http://dx.doi.org/10.2196/medinform.7992.
Shippee, T.P., Henning-Smith, C., Gaugler, J.E., Held, R., Kane, R.L., 2017. Family satisfaction with nursing home care: the role of facility characteristics and resident quality-of-life scores. Res. Aging 39 (3), 418–442. doi:http://dx.doi.org/10.1177/0164027515615182.
Siegel, E.O., Young, H.M., 2010. Communication between nurses and unlicensed assistive personnel in nursing homes: explicit expectations. J. Gerontol. Nurs. 36 (12), 32–37. doi:http://dx.doi.org/10.3928/00989134-20100702-02.
Siegel, E.O., Young, H.M., Mitchell, P.H., Shannon, S.E., 2008. Nurse preparation and organizational support for supervision of unlicensed assistive personnel in nursing homes: a qualitative exploration. Gerontologist 48 (4), 453–463. doi:http://dx.doi.org/10.1093/geront/48.4.453.
Spector, P.E., Jex, S.M., 1991. Relations of job characteristics from multiple data sources with employee affect, absence, turnover intentions, and health. J. Appl. Psychol. 76 (1), 46–53. doi:http://dx.doi.org/10.1037/0021-9010.76.1.46.
Tolson, D., Rolland, Y., Andrieu, S., Aquino, J.-P., Beard, J., Benetos, A., Berrut, G., Coll-Planas, L., Dong, B., Forette, F., Franco, A., Franzoni, S., Salva, A., Swagerty, D., Trabucchi, M., Vellas, B., Volicer, L., Morley, J.E., The International Association of, G, Geriatrics/World Health Organization/Society Francaise de Gerontologie et de Geriatrie Task, F, 2011. International Association of Gerontology and Geriatrics: a global agenda for clinical research and quality of care in nursing homes. J. Am. Med. Dir. Assoc. 12 (3), 184–189. doi:http://dx.doi.org/10.1016/j.jamda.2010.12.013.
Tolson, D., Rolland, Y., Katz, P.R., Woo, J., Morley, J.E., Vellas, B., 2013. An international survey of nursing homes. J. Am. Med. Dir. Assoc. 14 (7), 459–462. doi:http://dx.doi.org/10.1016/j.jamda.2013.04.005.
Voskuijl, O.F., van Sliedregt, T., 2002. Determinants of interrater reliability of job analysis: a meta-analysis. Eur. J. Psychol. Assess. 18 (1), 52–62. doi:http://dx.doi.org/10.1027//1015-5759.18.1.52.
Watkins, D., Cheung, S., 1995. Culture, gender, and response bias: an analysis of responses to the Self-Description Questionnaire. J. Cross Psychol. 26 (5), 490–504. doi:http://dx.doi.org/10.1177/0022022195265003.
Yeatts, D.E., Cready, C., Swan, J., Shen, Y., 2010. The perception of "training availability" among certified nurse aides: relationship to CNA performance, turnover, attitudes, burnout, and empowerment. Gerontol. Geriatr. Educ. 31 (2), 115–132. doi:http://dx.doi.org/10.1080/02701961003795722.
Zhang, Y., Xie, Y.H., 2017. Authoritarian leadership and extra-role behaviors: a role-perception perspective. Manag. Organ. Rev. 13 (1), 147–166. doi:http://dx.doi.org/10.1017/mor.2016.36.