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"Mental retirement?" Trajectories of work engagement preceding retirement among older workers

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Objectives Before actual retirement, employees may already distance themselves from work, which could be referred to as "mental retirement". However, trajectories of work motivation, ie, work engagement, have not been studied yet. The present study aimed to (i) identify different trajectories of work engagement among older workers approaching the retirement age, and (ii) examine their associations with actual retirement.

Methods In total 3171 employees aged 55–62 years, who participated in the Dutch Study on Transitions in Employment, Ability and Motivation were included in this study. Participants completed questionnaires in 2010, 2011, 2012, and 2013. Latent class growth mixture modeling was performed to identify groups of employees with similar three-year trajectories in work engagement. Logistic regression analyses were performed to study whether trajectory membership was associated with retirement.

Results Of the 3171 employees, 16.2% made a transition from work to (early) retirement (N=513). Four trajectories of work engagement were identified: steady high (76.3%), steady low (12.7%), decreasing (6.2%), and increasing (4.8%). A steady low work engagement trajectory was associated with retirement [odds ratio (OR) 1.46], compared to a steady high work engagement trajectory. Although not statistically significant, an increasing work engagement trajectory seemed to be associated with retirement as well (OR 1.60).

Conclusions This study did not support the concept of mental retirement before actual retirement, ie, a decrease in work engagement among those facing retirement. However, as one in eight employees did experience steady low work engagement in the years before retirement, interventions promoting work motivation are recommended to support the employability of these employees.

Key terms ageing; employability; employee; employment; latent class growth mixture modeling; LCGMM; longitudinal study; work motivation.

To counter the pressure of the ageing population on the social security system, there is a need for workers to prolong their working lives. In the Netherlands, like in many other European countries, several pension system reforms have been implemented to encourage extended careers and prevent early exit from the workforce, including a gradual increase of the state pension age from 65 years in 2012 to 67 years in 2021 (1). In addition, other routes of exit from the workforce (ie, disability pension and unemployment) are becoming more restrictive. In past years, the mean age of leaving employment increased from 60.8 years in 2001 to 64.4 years in 2015 (2). For employees and employers, it is important that workers maintain high work motivation while extending working life. Higher work motivation has been related to the willingness to continue working (3) and a lower intention to retire early (4). We conceptualize work motivation as work engagement in the

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present study. Work engagement is defined as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption (5). Higher work engagement has been associated with higher work ability (6–8), which, in turn, is associated with increased productivity at work (9). Higher work engagement has also been associated with less sickness absence (10).

However, the prospect of retirement may cause pre-retirement work disengagement (11). Retirement is considered to be a process that starts with anticipation of retirement, followed by the retirement act itself, and ends with post-retirement adjustment to the new situation (12). According to the career stage theory, late careers can be characterized by a period of decline, ie, a period of "tapering off prior to retirement" (13). Furthermore, it is suggested that older workers who approach the retirement age develop a "short-timer's attitude", due to accommodation to the upcoming separation from their work and forthcoming social situation (14). Taking these theories into account, it is likely that work engagement among older workers may decline when they are facing retirement. Henkens et al (15) introduced the concept of "mentally retired" employees, which they described as employees who have already disconnected themselves from their work. On the basis of interviews with managers in the Netherlands, they concluded that every manager knows examples of mentally retired employees in their organization. Damman et al (11) added that older workers are more likely to decrease their work investments and activities and experience lower motivation when they approach planned retirement.

Although previous research has provided indications that older workers who approach the retirement age may distance themselves from their work, it is unclear how this process occurs or, more specifically, how work motivation develops with pending retirement. To illustrate, Damman et al (11) had a broad understanding of the preretirement disengagement process, which includes a decrease in work investments and activities and declining work motivation. However, it is likely that these domains do not always develop in the same way. It is, for example, possible that older workers experience lower motivation to work when they approach retirement, but at the same time have a stable level of work activities. Moreover, trajectories of work motivation have not been studied yet.

Therefore, in the present study, we zoomed in on work motivation (ie, work engagement) among older workers who approach the retirement age. The first goal was to identify different trajectories of work engagement among older workers approaching the retirement age. The second goal was to examine the associations of the different trajectories of work engagement with actual retirement.

Methods

Design and study population

The current study is part of the Study on Transitions in Employment, Ability and Motivation (STREAM). STREAM is a Dutch longitudinal study among, at baseline, 15 118 persons including employees (N=12 055), self-employed persons (N=1029), and persons without paid employment (N=2034) aged 45–64 years. Persons participated in a GfK Intomart internet panel. At baseline, the study population was stratified by employment status and age. On an annual basis, STREAM participants completed an online questionnaire in October / November 2010 (T1), 2011 (T2), 2012 (T3), and 2013 (T4). The study population of STREAM has been extensively described elsewhere (16). In the present study, we used data from all four waves of STREAM.

Employees were included in the present study if they were aged 55–62 years at baseline. A lower limit of 55 years was applied as the proportion of employees who had retired (early) after three years of follow-up strongly increased from this age onwards. An upper limit of 62 years was used because, after three years of follow-up, these participants had reached the official retirement age of 65 years. Of the employees aged 55–62 years, the study included those who were employed on ≥2 of the measurements, which was needed to identify the three-year trajectories of work engagement. Since we were interested in trajectories *before* retirement, information on working engagement in the year preceding the event was considered as crucial information; hence persons who retired between T2 and T3 were included if information on work engagement at T2 was available, and persons who retired between T3 and T4 were included if information on work engagement at T3 was available. Finally, persons who indicated they were (partially) work disabled or unemployed at baseline or during follow-up were excluded from the present study. In total, 3171 participants were included.

Measures

Work engagement was measured with six items on vigor (three items) and dedication (three items) from the Utrecht Work Engagement Scale (UWES) (5), which were combined to form one scale (Cronbach's alpha=0.93). Vigor refers to having a lot of energy at work and mental resilience, feeling strong and fit, and not getting tired from work very fast (eg, "At my job, I feel strong and vigorous"). Dedication refers to enthusiasm, inspiration, pride, and job satisfaction (eg, "I am enthusiastic about my job"). Items could be answered on a 7-point scale ranging from "never" to "always" (0–6), and a higher score reflects a higher work engagement.

In previous Dutch research, the average scores for vigor and dedication were 4.01 and 3.88, respectively (17).

Information on (early) retirement was derived from one question asking persons to indicate their employment status, with, among others, the following answering options: a paid job or multiple paid jobs as an employee, early retirement, and retirement. In this study, (early) retirement referred to employees who reported that they retired at or before the official retirement age of 65 years at the third or fourth wave. This definition also includes persons who indicated that they had retired (early), but were still also working as an employee or self-employed person.

Covariates

Age, gender, and educational level were incorporated in this study as covariates. Educational level was measured using a question on the highest level of education completed with a diploma, and categorized into low (primary school, lower and intermediate secondary education, or lower vocational training), intermediate (higher secondary education, or intermediate vocational training), or high (higher vocational education or university).

Work ability was measured with the following item of the work ability index: "By 'work ability', we mean the degree to which you are able to work, both physically and mentally. If you assign ten points to your work ability in the best period of your life, how many points would you assign to your work ability at this moment?" (18). The answer scale ranged from 0–10. Trajectories of work ability were obtained in the same manner as trajectories of work engagement.

We constructed a variable on the agreement between intention-to-retire and actual retirement. The degree to which retirement was planned was assessed by one question, ie, "Are you planning to stop working in the next 12 months?", which could be answered on a 5-point Likert scale, ranging from "certainly not" to "certainly". The response categories were dichotomized into "no intention to retire" ("certainly not", "probably not", and "maybe") and "intention to retire" ("probably" and "certainly"). This information was combined with actual employment status into a measure on agreement between intention and actual retirement. Participants were classified into "no intention and no retirement", "no intention, yet retirement", "intention, yet no retirement", and "intention and retirement".

Statistical analysis

The analyses were conducted in the following two steps: (i) identifying groups of employees with similar trajectories in work engagement, and (ii) studying whether trajectory membership was associated with (early) retirement (T3/4).

In the first step, we applied latent class growth mixture modeling (LCGMM) to identify latent trajectory groups of work engagement. LCGMM is based on structural equation modeling techniques and assumes that there are latent subgroups in the study population that have unique and unobserved or latent growth parameters (19–21). Three time points were included in the trajectory analysis, ie, T1, T2 and T3. Finding the best-fitting trajectory model was an iterative process in which a series of trajectory models were estimated while testing for the optimal number of classes and characteristics of the trajectories (linear, quadratic and free form) (22–25). We determined the best-fitting trajectory model using the following considerations: (i) Bayesian information criterion (BIC), (ii) the bootstrap likelihood ratio test (BLRT), (iii) posterior probability, and (iv) interpretation and theoretical relevance. BIC is a consideration of the fit of the model whilst taking the complexity of the model into account. A difference in the BIC value of $\geq$10 points between two models indicates that the model with a lower BIC value has a better model fit (24). A significant BLRT means that the model with k number of classes is significantly different from the previous model with k-1 number of classes. Posterior probability indicates how precisely the subjects are classified into their most likely class. Based on posterior probability, persons were assigned to the trajectory that best matched their work engagement; a probability >0.8 is recommended and a probability closer to 1 indicates a better classification. Finally, interpretation and theoretical relevance were used to decide on the best-fitting trajectory model. In addition, we performed a sensitivity analysis to check whether the trajectory model was robust for missing information about work engagement after one year of follow-up. Analyses in this first step were performed using Mplus, version 7.11.

In the second step, we determined whether trajectory membership was associated with (early) retirement (T3/4) by performing logistic regression analyses. Odds ratios (OR) and 95% confidence intervals (95% CI) were calculated to express the likelihood of (early) retirement as compared to remaining in employment (reference). We started with univariate analyses to calculate the associations between trajectory membership of work engagement (as a categorical variable) and covariates with (early) retirement separately (model 1). After the univariate analyses, we performed a multivariate analysis, in which trajectory membership and age, gender, and educational level were simultaneously included in the model (model 2). In addition, we conducted two different sensitivity analyses. First, we performed a multivariate analysis in which we also included trajectories of work ability in the regression model on retirement. Work ability is related to both work engagement (6–8) and (early) retirement (26, 27), and in the present

study we were primarily interested in the motivational process. Second, a multivariate analysis was performed only including persons in which there was agreement between intention to retire and actual retirement ("no intention and no retirement" or "intention and retirement"). Analyses in this second step were performed using SPSS Statistics version 22 (SPSS Institute, Cary NC, USA).

Ethical issues

The Medical Ethical Committee of the VU University Medical Centre Amsterdam declared that the Medical Research Involving Human Subjects Act does not apply to STREAM. The Medical Ethical Committee had no objection to the execution of this study. In the information for participants that accompanied the online questionnaire, it was emphasized that the privacy of participants was guaranteed, all answers to the questions were treated confidentially, and all data were stored in secured computer systems.

Results

Trajectories of work engagement

Table 1 shows baseline characteristics and employment status at follow-up of the total study population. In total, 16.2% of the employees made a transition from work to (early) retirement (N=513).

To identify trajectories of work engagement, one-, two-, three-, four-, and five-class models were inspected (table 2). From the one-class model, the BIC continued to decrease >10 points with the addition of each class. The BLRT was the same for every model, and posterior probabilities remained >0.80 in every model. Table 2 shows that the one-, two-, three-, and four-class models were inferior to the five-class model on the basis of the BIC value. However, trajectory groups in the five-class model became relatively small, which made interpretation difficult. Therefore, the four-class model was selected. As shown in figure 1, the four-class model consisted of a large steady high work engagement group (76.3%), a steady low work engagement group (12.7%), a decreasing work engagement group (6.2%), and an increasing work engagement group (4.8%). Sensitivity analyses with complete information on work engagement at baseline, and after one and two years of follow-up showed that the four-class model was robust for missing information. Table 3 shows baseline characteristics and employment status at follow-up for each of the four trajectories. Retirees more often followed a steady low (13% versus 12%) or increasing (5% versus 4%) trajectory of work engagement, as compared to those who were employed during follow-up.

Table 1. Characteristics and employment status (T3/4) among the total sample of employees aged 55–62 years at baseline (N=3171).

Characteristic	Total study population (N=3171)		
	Median	%	N
Age (55–62 years)	58.2		
Gender			
Women		41.7	1323
Men		58.3	1848
Educational level			
Low		27.7	878
Medium		35.3	1120
High		37.0	1173
Employment status T3/4			
Employee		83.8	2658
(Early) retiree		16.2	513

Work engagement trajectories prior to (early) retirement

In the univariate logistic regression analysis, the trajectory of work engagement was not significantly associated with (early) retirement (table 4). After adjustment for age, gender, and educational level, persons who followed a steady low work engagement trajectory were significantly more likely to retire (early) compared to those who followed a steady high work engagement trajectory (OR 1.46). Adding the demographics separately, showed that the association between trajectory of work engagement and (early) retirement became statistically significant after adjustment for age. Although not statistically significant at the P=0.05 level, an increasing trajectory of work engagement seemed to be associated with (early) retirement (OR 1.60, P=0.07). Older (OR 2.19) and male employees (OR 1.56) were also more likely to retire (early) than younger and female employees, respectively.

Sensitivity analysis

When adding the trajectories of work ability to the multivariate regression model, the association between the trajectories of work engagement and (early) retirement did not change. The OR changed maximally by 2.5%. Secondly, we performed a sensitivity analysis only including persons for whom there was agreement between intention-to-retire and actual retirement. The association between the trajectory of work engagement and (early) retirement only marginally changed in the multivariate model but was no longer statistically significant (OR steady low work engagement trajectory: 1.44, P=0.07).

Table 2. Fit indices for the 1–5 class models of work engagement among the total sample of employees aged 55–62 years at baseline (N=3171). [BIC=Bayesian information criterion, lower BIC means better model fit; BLRT=bootstrap likelihood ratio test, significant BLRT means that model with k number of classes is significantly better than model with k–1 number of classes; mean posterior probability of trajectory classes >0.80 is satisfactory; NA=not applicable.]

Number of classes	BIC	BLRT	Mean posterior probability of trajectory classes	Number of participants in each trajectory class				
				1	2	3	4	5
1	24239.292	NA	1	3171				
2	23828.425	<0.001	0.9045	2658	513			
3	23608.484	<0.001	0.8807	2611	495	65		
4 [a]	23341.081	<0.001	0.8533	2499	378	164	130	
5	23227.442	<0.001	0.8356	2485	382	166	91	47

[a] Selected for further analyses.

Table 3. Characteristics and employment status (T3/4) per trajectory of work engagement.

Characteristic	Steady high (76.3%, N=2499)			Steady low (12.7%, N=378)			Decreasing (6.2%, N=164)			Increasing (4.8%, N=130)		
	Median	%	N	Median	%	N	Median	%	N	Median	%	N
Age (55–62 years)	58.2			58.0			58.0			58.2		
Gender												
Women		80	1055		11	140		6	77		4	51
Men		78	1444		13	238		5	87		4	79
Educational level												
Low		76	667		13	118		6	51		5	42
Medium		79	880		11	123		6	62		5	55
High		81	952		12	137		4	51		3	33
Employment status T3/4												
Employee		79	2101		12	310		5	145		4	102
(Early) retiree		78	398		13	68		4	19		5	28

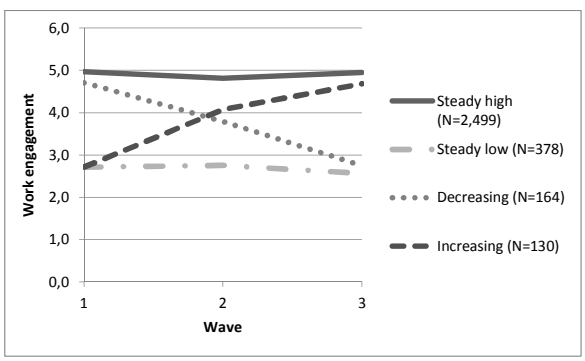

Figure 1. Trajectories of work engagement among the total sample of employees aged 55–62 years at baseline obtained by means of latent class growth mixture modeling (N=3171).

Discussion

This study aimed to (i) identify different trajectories of work engagement among older workers approaching the retirement age and (ii) examine which of these trajectories were associated with actual (early) retirement. Four trajectories of work engagement were identified, ie, steady high (76.3%), steady low (12.7%), decreasing (6.2%), and increasing (4.8%). Persons who followed a steady low work engagement trajectory were more likely to retire (early) than persons who followed a steady high work engagement trajectory. Although not statistically significant, persons who followed an increasing trajectory of work engagement were also more likely to retire (early) than those with a steady high work engagement trajectory.

Previous research suggested that older workers may "clock out" from work due to the prospect of retirement (11, 15), which could be referred to as "mental retirement". The present study was the first study to longitudinally describe trajectories of work engagement in the years before retirement. In line with the concept of mental retirement, we expected that anticipation of retirement (12) would be reflected in a declining trajectory of work engagement. However, our findings did not support the existence of such a process. It should be noted that differences in findings between our study and previous research may be due to differences in the study population, ie, employees versus employers (15). Differences in the operationalization of mental retirement, ie, work engagement versus a combined measure for work investments, activities, and motivation reflecting pre-retirement work disengagement, may have resulted in differences in findings between the present study and the study of Damman et al (11) as described in the introduction.

Our study showed that persons who followed a steady low trajectory of work engagement were more likely to

Table 4. Predictors of (early) retirement T3/4 among the total sample of employees aged 55–62 years at baseline (N=3171). [OR=odds ratio; 95% CI=95% confidence interval].

	Univariate		Multivariate	
	OR	95% CI	OR	95% CI
Trajectory of work engagement				
Steady high	1.00		1.00	
Steady low	1.16	0.87–1.54	1.46 [a]	1.05–2.04
Decreasing	0.69	0.42–1.13	0.79	0.46–1.37
Increasing	1.45	0.94–2.23	1.60	0.96–2.67
Age (55–62 years)	2.14 [a]	2.00–2.29	2.19 [a]	2.04–2.35
Gender				
Women	1.00		1.00	
Men	1.21	0.68–1.00	1.56 [a]	0.51–0.81
Educational level				
Low	1.00		1.00	
Medium	1.05	0.83–1.34	1.18	0.89–1.56
High	1.12	0.88–1.42	1.24	0.94–1.64

[a] P<0.05.

retire (early) than those with steady high work engagement. This may be part of a more general pattern of low work engagement throughout the career or a reflection of a "clocking out" process that took place more than three years before actual retirement. To gain more insight in this issue, it may be useful to compare trajectories of work engagement of older employees with those of younger employees. Moreover, it is of interest to discover whether reasons for low work engagement are the same for older and younger workers. This may give insight into the role of career phase in relation to work engagement. In addition, as opposed to what we expected, our findings also suggest that persons who followed an increasing trajectory of work engagement were more likely to retire (early) than those with steady high work engagement. This may be due to increased appreciation of work, ie, "second thoughts", because employees realize how their life will change after retirement. Previous qualitative research among academic physicians showed that retirement may be seen as a threat to one's identity, ie, "a potential loss of a significant source of meaning in one's life" (28). In daily life older workers may not always be aware of the meaning of work to their lives, but that may arise when they approach retirement (29). Another explanation of the finding that an increasing trajectory of work engagement preceded (early) retirement may be that employees take a "final sprint" to finish their work tasks as well as possible, resulting in fulfillment and increasing work engagement. The previously mentioned study of Onyura et al (28) showed for example that older workers feel responsible for "continuity and succession" of work, ie, by facilitating that others within their organization or community could continue working. Future research should investigate what determines that older workers end up in an increasing trajectory of work engagement and which underlying mechanisms play a role. Furthermore, work engagement could be assessed differently in future research. Namely, whereas in the current study several implicit items were used to create an overall work engagement score, future research could directly ask older workers whether they are detaching from their work (in preparation of a retirement transition).

It is remarkable that work engagement was very stable in our study population; in total, 89% of the persons within our study population followed a steady high or a steady low trajectory of work engagement. This may indicate that work engagement is a "trait" rather than a "state". It would be of interest to measure work engagement more frequently to gain insight into whether greater fluctuations could be captured that might precede early retirement. This could, for example, be done by using a state version of the Utrecht Work Engagement Scale, including a timeframe, ie, "last week" (30).

A strength of the present study is that we used longitudinal data to investigate trajectories of work engagement among older workers approaching the retirement age. This enabled us to see differences in work engagement over time. Moreover, we had low drop-out in the present study; 66% of the participants of interest in the first wave also participated in the second, third and fourth waves, which can be considered as a high response in longitudinal research.

However, this study also has limitations. A first limitation is that we only captured three-year trajectories of work engagement. Although the concept of mental retirement does not give indications about the relevant time window, it assumes proximity of retirement. We expected it to start a few years before actual retirement, but it might be that our follow-up period was too short to capture the phenomena of mental retirement. More years of data on work engagement are needed to discover whether declining work engagement starts more than three years before actual retirement. A related point is that persons who remained employed during follow-up may retire (early) within a short period after the follow-up period of the present study. This may have resulted in misclassification regarding the outcome, ie, (early) retirement. Second, work engagement may be a too limited operationalization of the motivation to work. We suggest that future research also pays attention to changes in the meaning of work during the life course, and especially in the phase near retirement. Related to this, it might be that pre-retirement anticipation is not characterized by changes in the motivation to work, but rather by changes in the motivation *not* to work, ie, to do things outside of work, such as enjoyable activities with a non-working spouse, or informal care of grandchildren, family members or friends with health problems (31). This also calls for further research. Third, although we included several potential confounders (age, gender and educational level) to determine the

association between trajectory of work engagement and (early) retirement, previous research showed that factors in the domains health and work are also related to both work engagement and early retirement (27). We did not adjust for these factors in our analyses. However, in a sensitivity analysis we adjusted for the trajectory of work ability, which captures aspects of both work and health. Results from this analysis were similar to the results of the main analysis.

In conclusion, this study did not support the concept of mental retirement. In fact, >75% followed a steady high work engagement trajectory. In addition, retirement was more likely to be preceded by steady low work engagement (at least the two years before the transition from work to retirement). Hence, interventions promoting work motivation, for example aiming at creating a balance in job demands and resources (32), are recommended to support the employability of these employees. Moreover, the results may suggest that employees who approach their retirement develop "second thoughts" regarding their work or take a "final sprint" in the face of retirement. This finding could be used as a starting point for a dialogue between employers and employees to discuss possibilities to prolong working life.

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Conflict of interest

The authors declare no conflict of interest.

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