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# Individual, family, job, and organizational factors associated with retirement intentions among older long-term care workers: A systematic review

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ABSTRACT

This systematic review synthesized prior quantitative research on individual, family, job, and organizational factors associated with retirement intentions (RI) among older long-term care (LTC) workers. Seven databases were searched for peer-reviewed studies. RI were defined as early (<65 years) or late (>65 years). To assess the methodological quality, we used JBI's checklists. The PRISMA statement guided this review. After duplicates were removed, 4 489 records were identified. A final sample of six articles was selected as eligible for inclusion. Current findings show weak social support, high physical job demands, and type of LTC occupation as important determinants for *early* RI. Strong social support and good job resources are important determinants fore *late* RI. In contrast to earlier research on other groups of older workers, this review shows no statistically associations between health nor emotional job demands and early RI for LTC workers. The results are discussed using the JD-R theory.



## Introduction

Workforce shortage in long-term care is of major concern in most OECD countries. To prevent future workforce shortages, several initiatives have been proposed. In the United States, solutions to attract and retain an adequate workforce in long-term care have been initiated, introducing minimum nurse staffing standards and making investments to strengthen the overall healthcare staff, including long-term care workers. Another politically initiated solution to counteract future workforce shortages, which has been used in several countries, is to extend older workers' working life by increasing the age of retirement and state pension age.[1,2]

However, the opportunity to extend working life is unequally distributed within different occupational sectors.[3] Older workers in sectors with physically demanding work, such as long-term care (LTC),[4–7] might be particularly challenged by increases in the state pension age, as workers with physically demanding work tend to retire earlier than other occupations.[6–8] LTC comprise health and social care workers, such as nurses or personal care workers, including both home-based or institutional-based care for older people.[2] The age at which older LTC workers intend to retire does not necessarily correspond with the state's political aims of postponing retirement.[8] Workers with physically demanding work tasks, such as those in LTC, tend to retire early [9] and at younger chronological ages than workers in general.[2,10] However, older workers in low-skilled and low-paid jobs – such as in LTC – have been neglected in research, and there is little knowledge of factors influencing them to continue or stop working.[6,11]

Previous reviews have identified several aspects associated with retirement timing among older workers: factors related to the meaning of ageing[12] for an extended working life; motivational factors[13] for the will and ability to work longer; occupational and economic factors[14] regarding retirement timing; psychosocial workplace factors[15] as determinants for retirement intentions and actual retirement; work-related factors[16] influencing older workers' continued workforce participation; sociological factors[17] of post-retirement work; personal and organizational factors[18] of older nurses' retirement timing; and individual, work,

*Abbreviations:* LTC, Long-Term Care; RI, Retirement Intentions; OECD, Organisation for Economic Co-operation and Development; JD-R, Job Demands–Resources; JBI, Joanna Briggs Institute; PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses

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and environmental factors[9] regarding early retirement and strategies for extended working lives. Previous reviews on retirement timing have investigated older workers in general, rather than focusing on any specific occupational sector.[15,16] An exception is Markowski et al.,[18] who investigated older nurses and midwives in the health care sector. The present review therefore focused exclusively on the scarcely studied LTC sector.

### *Defining older LTC workers' early and late retirement intentions*

LTC is dominated by low-paid middle-aged female workers, with a higher median age (+1.5 years) than the general workforce in OECD countries.[2] Moreover, perceived job quality and wages are lower in the LTC sector than, for example, in hospitals. Non-standard temporary employment is more common in the LTC sector than in health care, and LTC workers tend to retire at a lower chronological age than the average workers.[2]

We use Fisher et al.[19] trichotomization of "early", "on-time", and "late" retirement. Late or early retirement is relative to what constitutes "on-time" or normal retirement age in a specific sector or national context, which often is determined by individuals' chronological age.[20] In this review, we defined normal or "on-time" retirement age as 65 years, based on the definition of the normal retirement age in the reviewed articles.[21–23] Early retirement intention is defined as age 64 or younger, and late retirement intention as age 66 or older. Retirement intentions (RI) are measured by individuals' planned, preferred, or expected chronological age for retirement.[19]

We conceptually separate retirement intentions from "turnover" and "actual retirement". Turnover is defined as leaving work followed by continued employment in another occupation.[20] The subjective *retirement intention* is differentiated from the *actual retirement*[24] in that the intention occurs prior to the actual behaviour.[25] Regardless of if individuals' retirement intention is early, on-time or late, the actual retirement, or the realization of the intentions, always occurs after the intentions. The importance of focusing on retirement intentions, and not actual retirement, is that intentions have a particular interest for preventive work, policies, and planning of the future workforce.[26] Consequently, to achieve the political goal of postponing retirement age, the focus needs to be on people still active in the workforce. The *prospective* perspective of retirement intentions, in contrast to the *retrospective* perspective of actual retirement, is useful for capturing employees before they exit work.[27] Furthermore, the reasons for retirement cannot always be retrospectively ascertained by measuring actual retirement.

### *Theoretical framework*

Several job and organizational factors are significant for the timing of the retirement process. For example, poor mental or physical health may be an outcome of workplace characteristics such as high physical and psychological strain or poor workplace design.[28] Health problems may occur in work with high job demands and low job resources, which could increase early RI.[29]

To understand the link between individual, job, and organizational factors and retirement intentions, we use Bakker and Demerouti's[30] *Job Demands–Resources theory* (JD-R). The JD-R theory postulates that strain is created by job demands, but that job resources may buffer (moderate) the effect of high job demands. Job demands and job resources are the drivers of motivational and health-impairment processes.[30] Positive psychosocial factors such as strong social support, classified as a job resource, may increase older workers' intentions to stay longer in work and postpone their retirement. Negative psychosocial factors such as high work pressure, classified as a job demand, may cause health impairments and potentially push older workers out of work, i.e. to retire early. We follow the JD-R theory and focus on the relation between positive job resources and negative job demands on the one hand, and retirement intentions on the other.

In research on retirement and RI, several concepts are recurring. The push and pull concepts explain *early* retirement timing, and the stuck and stay concepts explain *late* retirement timing.[31] For example, individuals can be *pushed out* of work due to poor health[28] or job dissatisfaction,[32] or *pulled* out of work due to a desire for increased leisure and family time.[28] Individuals can be *stuck* at work because they cannot afford to retire or they can choose to *stay* at work because of positive work engagement.[28] As JD-R theory mainly focuses on job characteristics, we will use the concepts of push and pull as well as stuck and stay to explain how different factors are related to early and late RI to capture both job characteristics and factors outside the work environment.

We searched for all available published studies that used quantitative methodology to assess factors that were statistically significantly associated with early and late retirement intentions, respectively. This systematic review, based on quantitative studies, is to our knowledge the first to investigate factors associated with RI among older workers in the LTC sector.

The aim of this study was to perform a systematic review of socio-economic, individual, family, job, and organizational factors associated with retirement intentions among older (45+) LTC workers. The research questions were: which of these factors are associated with (a) early retirement intention, and which with (b) late retirement intention?

## Materials and method

### *Search strategy*

This review was guided by the 2020 PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement.[33] An iterative approach was used to build the search strategy, and so the strategy was re-evaluated several times due to new search findings. A comprehensive search string was developed for Scopus by an academic search specialist from the [Blinded for review] library (see Acknowledgments [Blinded for review]) and adjusted for the remaining electronic databases. Search strategies were adapted to take account of the limitations of each database. Limitations used were field tags, title, abstract, and keywords (TITLE-ABS-KEY). The Boolean operator OR was used within every concept, and the Boolean operator AND was used between concepts (see Supplementary Appendix B: Search documentation of descriptors and items found).

### *Inclusion and exclusion criteria*

Inclusion and exclusion criteria were assessed according to the PEOS acronym. Population (P) comprised older LTC workers aged 45 +; Exposure (E) comprised socio-economic, individual, family, job, and organizational factors; Outcome (O) comprised early or late retirement intentions; and Study type (S) comprised quantitative studies.

### *Population*

The study population included personal care workers, nurses, and care staff aged 45+ working in institutional and community-based long-term care. One inclusion criterion was that at least 60 % of the study population were nurses or personal care workers (or equivalent). Comparative studies where the comparison group constituted an occupational category other than LTC were included. Studies were

excluded if they were based on populations composed of participants who had explicit health problems (e.g. chronic back pain, cancer treatment), or were on disability pension, already retired, or unemployed.

According to Zacher and Rudolph,[34] previous research cut-offs to define older workers have been 45, 50, or 55 years, for example. Among OECD countries, 55+ is commonly used as a cut-off to define older workers for the whole working population.[35] In the reviewed studies, two articles[36,37] use 55+ as a cut-off, but only Mäcken et al.[36] explicitly define older workers. Four articles[38–41] use 45+ as a cut-off. Focusing only on the LTC sector, the median age of workers is 45 years, which is significantly higher than in other sectors.[2] From age 50, it becomes difficult for employers to retain the LTC workforce.[2] To capture LTC workers before they retire, we used the median age of 45+ as a cut-off in LTC. By choosing the lowest chronological cut-off age to define older workers illustrated by Zacher and Rudolph,[34] we minimized the risk of excluding studies eligible for inclusion.

*Exposure*

Covariate variables were grouped according to the three types of factors identified by Wang and Shultz[3]: (1) individual, (2) family, and (3) job and organization.

*Individual factors.* Individual factors (including socio-economic measures) comprised variables such as age, gender, education, ethnicity, perceived general health, income, and personality (negative or positive). Off-the-job embeddedness was also included, referring to how well employees are anchored in the society where they live (i.e. outside work).

*Family factors.* Family factors included variables such as marital or cohabiting status, and prevalence of retired peers (e.g. friends, acquaintances, family members). The pull-statement: "I want the time to enjoy other things in my life" [than work] was also used as an item in this category.

*Job and organizational factors.* Job and organizational factors included all types of working conditions: information about the employees and measurement of the physical work situation, such as working schedule, career history, and degree of seniority (years in organization), type of occupation, negative stereotyping of older people at the workplace, and lack of incentives to extend working life offered by the employer, and psychosocial work environment included variables such as job satisfaction, job demands, social support, and job resources.

*Outcome*

We defined early and late retirement intentions in relation to "on-time" (i.e. normal) retirement, referring to the age of 65 in most of the reviewed articles. In Falk et al.,[37] the normal or on-time retirement age was 66 years at the time of the study, but for simplicity, the chronological cut-off age was set to 65 years for all reviewed articles. Consequently, intended retirement at age $<65$ was referred to as "early", and intended retirement at age $>65$ was referred to as "late". Retirement intentions (RI) included variables such as incentives to postpone retirement or to retire early, intended age of retirement, intention to retire within an estimated time span of five years ("approximately at which age are individuals planning to retire?"), expected chronological age for retirement, and intention to continue working or to "leave work", where leaving work refers to an exit from working life with no return. In Radford et al.,[40] turnover intentions were used to measure retirement intentions *via* the item "Over the past month, I have seriously thought about resigning from the workforce altogether".

We included empirical research conducted through quantitative methods (experimental, intervention, cross-sectional, longitudinal) in studies published during 2000–2021. The time period was chosen due to the fact that labour force participation among older workers started to increase from the turn of the millennium in most OECD countries.[21] Studies that did not include individual, family, job, or organizational factors were excluded, as were studies that used qualitative methods, or studies classified as commentary, opinions, discussions, reviews, or published books.

Seven databases were selected to ascertain that the relevant research fields were covered. The literature search was carried out in the following electronic bibliographical databases: Web of Science, PubMed, SocINDEX, Scopus, CINAHL, PsycINFO, and Medline (see Supplementary Appendix B: Search documentation of descriptors and items found). Filters were applied for publication type (peer-reviewed articles), publication date (2000–2021), and language (English or Scandinavian). The literature search was conducted in August 2021.

*Selection process*

In an initial phase in the study selection, the specialist librarian removed duplicates. The remaining full texts retrieved in the main search were screened against the inclusion and exclusion criteria. The double-blinded screening process of titles and abstracts was performed by the main author [Blinded for review] and a postdoctoral fellow involved in an early process of the study, using the Rayyan software system. A full-text review of the included records was performed independently by two of the authors [Blinded for review]. The bibliographies of the final set of records were reviewed to identify additional articles. A flowchart depicting the study selection process is given in Fig. 1.

*Data extraction and synthesis*

The first author performed the data extraction. Initially, the characteristics of each study were summarized in a table with predefined themes: authors, year, country, journal, study aim, design and methods, population, exposure, outcome, and main results (Table 3). The analyses in the reviewed articles included bivariate analysis investigating differences in means (checked by e.g. *t*-test, chi[2] test), correlations by multinominal/multivariate regressions, and odds ratios by logistic regressions. In the articles with mixed method design, only the quantitative results were extracted. Results with a statistically significant or non-significant association between the dependent (outcome) and the independent (exposure) variables in the reviewed studies were collected.

We constructed tables outlined by Wang and Shultz's[3] aforementioned model categorizing various factors impacting on the retirement timing process: individual, family, job, and organizational factors. We used an explorative approach to thematically assess job and organizational factors guided by Browne et al.'s[15] psychosocial work dimensions. We summarized the main findings in a table and separated the factors accordingly. Finally, a narrative synthesis of the data extraction was performed. Due to the heterogeneity of the data, with variability in aspects such as study design, types of exposure, and outcome, it was not possible to carry out a meta-analysis.

*Job satisfaction* was operationalized as both positive and negative work characteristics. *Job demand* included both physical and emotional job demands. *Social support* was operationalized as perceived quality of leadership, supervisor support, and job embeddedness. *Job resources* were operationalized as perceived opportunities for career development, recognition (by workers

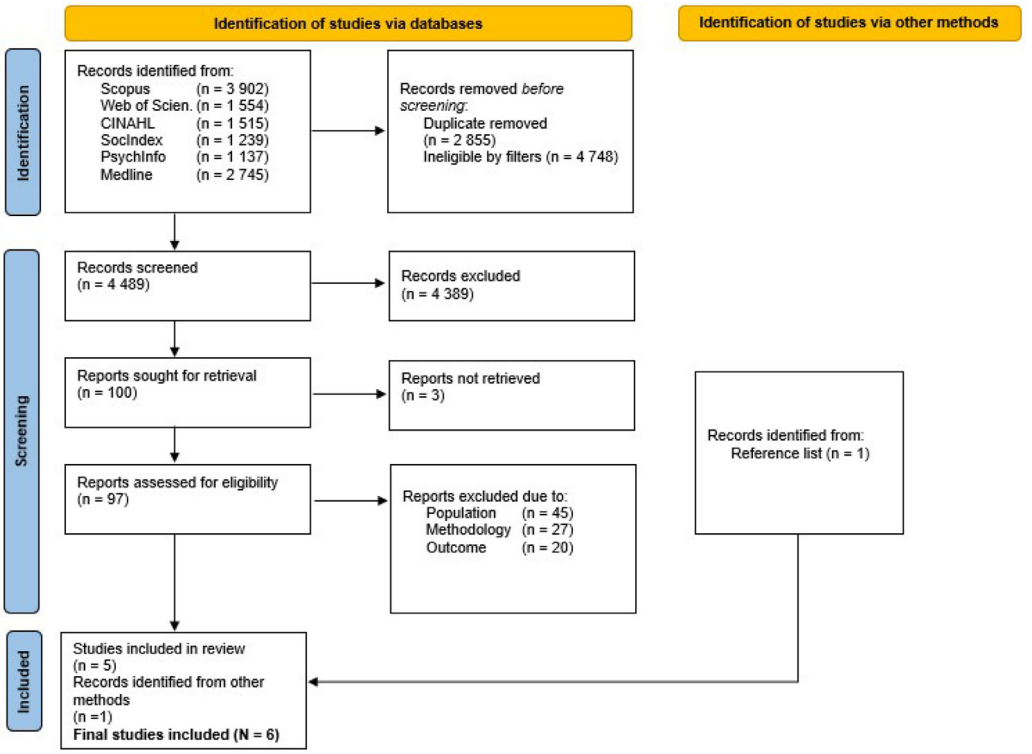


**Fig. 1.** PRISMA flowchart of the study selection process.

and managers), work variety, and job control. Job control was operationalized as a job resource (autonomy, work predictability, and influence at work).

### *Quality assessment*

To assess the methodological quality, we followed checklists from the Joanna Briggs Institute (JBI).[42] The quality assessment was conducted on the final sample of the full text articles. In the initial phase of the critical appraisal process, the JBI quality assessment tool was piloted[43] by three of the authors [Blinded for review]. The following quality assessment was conducted independently by [Blinded for review]. Disagreement between reviewers was solved during a consensus meeting. The different criteria used in the quality assessment were weighted equally. The total score was divided by the number of appraisal questions. Depending on study design, the critical appraisal addressed 8–11 questions delimited to sample, study subject, measurement of exposure and outcome, confounders, and statistical analysis (Table 1).

## Results

### *Study characteristics*

After duplicates of articles were removed, the electronic bibliographical searches yielded a total of 4489 records. In the first screening phase, we excluded 4389 records because the titles and abstracts did not meet the eligibility criteria, leaving 100 records for full text assessment. Three of these 100 could not be retrieved, and so the second screening phase involved 97 records, 92 of which were excluded (see Supplementary Appendix D: Reasons for exclusion). With the addition of one extra record identified *via* reference lists, a total of six articles met the eligibility criteria for inclusion. These six articles presented analyses involving individual, family, job, and organizational factors (mainly psychosocial) related to retirement intention outcomes. We considered that studies analysing single factors (≤2 analyses) were not enough to draw any conclusions (see Supplementary Appendix A: Single factor analysis).

A PRISMA flowchart depicting the search process is presented in Fig. 1. The main reason for exclusion of full text publications was

**Table 1**
Quality assessment scores and summarized study characteristics for the articles reviewed.

| Study characteristics *Reference* (Author/s, year) | *Country* | *Design* | *Population* | | | *Quality score* (% total criteria met) |
|---|---|---|---|---|---|---|
| | | | *N* | *Age* | *Women (%)* | |
| Blakeley & Ribeiro, 2008 | Canada | Cross-sectional | 200 | 45–64 | 98 % | 6/8 (75 %) |
| Boumans et al., 2008 | Belgium | Cross-sectional | 143 | 45+ | 90 % | 7/8 (88 %) |
| Falk et al., 2017 | USA | Cross-sectional | 3 171 | 55+ | 93 % | 8/8 (100 %) |
| Mäcken et al., 2019 | Germany | Case-control | 114 | 55–65 | 91 % | 9/10 (90 %) |
| Radford et al., 2015 | Australia | Cross-sectional | 2 118 | 45+ | 95 % | 8/8 (100 %) |
| Sejbaek et al., 2013 | Denmark | Cohort | 2 444 | 45–57 | 96 % | 9/11 (81 %) |

*Note:* All six articles are listed in Appendix A: Articles reviewed.

wrong study population ($n$ = 45). Studies carried out by qualitative methods were excluded ($n$ = 27), as were studies with *actual* retirement as an outcome ($n$ = 20). One additional record was identified *via* other sources, specifically by screening the reference lists in articles eligible for inclusion (Boumans et al.,[39] found in Sejbaek et al.[10]). Selected study characteristics of the reviewed articles are summarized in Table 1 along with the quality assessment scores.

The reviewed articles were published during 2008–2019 and utilized data from six countries. Four studies were cross-sectional,[37–40] one was a cohort study,[10] and one was a case-control study.[36] The cumulative total number of participants was 6421. Three studies had small samples (≤200 participants).[36,38,39] The remaining three studies had larger samples (≥2000 participants).[10,37,40] All six articles exclusively used self-reported data from questionnaires, and all except one used primary data; the single exception used secondary data from the US National Sample Survey of Nurse Practitioners.[37] Four articles included a study population aged 45+ and two articles a study population aged 55+. The majority (90–98 %) of the participants were female. All of the articles scored ≥75 % in the critical appraisal.

### *Individual factors*

Individual factors were treated as potential covariates in explaining some of the variability of early or late retirement intentions in the reviewed articles. We selected three individual factors in our analysis: chronological age, perceived general health, and income (Table 2).

Five of the six articles estimated the association between individual factors and early retirement intention (Table 2). Chronological age and perceived health showed no statistically significant association with early retirement intention. Health was not associated with the intention to leave work, i.e. early RI, among LTC workers in Australia.[40] In a study among older Belgian LTC workers, health was poorer among those intending to retire early than those intending to retire late,[39] but health was not statistically associated with early retirement intention in the final analysis. The role of income was not clearly connected with early retirement intention among LTC workers. For example, Falk et al.[37] reported that both low salary and high salary were associated with early retirement intention, whereas two other studies showed non-significant results related to salary level.[38,39]

One article estimated the association between individual factors and late RI.[40] However, LTC workers' perceived health was not associated with the intention to stay in work longer.[40]

### *Family factors*

Two of the six articles assessed the association between family factors (measured as marital or cohabiting status) and *early retirement intention*. Being an older LTC worker and living as a cohabitant was associated with the intention to retire early,[39] in comparison to being single. The association between marital status and early retirement intention was significant among older LTC workers (60+), but not their 55–59-year-old counterparts.[37] In Blakeley and Ribeiro's[38] study, the top reason associated with early retirement intention for nurses and health care staff was wanting time to enjoy things in life other than work.

No studies assessed the associations between *late* retirement intentions and family factors.

### *Job and organizational factors*

Six articles estimated the association between job and organizational (primarily psychosocial) factors for *early retirement intentions*. Several of the work factors investigated in these studies were linked to older LTC workers' intention to *retire early*: job demands, social support, and type of occupation.

Older LTC workers' intention to *retire late* was linked to perceiving a high level of social support and having good job resources (Table 4).

#### *Job demands*

The association between job demands and *intention to retire early* was estimated in four of the six articles. Physical but not emotional job demands were associated with early retirement intention among older LTC workers.[10,36,37,39]

Neither physical nor emotional job demands were associated with intention to delay retirement.[10,38] However, the top reason for both LTC and non-LTC workers to postpone retirement was a desire for "lighter work".[38]

#### *Social support*

Two articles[39,40] considered the influence of social support on intention to retire *early*. For example, weak social support and weak job-embeddedness were associated with *early* RI.[40] However, the quality of leadership was not associated with early retirement intentions.[39]

Three articles looked at the influence of social support on the intention to retire *late*. Compared to long-term care workers in institutional care, older community care workers in home-based care reported more supervisor support, stronger job-embeddedness, and higher *intention to retire late*.[40] Recognition for seniority was reported as a top reason to postpone retirement intention among older LTC workers (Staff Nurses), but not among nurse managers, educators, and researchers (MER).[38] Quality of leadership was not associated with LTC workers' late retirement intentions.[10]

#### *Organizational factors*

Type of work or occupation was studied in relation to early[10,36,37,40] and late retirement intentions.[40] The reviewed articles investigated differences between occupational sectors (LTC vs. non-LTC) and the association with early RI. For example, in Mäcken et al.,[36] the preferred retirement age among LTC workers was 0.87 years lower than among non-LTC workers, but no differences for the expected retirement age were found between groups. The reviewed articles also studied differences between area of employment within the LTC sector and association with early RI, such as differences between community and institutional LTC and retirement timing. Older workers in community LTC reported less intentions to leave early than those in institutional LTC.[40] Consequently, older community LTC workers reported higher intentions to stay longer in work.[40]

#### *Job satisfaction*

Three of the six articles examined the influence of job satisfaction on *intention to retire early*. Low job satisfaction and low affective organizational commitment were associated with early retirement intention.[10,37,39] For example, older workers who were only "satisfied" with work expressed higher intention to retire within five years than older workers who were "very satisfied".[37] However, among older dissatisfied and very dissatisfied workers, the relative risk of retiring within five years was significantly higher among the younger (55–59) but not in the older (60+) age cohort.[37]

Job satisfaction showed no association with *late* RI.[10]

#### *Job resources*

Job resources were studied in relation to both intention to retire early and intention to retire late. Having few opportunities for challenge and development in one's work was the only job resource that was associated with the *intention to retire early*.[39]

**Table 2**
Characteristics of the reviewed articles

| *Reference; country;* journal | *Aim* | *Population;* sample size; age range | *Design; method* | *Confounders* | *Exposure* | *Outcome* | *Results*<br>*Main findings* |
|---|---|---|---|---|---|---|---|
| Blakeley & Ribeiro, 2008; J Nursing Management Canada; | To gain insight into older nurses' retirement intentions and to establish factors determining early retirement intention | Staff nurses (SN) in acute care, LTC, and community health care vs. managers/ educators/ researchers (MER); *n* = 124; 45–64 | Cross-sectional; *t*-test | Demographics: gender, living with spouse, annual household income, diploma degree, work setting, day or shift work, planned age to retire | 50 possible reasons for early retirement intention 29 potential incentives to work longer | Early retirement intention: <65<br>Late retirement intention: >65 | 71 % planned to retire at 60. Top reasons for early retirement: lack of organizational incentives (SN), financial reasons (MER). Top three reasons to postpone retirement (SN and MER): acknowledgment for good work, having a summer holiday, recognition for seniority. Top reason to postpone early retirement: having a summer holiday (SN), having lighter work (MER). Top reasons for early retirement intention (SN and MER): wanting the time to enjoy other things in life (*ns*). |
| Boumans et al. [a], 2008; Belgium; Advanced Nursing | To examine demographics and work environment factors associated with intention to retire among older nurses | Nurses in hospital; *n* = 100; 45+ | Cross-sectional; bivariate *t*-test, multivariate logistic regression | Individual factors: age, gender, financial considerations, perceived health, personality, career history, home situation, retired peers | 23 considerations for stopping working <65 | Early retirement intention: <65<br>Late retirement intention: >65 | 77 % intended to stop working <65. *t*-test (age and career history as ratio variables): early retirement intention was associated with poorer general health, fewer opportunities for development, more difficulties with changes in work situation, higher workload, more stereotyping of older people. Final logistic regression: intended early retirement was associated with female gender, living with a partner, high workload, few opportunities for challenge and development. Perceived health was *ns*. |
| *Reference; country;* journal | *Aim* | *Population;* sample size; age range | *Design; method* | *Confounders* | *Exposure* | *Outcome* | *Results*<br>*Main findings* |
| Falk et al., 2017; USA; American Association of Nurse Practitioners | To study factors associated with older nurses' intention to retire within five years | Nurse practitioners; *n* = 3 171; 55+ (55–59, 60+) | Cross-sectional; multivariate logistic regression | Gender, race/ethnicity, marital status, nursing degree | Type of practice, income, hours worked/week, job satisfaction | Retirement intention (within 5 years) | 15 % aged 55–59 vs. 59 % aged 60+ intended to retire within ≤5 yrs. Intention to retire in ≤5 yrs was associated with lower nursing degree, working part time, lower income, and satisfaction with work (among 50–59 and 60+ age cohort combined), and with dissatisfaction with work (55–59 odds doubled). Among 60+, intent to retire was significant for job satisfaction but not for job dissatisfaction. |

(*continued on next page*)

**Table 2** (*Continued*)

| *Reference; country;* journal | *Aim* | *Population;* sample size; age range | *Design; method* | *Confounders* | *Exposure* | *Outcome* | *Results*<br>*Main findings* |
|---|---|---|---|---|---|---|---|
| Mäcken et al., 2019; Germany; Zeitschrift für Gerontologie und Geriatrie | To investigate working conditions and prospective retirement age of older employees in the health care sector (HCS) vs. other sectors | HCS: nurses, midwives, caring professions ($n$ = 114); 55–65 yrs Control group: Non-HCS ($n$ = 624); 55–65 yrs | Experimental case-control; linear and logistic regressions after coarsened exact matching | Socioeconomic covariates: age, gender, education, ethnicity, marital status, caring for grandchildren | Physical and mental work, recognition for work, perceiving one's own work as important, intention for voluntary work after retirement | Intention to work >65 Expected and preferred retirement age | Preferred retirement age was lower among HCS than non-HCS workers. Expected retirement age was *ns*. Hard physical work and not receiving deserved recognition were higher for HCS than non-HCS workers. Mental pressure and perceiving work as important did not differ between older HCS and older non-HCS workers (*ns*). |
| *Reference; country; journal* | *Aim* | *Population;* sample size; age range | *Design; method* | *Confounders* | *Exposure* | *Outcome* | *Results*<br>*Main findings* |
| Radford et al., 2015; Australia; Nursing Management | To study factors influencing older personal care workers' intentions to stay or leave Australian aged care employment | Personal care workers in community aged care (CAC, 54%) and long-term aged care (LTAC, 46 %); $n$ = 150; 45+ (74%) | Cross-sectional; $t$-test and hierarchical regression | Gender, age, health status and area of employment (CAC or LTAC) | Employment variables, perceived supervisor support, and on/off-the job embeddedness | *Intention to stay:* "for as long as possible" Intention to leave: "...seriously thought about resigning from the workforce altogether" | Higher intention to stay for CAC than LTAC workers. Age (<45 years vs. ≥45 years) and health not associated with intention to stay or leave. LTAC had significant higher intention to leave and lower intention to stay than CAC. Area of employment became *ns* when psychosocial work factors were added. Higher perceived supervisor support and higher on-the-job embeddedness were negatively associated with early retirement intention. |
| *Reference; country; journal* | *Aim* | *Population;* Sample size; Age range | *Design;* Method | *Confounders* | *Exposure* | *Outcome* | *Results*<br>*Main findings* |
| Sejbaek et al., 2013; Denmark; European J Public Health | To investigate associations between 12 work-related factors and early retirement intention | Eldercare sector leaders (10 %), nurses and therapists (11 %), health care helpers and assistants (70 %), other types of worker (9 %); $N$ = 2 444; T1: 45–57 years of age, T2: not turned 60 at T2 (45–57 at T1) | Longitudinal prospective study T1: 2006/7 T2: 2008/9 (average follow-up time 24 months); multinominal logistic regression | Gender, age, seniority, marital status, working schedule, type of occupation | Work pace, quantitative demands, emotional demands, role conflicts; predictability, possibilities of development, influence at work, quality of leadership; meaning at work, affective organizational commitment, fairness in the workplace | Very early retirement intention: <61 Early retirement intention: 62–64 Normal retirement intention: 65 | 56 % intended very early retirement, 30 % early retirement, and 14 % to work until 65. Factors associated with *early retirement* intention were work pace, emotional demands, possibilities of development, fairness in the workplace, affective organizational commitment, meaning at work, and physical strain. *Very early* (<61 yrs) retirement intention was associated with high physical strain and low affective organizational commitment. None of the work-related factors were associated with *early* retirement intention (*ns*). |

*Notes:* [a] Retrieved from Sejbaek et al., 2013. *ns*=non-significant.

**Table 3**
Individual factors associated with early RI.

| Variables | Association with early retirement intention | |
|---|---|---|
| | *Significant association* | *Non-significant association* |
| Chronological age | Falk et al. | Radford et al.; Sejbaek et al.; Boumans et al. |
| Perceived health | | Radford et al.; Boumans et al. |
| Financial incentives | Falk et al. [a] | Boumans et al.; Blakeley & Ribeiro [b] |

*Note:* [a] Both low and high income were associated with early retirement intention. [b] Income was reported as the lowest rated and non-significant reason for early retirement intention among LTC workers.

Job resources, e.g. being acknowledged for one's good work[38] or individuals' influence at work,[10] seemed to be statistically significant for the *intention to postpone* one's retirement.

Table 5 summarizes our findings from all six reviewed articles. According to this summary, physical job demands, social support, and type of LTC occupation had a statistically significant association with *the intention to retire early*, while social support and job resources were associated with the *intention to retire late*. No associations were found between older LTC workers' intention for early retirement and job resources, emotional job demands, chronological age, or health. Regarding the association between early RI and financial incentives, marital status or job satisfaction, the articles' findings were inconsistent, and no conclusions could be drawn.

**Table 4**
Job and organizational factors associated with early or late RI.

| | Association with retirement intentions | | | |
|---|---|---|---|---|
| | Early | | Late | |
| | Significant association | Non-significant association | Significant association | Non-significant association |
| ***Variables*** | | | | |
| ***Job satisfaction*** | | | | |
| Satisfied | Falk et al., 2017[a] | | | |
| Dissatisfied/very dissatisfied | Falk et al., 2017[b] | | | |
| Low affective organizational commitment | Sejbaek et al., 2013[c] | | | |
| Meaning at work | | Sejbaek et al., 2013 | | Sejbaek et al., 2013 |
| Fairness at the workplace | | Sejbaek et al., 2013 | | Sejbaek et al., 2013 |
| Quality of work climate | | Boumans et al., 2008 | | |
| ***Total (n)*** | ***3*** | ***3*** | ***0*** | ***2*** |
| ***Job demands*** | | | | |
| ***Physical job demands*** | | | | |
| Workload | Boumans et al., 2008 | | | |
| Hard physical work | Mäcken et al., 2019[d] | | | |
| High work pace | Sejbaek et al., 2013[c] | | | Sejbaek et al., 2013 |
| High quantitative demands | | Sejbaek et al., 2013 | | Sejbaek et al., 2013 |
| Having lighter work | | | | Blakeley & Ribeiro, 2008 [f] |
| ***Emotional job demands*** | | | | |
| Hard mental work | | Mäcken et al., 2019 | | |
| High emotional demands | | Sejbaek et al., 2013 | | Sejbaek et al., 2013 |
| Many role conflicts | | Sejbaek et al., 2013 | | Sejbaek et al., 2013 |
| ***Total (n)*** | ***3*** | ***4*** | ***0*** | ***5*** |
| ***Social support*** | | | | |
| Quality of leadership | | Boumans et al., 2008 | | Sejbaek et al., 2013 |
| Low perceived supervisor support | Radford et al., 2015 | | Radford et al., 2015 (High) | |
| Low on-the-job embeddedness | Radford et al., 2015 | | Radford et al., 2015 (High) | |
| Recognition for seniority | | | Blakeley & Ribeiro, 2008[e] | |
| ***Total (n)*** | ***2*** | ***1*** | ***3*** | ***1*** |
| ***Job resources*** | | | | |
| Few opportunities for challenge and development | Boumans et al., 2008 | | | |
| Possibilities of development | | | | Sejbaek et al., 2013 |
| Acknowledgment of good work | | | Blakeley & Ribeiro, 2008[e] | |
| Recognition | | Mäcken et al., 2019 | | |
| Work variety | | Boumans et al., 2008 | | |
| Autonomy | | Boumans et al., 2008 | | |
| Task clarity | | Boumans et al., 2008 | | |
| Task significance | | Boumans et al., 2008 | | |
| Work predictability | | | Sejbaek et al., 2013 | |
| Influence at work | | | Sejbaek et al., 2013 | |
| Having summer holidays | | | Blakeley & Ribeiro, 2008[g] | |
| ***Total (n)*** | ***1*** | ***5*** | ***4*** | ***1*** |
| Type of occupation | Falk et al., 2017[b]; Radford et al., 2015[h] Sejbaek et al., 2013[j] | Mäcken et al., 2019[d] | Radford et al., 2015[i] | |
| ***Total (n)*** | ***4*** | ***1*** | ***1*** | ***0*** |

*Notes:* [a] Nurses aged 55–59, 60+, and combined; [b] Nurses aged 55–59; [c] Very early retirement intention (61 years or earlier); [d] Older health care sector workers (vs. non-health care workers); [e] Top reasons, sig. differences between, SN and MER; [f] Top reason for MER, non sig. difference between SN and MER; [g] Top reason for SN, non sig. difference between SN and MER; [h] Institutional long-term aged care workers; [i] Community aged care workers; [j] Health care helpers and assistants

**Table 5**
Summary of factors in reviewed articles associated with early or late retirement intention (Yes/No/Inconsistent).

| Variables | Individual, family, job and organizational factors | Supports association (yes/no/inconsistent) | |
|---|---|---|---|
| | | Early retirement intention | Late retirement intention |
| Chronological age | Individual | No | - |
| Health | Individual | No | - |
| Financial incentives | Individual | Inconsistent | - |
| Marital or cohabiting status | Family | Inconsistent | - |
| Physical job demands | Job and organizational | Yes | - |
| Type of occupation | Job and organizational | Yes | - |
| Social support | Job and organizational | Yes | Yes |
| Job resources | Job and organizational | No | Yes |
| Emotional job demands | Job and organizational | No | - |
| Job satisfaction | Job and organizational | Inconsistent | No |

*Notes*: Yes=there is a statistically significant association between variable and outcome; No=there is no statistically significant association between variable and outcome; Inconsistent=findings were inconsistent and no conclusions could be drawn.

## Discussion

The aim of this study was to perform a systematic review of studies on individual, family, job, and organizational factors associated with intentions to retire early or late among older LTC workers (45+). We reviewed six studies eligible for inclusion. Several psychosocial work factors that previous research has shown to be associated with older workers' retirement intentions in the general workforce were also, in this study, associated with older workers' retirement intentions in LTC. Our findings align with earlier findings on the general older workforce, with a statistically significant association between older LTC workers' *early* retirement intention and higher physical job demands and lower social support – potential push factors. Also, the present results align with earlier research on the general workforce, as factors significantly associated with older LTC workers' intention to retire *late* were having good social support and job resources – potential reasons to stay longer in work. Thus, our results correspond with the JD-R theory,[35] in the sense that high social support seemed to increase older workers' intention to stay put in LTC work, while the perception of low social support seemed to work in the opposite direction.

Inconsistent with the JD-R theory and in contrast to previous research on evidenced push factors for the general workforce, we did not find any statistically significant association between older LTC workers' *early* retirement intention and poorer health, higher mental job demands, or fewer job resources. For example, the most cited significant push factor for early *actual* retirement in the general workforce has been poor health,[19] which is in contrast to the current review focusing on retirement intentions. Health problems are more likely to occur in work with high job demands and low job resources, which could increase the risk of early retirement intention.[29] According to the JD-R theory,[30] higher job demands may push older LTC workers out of work, especially if job resources are lacking. We found job resources to be associated with late but not early retirement intentions. Thus, our review expands previous frames of reference on the relationship between individual and work-related factors, e.g. health and intended retirement timing among older LTC workers.

Radford et al.[40] suggested that the lack of a statistically significant association between perceived health and early retirement intention in LTC could be because LTC workers are committed to their work and value it more highly than the influence of their health status, or could be due to a selection bias such as the "healthy worker effect", where older LTC workers with poor health will have already left the workforce at the time of the study. One interpretation of these results is that poor health serves as push factor out of work for the general workforce but not necessarily among older LTC workers, i.e. LTC workers according to the reviewed studies seem to continue working despite poor health.

A Swedish qualitative study showed that LTC workers had relatively good health despite the working conditions with high job demands and low job resources.[44] However, LTC workers' thoughts about their future health were central in the retirement timing process: "The experience of working in eldercare increased awareness of old age bringing a higher propensity for illness, which had implications on the thinking and planning of retirement".[44(p6)] This may indicate LTC as characterized by specific working conditions focused on older people in need of care, which may increase the awareness of LTC workers' future self and their needs in old age. This may partly explain LTC workers' late RI.

Other possible explanations for the non-significant association between health and early retirement intentions concern older LTC workers' earlier life course, as duties like caring for children and older relatives, often gendered, or sick leave might have impacted negative on savings, wages, and pension benefits.[45] This might be consequential for older, usually female, workers being stuck at work due to financial necessities. However, several potential sources of bias are evident in the reviewed studies. Neither of the relevant articles in our review controlled for the potentially mediating effects of economic considerations between health and early retirement intention.[39,40] Moreover, the statistical power was low due to the small sample sizes in both studies.

While previous studies from the general workforce have found both emotional and physical job demands associated with early retirement intentions, our LTC sector study showed that the intention to retire early is linked to physical but not emotional job demands. For example, for the general older workforce, Chen and Gardiner's[16] review found both emotional and physical job demands associated with decreased work participation. Browne et al.[15] found limited evidence that higher job demands were associated with early RI among the general workforce. More research is needed to uncover which job demands function as hindrances or as challenging job demands.[30] This indicates, on the one hand, that specific job demand factors function as a hindrance, potentially pushing the individual out of work, and on the other hand, specific job demands function as a challenge, instead contributing to a continued working life.

In line with previous research on older workers in general, our review found no association between chronological age[46] and older LTC workers' early retirement intention. As Topa et al.[46(p52)] concluded: "age is neither the only nor the most important factor that affects decisions at the end of one's career." Furthermore, as outlined by Kooij et al.,[47] age and ageing might have multiple meanings not to be captured with a single measurement

of chronological age; for future research, it could be relevant to include other age concepts such as *subjective age* (how old one feels), *organizational age* (individual age perceptions in relation to one's job), and the *life span concept of age* (normative time tables throughout one's life course).[47(p366)] The subjectively perceived right time for retirement or the age of being "on time" among LTC workers does not necessarily correspond with the chronological age of 65 in the general workforce, as it is plausible that most LTC workers will have already left the workforce at that age.[2] Finally, generalizations about risk factors pushing older LTC workers out of work should be made cautiously if not supported by earlier research on the general workforce.

### *Limitations*

This review encountered several methodological issues we should be cautious about, such as a limited number of articles ($n$ = 6), the possible selection bias of sample comparisons, and cultural and geographical differences. Furthermore, the sample populations and study settings (older workers in LTC) were rather poorly described in some of the reviewed articles. Combined with the non-significant association in some of the studies, this means that generalizations of the findings to the whole LTC sector should be made with caution. However, the heterogeneity of the studied population was minimized using the OECD definition of long-term care, strengthening the data. Despite variation between the studied countries and nursing homes, residential care and hospitals for older adults provide similar services independent of the studied settings.[48] To avoid non-notification bias, the literature searches could have included grey literature such as reports and conference papers. The quality of all six articles was assessed to be at least 75 %, but only two achieved 100 % quality. Thus, we cannot draw too far-reaching conclusions from the results. Finally, the relatively low chronological age (45+) used to define older workers in the reviewed articles can contribute to reducing the prediction value of RI for the youngest age groups of the studied "older" workers.

### *Future research*

Most of the reviewed articles used a cross-sectional design. To increase our knowledge of factors involved in the retirement timing process, there is a need for longitudinal study design in future research. Some of the reviewed articles had small sample sizes, and so future studies need to use bigger samples for higher statistical power. Instead of focusing on chronological age, we need more knowledge of the impact of ageing and gendered ageing experiences among older LTC workers to grasp the intentions for their retirement timing fully. Our review reveals a knowledge gap regarding voluntary pull and involuntary stuck factors that influence older LTC workers' intentions to retire early or postpone retirement. According to Bakker and Demeoutri,[30] occupation-specific knowledge of job demands and job resources is necessary in order to understand the link between different outcomes fully.

## Conclusion

The present review expands previous frames of reference for older workers' retirement intentions, providing new knowledge about older workers in low-skilled and low-paid jobs, jobs such as those in LTC. First, according to JD-R theory low job resources, high job demands, and health problems are assumed to push older workers out of work. However, our findings do not provide any support for this assumption. We did not find any statistically significant association between older LTC workers' *early* retirement intention and health, mental job demands, or low job resources, indicating that factors considered to be pushing older workers out of work in the general workforce do not function in the same way in the LTC sector. This may imply that policies aiming at prolonging working life in the general workforce will not necessarily be applicable to the LTC workforce.

Finally, the key factors contributing to older LTC workers' *early* retirement intention were high physical job demands, weak social support, and type of occupation, and key factors contributing to *late* retirement intentions were having strong social support and good job resources. Increased knowledge about factors important for early and late retirement intentions may contribute to mitigating current and future labour shortages in the LTC sector, which is crucial for the care of older people and consequently critical for maintaining the welfare of society.

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This project did not require any ethical approval as the data not was empirical data.

## Declaration of competing interest

The authors declare no conflicts of interest.

## CRediT authorship contribution statement

**Nordlinder Carolina:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Visualization, Writing – original draft, Writing – review & editing. **Bergström Gunnar:** Methodology, Writing – review & editing, Supervision. **Tham Pia:** Writing – review & editing, Supervision. **Öberg Peter:** Writing – review & editing, Project administration, Supervision.

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