Chapter 2

Predictors of the willingness and the ability to continue working until the age of 65 years

Goedele A. Geuskens, Karen M. Oude Hengel, Lando L. Koppes, Jan Fekke Ybema

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Abstract

Objective: To identify predictors of the willingness and ability to continue working until the age of 65 in older employees.

Methods: In this longitudinal study, 4,937 employees aged 45-63 included in the Netherlands Working Conditions Cohort Study were studied. Logistic regression analyses were applied.

Results: Employees who experienced emotional exhaustion and bullying or harassment by colleagues/supervisor were less often willing to continue working, whereas employees sometimes using force were more often willing to continue working. Emotional exhaustion, a work handicap, higher physical and emotional demands, lower supervisor's support, and intermediate satisfaction with salary predicted a lower likelihood to be able to continue working.

Conclusion: Prevention of emotional exhaustion and promotion of a healthy social work climate may support both the willingness and ability to work until the age of 65.

Introduction

In most European countries, the work force is ageing. Labour force participation among older persons is lower than in younger persons, with 46% of those aged 55-64 years participating in paid work and 78% of those aged 25-54 years.[1] Workers often retire well before the official retirement age. In the Netherlands, the average age to retire was 62 in 2007, whereas the official retirement age was 65.[2] However, the willingness and perceived ability to extend working life has increased during the last years. In employees aged 45-64 years, the willingness to continue working until the age of 65 increased from only 21% in 2005 to 36% in 2008. The perceived ability to do so in their current work increased from 41% to 50%.[3]

In the coming years, a shortage of workers is expected. At the same time, the rising ratio of retired elderly to the active working population induces pressure on public finances.[4] This raises the question which factors influence the prolongation of working life. In addition to financial incentives and collective agreements[5,6], health and work-related factors influence whether workers retire early or not. A review of longitudinal studies showed that poor health and lack of physical activity in leisure time predicted (non-disability) early retirement. Moreover, workers with high physical work demands, high work pressure, and low job satisfaction more often retired early.[7] Recent studies added that job stress, low job control[8], little challenge at work[9,10], low appreciation, and low support from the supervisor[6] predict early retirement as well.

To better understand the retirement process, insight in the willingness and ability to work until the retirement age is crucial. To our knowledge, one study on the willingness to work until the age of 65 has been published. In this cross-sectional study of workers aged 55-64 in the Swedish healthcare sector, Nilsson et al. (2011)[11] showed that good health, financial incentives to continue working, positive attitudes towards older workers among managers, higher importance of work in life, and not intending to retire early if the partner does were positively associated with the willingness to work until the age of 65. In contrast, the mental and physical working environment and competences and skill development were not associated with the willingness to continue working[11]. These findings are in line with a review of Kooij et al.

(2008)[12] on age-related factors that may influence older worker's motivation to continue working. Kooij et al. (2008)[12] described that poor health, age-related eligibility to retirement, financially attractive exit arrangements, and reduced workload may negatively affect the motivation to continue working. In addition, this review suggested that age norms and stereotyping by managers might reduce opportunities for promotion and training, and as a consequence, the motivation to continue working. Finally, partner's wishes and increased value placed on leisure time seemed to encourage the decision to retire.[12]

Little is known on the perceived ability to continue working until the age of 65. Nilsson et al (2011)[11] described that poor health and work-related factors were associated with the ability to work until the age of 65 in the healthcare sector. Physically and mentally demanding work and a rapid working pace were negatively associated with the perceived ability to continue working until the age of 65, whereas satisfactory use of competences and sufficient possibilities for supervision were positively associated. Financial incentives to continue working (e.g. intending to work beyond age 65 to get a better pension) and social factors (i.e. intending to retire early if partner does) were also positively associated with the ability to continue working.[11] However, especially for financial and social factors, it remains unclear whether these factors underlie the ability to continue working or vice versa due to the cross-sectional design of this study. Current work ability in relation to the present job and work ability in near future has frequently been studied. In a review study, poor work ability as assessed with the Work Ability Index was associated with poor musculoskeletal capacity, high physical workload, poor physical work environment, high mental work demands, and lack of autonomy.[13]

Despite the current debate on early retirement and the prolongation of working life, little is known on the factors that influence the willingness and ability of older workers to continue working until the official retirement age or beyond. Prospective studies in the general working population are lacking. Longitudinal studies are more suitable to make causal inferences than cross-sectional studies, since dependent variables precede outcome variables. Furthermore, longitudinal studies offer the opportunity to identify factors that influence changes in the willingness and ability to continue working,

which is relevant for the development of interventions. It is possible that different factors play a role in different groups of workers, such as men and women.[14] More insight in the determinants of the willingness and the ability to continue working may contribute to the development of interventions that support the prolongation of working life. Therefore, the aim of the present study was to identify predictors of the willingness and ability to continue working until the age of 65 in employees aged 45-63 years.

On the basis of previous studies[11,12], we hypothesised that good health, financial factors (i.e. higher satisfaction with salary), and work characteristics (i.e. a healthy social climate at work, higher satisfaction with career perspectives and flexible working hours) predicted that employees were willing to continue working until the age of 65. The rationale behind satisfaction with flexible working hours was that flexible working hours may provide the opportunity to combine work with leisure time activities.[12] Second, we hypothesised that good health and work characteristics (i.e. lower physical- and psychosocial job demands, healthy social climate at work) predicted that employees perceived to be able to continue working in their current work until the age of 65.[11,13]

Methods

Participants

Data of the Netherlands Working Conditions Cohort Study (NWCCS) of 2007 and 2008 were used.[15] The NWCCS is a large cohort study on working conditions in the Netherlands. Employees aged 15-64 years are included, whereas self-employed individuals are excluded. In 2007, 80,000 individuals were sampled from the Dutch working population database of Statistics Netherlands. This database contains information on all jobs which fall under employee national insurance schemes, and are liable to income tax. Individuals in the sample received the written questionnaire by mail at their home address in the first week of November 2007. The questionnaire could be filled out with a pencil, or via internet using a personal code which was printed on the questionnaire.[15] Questionnaires of 32.8% of the employed sampled individuals were available for analysis in 2007 (n= 22,759), with 10,021 employees being aged 45-63 years (Figure 1).

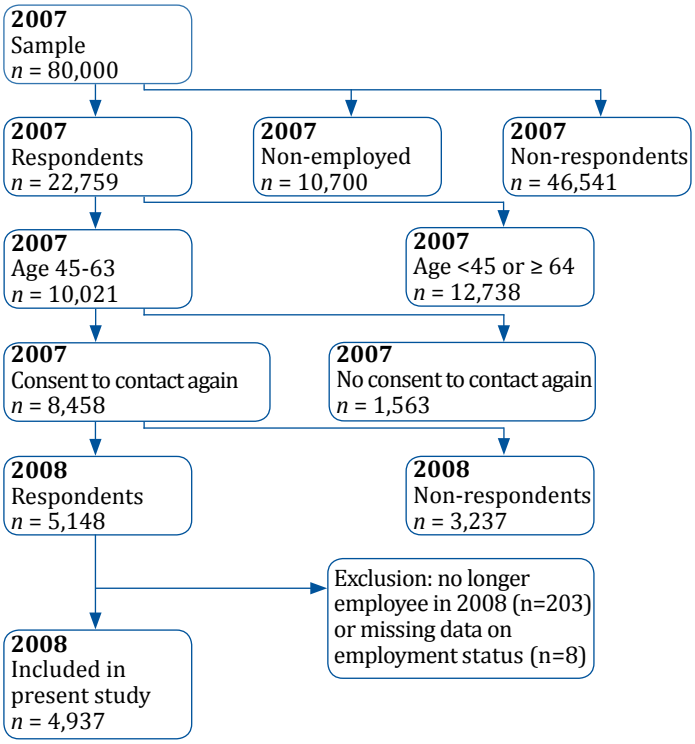

Figure 1. Employees in the Netherlands Working Conditions Cohort Study (NWCCS) included in the present study

Women aged 45 and older responded slightly more often than expected on the basis of the sample derived from the Dutch working population database of Statistics Netherlands (45% versus 42%). In addition, women aged 45-54 responded more often than expected compared to women aged 55 and older (71% in NWCCS versus 67% in Dutch working population).

The data collection after 12 months of follow-up was very similar to the data collection at baseline. In total 8.458 of the 10.021 persons aged 45-63 years had provided consent to be contacted in future. In November 2008, 5.148 persons (61%) responded to the follow-up questionnaire (Figure 1). Persons who participated only at baseline (irrespective of consent to be contacted again) were less often high educated (31% versus 39%) and less often able to continue working in their current work until the age of 65 at baseline (44% versus 47%) than persons who participated both at baseline and follow-up. No differences were found for age, gender, and the willingness to continue working.

For the present analyses, employees were excluded if they had stopped working after one year of follow-up (n=203) or if their employment status was unclear (n=8). The reason is that employees who had stopped working no longer answered questions on their willingness and ability to continue working in their current work until the age of 65. Therefore, 4,937 employees were included.

Measurement

Employees filled out a questionnaire at baseline and after 12 months of follow-up. All independent variables were derived from the baseline questionnaire. Age, gender, and educational level were asked. Education was categorized according to the highest level attained into low (primary school, lower and intermediate secondary education or lower vocational training), intermediate (higher secondary education or intermediate vocational training), and high (higher vocational training or university). Employees were also asked whether they had a partner, and whether their partner had a paid job.[15]

Full-time employment was defined as working at least 36 hours per week according to the contract. Evening and night work was asked with a single question with answer categories on a 3-point scale (no, sometimes, frequently). Since a substantial proportion of the employees (8.2%) did not answer this question, a fourth category was added, i.e. "no answer". Physical workload was assessed with a single question, i.e. "Does your job require using a lot of force, e.g. lifting, pushing, pulling, dragging, or does your job involve the use of tools and machines that require you to use a lot of force?". Answers were on a 3-point scale (no, sometimes, frequently).[15]

Questions on job demands, job autonomy, and social support were based on the Job Content Questionnaire.[15,16] Job demands were assessed with four questions with answers on a 4-point scale ranging from never to always (Cronbach's alpha 0.77). For job autonomy five questions were asked. A 3-point scale was used for the answer categories, i.e. no, sometimes, and frequently (Cronbach's alpha 0.85). Support from colleagues and support from the supervisor were separately assessed with four questions on a 4-point scale ranging from totally agree to totally disagree (Cronbach's alpha respectively 0.88 and 0.82). In addition, employees could indicate the questions on social support were not applicable. Emotional job demands were assessed by means of three questions derived from the Copenhagen

Psychological Questionnaire (COPSOQ) with answers on a 4-point scale ranging from never to always (Cronbach's alpha 0.82).[15,17] The sum scores of job autonomy, job demands, emotional demands, support from colleagues, and support from the supervisor were classified into three categories (low, intermediate, high) using the 25th and the 75th percentile scores. For social support from colleagues and the supervisor, a fourth category was added. This included employees for whom social support was not applicable and employees that did not answer the questions.

Inappropriate behaviour by colleagues/supervisor and by customers was assessed separately by means of four questions on the occurrence of sexual harassment, intimidation, physical violence, and bullying in the past 12 months (e.g. "In the past 12 months, how often did you experience intimidation by customers (or patients, students, passengers, etc.)"). Answers were given on a 4-points scale (never, once in a while, often, very often).[15,18] Employees who reported that any of the four inappropriate behaviours occurred once in a while, often, or very often were classified as having experienced inappropriate behaviour. Satisfaction with salary, promotion and career perspectives, and flexibility of working hours was assessed by means of a numeric rating scale (1-10) (e.g. "Please indicate how satisfied you are with the following by reporting a report mark: Salary"). Respondents could also indicate they did not know the answer or the term of employment was not applicable. Scores were classified into low (1-5), intermediate (6-7), high (8-10), or no answer/not applicable. Missing values were classified as "no answer/not applicable".

The presence of longstanding diseases and conditions was assessed. Employees indicated whether these health problems limited their ability to perform their job (i.e. work handicap). Emotional exhaustion was assessed with five questions of the Utrecht Burnout Scale (UBOS).[15,19] The questions had answer categories on a 7-point scale ranging from never to every day (Cronbach alpha 0.86). The distributed of the scale (1-7) was skewed, and on the basis of the cut-off value of 3.2[19], the score was dichotomized into 'no emotional exhaustion' and 'emotional exhaustion'.

During the present study, the official retirement age in the Netherlands was 65 years. At baseline, the willingness to continue working until the official retirement age was assessed with a single question ("Do you want to work until the age of 65?") with answers on a three point scale (yes, no, don't know). The ability to

continue working in the current work was also assessed with a single question ("Do you think you are able to continue working in your current work until the age of 65?") and the same answer categories.[15] Employees answering 'yes' were classified as being willing or able to continue working, whereas those answering "no" or "do not know" were not. At follow-up, the willingness to continue working was assessed with an open-ended question ("Until what age would you like to continue working?"). Employees who reported to be willing to work until the age of 65 or older were considered to be willing to work until the retirement age of 65. The ability to continue working at follow-up was assessed with the same question that was used at baseline.

Statistical analysis

To study the relation of demographic, work-related, and health-related variables at baseline with the willingness and the ability to continue working until the age of 65 at follow-up, logistic regression analysis was used. Separate models were constructed. First, crude logistic regression analyses were performed with one independent variable and one dependent variable. In these models, the willingness or the ability to continue working as assessed at baseline was included. This means that we studied factors that predicted a *change* in the willingness or ability to continue working, which is relevant for the development of interventions. The measure of association was expressed by odds ratio (OR) and the 95% confidence interval. The independent variables with a p-value <0.05 in the crude regression analyses were selected for further analyses. Second, multiple logistic regression models were constructed by backward selection. All independent variables with a p-value <0.05 were retained in the model. By default, the outcome measure as assessed at baseline, age, and gender were retained in the final multiple models. After the construction of the final multiple models, independent variables that were not included were added one by one to the models. Independent variables that significantly improved the fit of the model were included in the final multiple regression model. Persons with missing values on one or more variables were excluded from the analyses by listwise deletion. Statistical analyses were performed with the statistical package SPSS 17.0 for Windows (SPSS Inc, Chicago).

Table 1. Characteristics of the study population at baseline (n= 4,937)

	Baseline	Missing data
Demographic factors		
Age, median (IQR)	52 (7)	0%
Gender, % women	45%	0%
Educational level		1%
High	39%	
Intermediate	35%	
Low	26%	
Partner		4%
Partner has paid job	65%	
Partner does not have paid job	20%	
No partner	15%	
Work-related factors		
Hours of work per week, median (IQR)	36 (12)	1%
Evening and night work		
No	51%	
Sometimes	24%	
Frequently	17%	
No answer	8%	
Using force		2%
Never	66%	
Sometimes	20%	
Frequently	14%	
Job autonomy (1-3), median (IQR)	2.8 (0.6)	1%
Job demands (1-4), median (IQR)	2.3 (0.8)	1%
Emotional demands (1-4), median (IQR)	2.0 (1.0)	1%
Social support by colleagues (1-4), median (IQR)	3.0 (0.5)	
No answer/not applicable	4%	
Social support by the supervisor (1-4), median (IQR)	3.0 (0.5)	
No answer/not applicable	6%	
Inappropriate behaviour by colleagues/supervisor	18%	1%
Inappropriate behaviour by customers	26%	1%
Satisfaction with salary (1-10), median (IQR)	7.0 (3.0)	
No answer/not applicable	1%	
Satisfaction with perspectives (1-10), median (IQR)	6.0 (3.0)	
No answer/not applicable	18%	
Satisfaction with flexible working hours (1-10), median (IQR)	7.0 (3.0)	
No answer/not applicable	22%	
Health-related factors		
Longstanding health conditions		4%
None	55%	
Yes, no work handicap	21%	
Yes, and work handicap	24%	
Emotional exhaustion	12%	0%
Willingness and ability to work until the age of 65		
Willing to continue working until the age of 65, % yes	33%	0%
Able to continue working until the age of 65, % yes	47%	1%

IQR: Interquartile range, difference between 25th and 75th percentile

Results

At baseline, 33% of the employees (Table 1) and at follow-up 27% of the employees were willing to continue working until the age of 65 (question modified at follow-up). In total 19% remained willing to continue working, 58% remained unwilling to continue working, 8% changed to willing and 14% changed to unwilling to continue working at follow-up. A larger proportion of the employees felt able to continue working in the current work, i.e. 47% at baseline and 50% at follow-up. In total 35% remained able to continue working, 38% remained unable to continue working, 15% changed to being able and 12% changed to being unable to continue working until the age of 65. The willingness and the ability to continue working were significantly related (Spearman r=0.30).

In the crude regression analysis, older employees and employees with a partner without a paid job were more often willing to continue working until the age of 65, whereas women were less often willing to continue working (Table 2). Employees who sometimes used force at work or experienced high job demands, high emotional demands, or inappropriate behaviour were less often willing to continue working. Employees who reported emotional exhaustion were also less often willing to continue working, whereas the adverse influence of a work handicap was borderline significant. In the multiple regression analysis, older age and sometimes using force predicted that employees were more often willing to continue working. Women and employees reporting inappropriate behaviour by colleagues/supervisor and emotional exhaustion were less often willing to continue working.

The ability to continue working in the current work until the age of 65 was predicted by various demographic, work-related, and health-related characteristics in the crude regression analyses (Table 2). For several independent variables, the direction of the relation with the ability to continue working was similar to the relation with the willingness to continue working. One of the exceptions was using force. (Sometimes) using force was positively related with the willingness to continue working, but using force was negatively related with the ability to continue working. In the multiple regression analysis, employees aged 60-63 years were more often able to continue working until the age of 65, whereas women were less often able to

Table 2. Predictors of the willingness to continue working until the age of 65 and the ability to continue working in the current work until the age of 65 after 12 month of follow-up in logistic regression analyses[a]

	Willingness				Ability			
	Crude[b]		Multiple[c]		Crude[d]		Multiple[e]	
	OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
Willingness/ability at baseline	8.56	7.43-9.87*	8.66	7.46-10.1*	7.79	6.86-8.86*	6.12	5.33-7.03*
Demographic factors								
Age								
45-49	1.00		1.00		1.00		1.00	
50-54	0.98	0.82-1.18	0.98	0.82-1.18	1.04	0.89-1.21	1.08	0.92-1.27
55-59	1.51	1.25-1.82*	1.50	1.24-1.82*	1.14	0.96-1.35	1.11	0.93-1.33
60-63	4.21	3.18-5.59*	4.01	3.01-5.34*	2.57	1.91-3.48*	2.53	1.83-3.48*
Women versus men	0.81	0.70-0.94*	0.84	0.72-0.97*	0.78	0.69-0.89*	0.83	0.73-0.95*
Educational level								
High	1.00		.		1.00		.	
Intermediate	0.96	0.81-1.14	.		0.93	0.80-1.08	.	
Low	1.14	0.95-1.36	.		0.94	0.80-1.10	.	
Partner								
Paid job	1.00		.		1.00		.	
No paid job	1.47	1.23-1.76*	.		1.21	1.03-1.43*	.	
No partner	1.16	0.95-1.42	.		0.89	0.73-1.07	.	
Work-related factors								
Part-time versus full-time work	0.94	0.82-1.09	.		0.85	0.75-0.97*	.	
Evening/night work								
No	1.00		.		1.00		.	
Sometimes	1.04	0.87-1.24	.		0.97	0.83-1.13	.	
Frequently	0.98	0.80-1.19	.		0.88	0.74-1.06	.	
No answer	1.23	0.94-1.59	.		0.91	0.71-1.16	.	
Using force								
Never	1.00		1.00		1.00		1.00	
Sometimes	1.23	1.03-1.48*	1.29	1.07-1.55*	0.78	0.67-0.92*	0.82	0.69-0.97*
Frequently	1.02	0.82-1.27	1.09	0.87-1.37	0.46	0.38-0.57*	0.49	0.40-0.61*
Job autonomy								
High	1.00		.		1.00		.	
Intermediate	0.90	0.76-1.06	.		0.77	0.66-0.90*	.	
Low	0.93	0.78-1.12	.		0.65	0.55-0.77*	.	
Job demands								
Low	1.00		.		1.00		.	
Intermediate	0.84	0.70-1.01	.		0.69	0.58-0.82*	.	
High	0.68	0.54-0.86*	.		0.64	0.52-0.79*	.	
Emotional demands								
Low	1.00		.		1.00		1.00	
Intermediate	0.87	0.74-1.02	.		0.76	0.65-0.88*	0.82	0.70-0.97*
High	0.67	0.55-0.82*	.		0.56	0.47-0.66*	0.64	0.53-0.78*
Social support from supervisor								
High	1.00		.		1.00		1.00	
Intermediate	0.86	0.72-1.03	.		0.80	0.68-0.94*	0.84	0.71-0.99*
Low	0.85	0.69-1.04	.		0.65	0.54-0.79*	0.76	0.62-0.93*
Not applicable	1.02	0.74-1.40	.		1.09	0.81-1.46	1.11	0.81-1.53

Table 2. Predictors of the willingness to continue working until the age of 65 and the ability to continue working in the current work until the age of 65 after 12 month of follow-up in logistic regression analyses *(continued)*[a]

	Willingness		Ability	
	Crude[b]	Multiple[c]	Crude[d]	Multiple[e]
	OR 95%CI	OR 95%CI	OR 95%CI	OR 95%CI
Social support from colleagues				
High	1.00	.	1.00	.
Intermediate	0.98 0.82-1.16	.	1.01 0.87-1.18	.
Low	0.99 0.79-1.25	.	0.85 0.69-1.04	.
Not applicable	0.97 0.68-1.40	.	0.77 0.55-1.07	.
Inappropriate behaviour by colleagues/supervisor	0.77 0.64-0.93*	0.81 0.67-0.99*	0.98 0.83-1.15	.
Inappropriate behaviour by customers	0.84 0.71-0.99[f]	.[g]	0.92 0.79-1.06	.
Satisfaction with salary				
High	1.00	.	1.00	1.00
Intermediate	1.05 0.89-1.25	.	0.71 0.61-0.83*	0.81 0.69-0.95*
Low	1.05 0.87-1.27	.	0.72 0.61-0.86*	0.93 0.77-1.13
Not applicable	2.61 1.22-5.56*	.	0.47 0.22-1.02	0.48 0.19-1.20
Satisfaction with career perspectives				
High	1.00	.	1.00	.
Intermediate	0.89 0.71-1.12	.	0.80 0.64-0.98*	.
Low	0.94 0.75-1.18	.	0.71 0.58-0.87*	.
Not applicable	1.22 0.95-1.57	.	0.99 0.79-1.25	.
Satisfaction with flexible working hours				
High	1.00	.	1.00	.
Intermediate	0.94 0.78-1.13	.	0.79 0.67-0.94*	.
Low	0.90 0.73-1.10	.	0.63 0.52-0.75*	.
Not applicable	0.99 0.81-1.19	.	0.74 0.62-0.88*	.
Health-related factors				
Longstanding health conditions				
None	1.00	.	1.00	1.00
Yes, no work handicap	1.12 0.93-1.34	.	1.08 0.91-1.27	1.09 0.92-1.30
Yes, & work handicap	0.83 0.69-1.00	.	0.67 0.57-0.79*	0.76 0.64-0.90*
Emotional exhaustion	0.60 0.47-0.77*	0.69 0.53-0.89*	0.49 0.39-0.60*	0.61 0.49-0.78*

[a] All values are given as odds ratio (95% confidence interval), . not in included in the multiple models, [b] Crude models are adjusted for willingness at baseline, [c] 96.3% of the study population included, [d] Crude models are adjusted for the ability at baseline, [e] 92.7% of the study population included, [f] Significant interaction with gender, analysis stratified by gender: men OR 1.11 (0.88-1.41), women OR 0.69 (0.55-0.87), [g] Significant interaction with gender, multiple regression model stratified by gender: men OR 1.19 (0.92-1.52), women OR 0.77 (0.60-0.97), $p<0.05$.

continue working. Using force, higher emotional demands, and lower support from the supervisor predicted a lower likelihood to be able to continue working. Employees who were intermediately satisfied with their salary were less often able to continue working. Besides, a work handicap and emotional exhaustion predicted that employees were not able to continue working.

To investigate whether gender differences existed, interaction effects were studied in crude regression analyses. Significant terms were added to the multiple regression models. The relation between inappropriate behaviour by customers and the willingness to continue working differed by gender. Women who experienced inappropriate behaviour by customers were less often willing to continue working in multiple regression analyses stratified by gender (OR 0.77 (0.60-0.97)), whereas no relation was found in men (OR 1.19 (0.92-1.52)). No significant differences between men and women existed in the predictor variables of the ability to continue working in multiple regression analysis.

Including the ability to continue working at baseline in the multiple regression model of the willingness to continue working did not change the relation between the independent variables and the willingness to continue working. The same was found when willingness to continue working at baseline was included in the multiple regression model of the ability to continue working.

Discussion

Employees who experienced emotional exhaustion and inappropriate behaviour by colleagues/supervisor were less often willing to continue working until the age of 65, whereas older employees, men, and employees sometimes using force were more often willing to continue working. Emotional exhaustion, a work handicap, higher physical and emotional demands, lower supervisor's support, and intermediate satisfaction with salary predicted that employees felt less often able to continue working in the current work until the age of 65. Older employees and men more often thought they were able to continue working.

Previous studies found that health plays an important role in work ability[13], the motivation and ability to continue working[11,12], the intentions to retire[20,21],

and actual early retirement.[13,22] The present study further emphasized the importance of health in prolonging working life, since emotional exhaustion adversely influenced both the willingness and the ability to work until the age of 65, and a work handicap was negatively related with the ability to continue working. In line with previous studies[11,12] and our hypotheses, the social climate at work predicted both the willingness to continue working (i.e. inappropriate behaviour by colleagues/supervisor and (only in women) inappropriate behaviour by customers) and the ability to do so in the current work (i.e. social support from the supervisor). Possibly, supervisor's support provides the opportunity to fit the work to the capacities of older workers. In addition, older age was related to both the willingness and the ability to continue working until the age of 65. This finding probably reflects a selection process, with only those willing and able to continue working remaining in the workforce.

Based on previous studies[11,12], we hypothesised that a higher satisfaction with salary, career perspectives, and flexibility of working would be related with the willingness to continue working. In the present study, satisfaction with salary may not have influenced the willingness to continue working because it may not only reflect an incentive to continue working, but also the financial opportunity to retire early. As hypothesised, employees with a lower satisfaction with career perspectives and the flexibility of working hours were less often willing to continue working in the crude regression analyses, but these relations were not statistically significant.

In line with Nilsson et al. (2011)[11], relatively few work-related factors significantly predicted the willingness to work until the age of 65. Possibly, the willingness to work until the age of 65 is mainly driven by non-work-related factors. Previous research showed that social factors, such as support from the partner, and financial factors, such as wealth and the availability of favourable early retirement schemes, influenced early retirement.[6] Moreover, perceived life expectancy[23] and increased value placed on leisure time[24] may influence the preference for early or later retirement. However, some work-related factors that may influence the willingness to continue working, such as reward and appreciation[6,9,24], were not assessed in the present study. Therefore, we recommend future studies to assess a broader range of work-related, social, and financial factors to gain more insight in which factors

relate to the willingness of older workers to extend their working life. This is especially important since the willingness to continue working until the age of 65 is relatively low (e.g. 36% of older employees in The Netherlands in 2008)[3].

In addition to health and supervisor's support, the ability to continue working in the current work until the age of 65 was predicted by higher physical and psychosocial job demands. This is in line with our hypothesis based on previous studies on work ability[13], ability to work until the age of 65[11], intentions to retire early[9], and actual early retirement.[7,8] Moreover, a lower satisfaction with salary predicted that employees were not able to continue working in the current work. Satisfaction with salary might partly reflect the sustainability of the job, i.e. the quality of work, in relation to the financial reward. However, this finding remains unclear and requires more in-depth investigation.

The present study has a number of notable strengths. To our knowledge, it is the first longitudinal study that examines the willingness and ability to continue working until the official retirement age in older workers in the general working population, and it does so in a large and heterogeneous sample. However, a number of methodological considerations should be mentioned. First, selection bias may have occurred as a result of selective response to participate in this study. In the Netherlands response to surveys is usually low, and the response at baseline of about 33% in the current survey was considered to be satisfactory. We do not know whether selective response to participate in this study influenced our findings. However, in longitudinal studies, heterogeneity in the study sample is more important than representativeness, and heterogeneity was high. Second, bias may have occurred as a result of selective loss to follow-up. Persons lost to follow-up were less often highly educated, and it remains unclear how this may have influenced our findings. In addition, they were less often able to continue working until the age of 65 in their current work. Therefore, relatively many of those lost to follow-up may have stopped working during the follow-up period. This may have resulted in an underestimation of the influence of predictor variables. The possible influence of selective loss to follow-up on our findings, however, remains unclear. Third, the willingness and ability to continue working until the age of 65 were assessed by means of single questions. Although these complex concepts may preferably be assessed by more extensive measures, additional measures were not available in the NWCCS. However, it should be noted that in a previous study in the same study

population, we found the willingness and the ability to continue working until the age of 65 to be predictive of early retirement.[25] Fourth, the question on the willingness to work until the age of 65 was slightly modified at follow-up. Although this may (partly) explain the decrease in the proportion of persons that was willing to continue working, we do not know whether it influenced the predictors of the willingness to continue working. Fifth, the follow-up period of one year was relatively short. It is important that future studies with longer follow-up periods replicate our analyses.

Many countries recently introduced financial regulations that require workers to extend their working life. However, a high willingness and ability to work are necessary for a fruitful and productive prolongation of working life. To attain this, health-related and work-related factors should be taken into account as well. The present study suggests that the prevention of emotional exhaustion and the promotion of a healthy social climate at work could contribute to the willingness and the ability of older workers to continue working until the age of 65. In addition, it is recommended to improve quality of work in terms of physical and psychosocial workload to support that older workers are able to work until older age. Or, alternatively, to offer the opportunity to change to jobs that better fit the capacities of the older worker.

In conclusion, prevention of emotional exhaustion in older employees and promotion of a healthy social climate at work may support both the willingness and the ability to continue working until the age of 65. Furthermore, improving quality of work in terms of physical and psychosocial workload may contribute to the ability to work until the age of 65.

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