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Original article

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Factors influencing the decision to extend working life or retire

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Objective The aim of this study was to evaluate factors within nine identified areas that influence why some older workers want to (or believe they can) work until age 65 years or beyond, whereas others leave the workforce earlier.

Methods The questionnaire-based, cross-sectional study included 1792 respondents aged 55–64 years, employed in the healthcare sector in Sweden. Using logistic regression, we investigated the associations between statements within nine areas and two outcome measures: (i) whether the individual wanted to work until age 65 years or beyond and (ii) whether the individual believed they can work until age 65 years or beyond.

Results Of the 1792 respondents, 54% stated that they "can" and 38% that they "want to" work until age 65 years or beyond. Three areas were significantly associated with both these outcomes: worker health, economic incentives, and retirement decisions by life partners or close friends. Mental and physical working environment, work pace and skills/competence were associated with the "can" outcome, whereas work as an important part of life, working time, and management attitude to older workers were associated with the "want to" outcome.

Conclusion Although there were differences regarding the associations between six of the areas and the two outcomes (ie, "can" and "want to" go on working until age 65 years or beyond), three of the areas were important to both outcomes. Among those, it was interesting that life partner or close social environment gave higher odds ratios than for example health, physical work environment, or work satisfaction.

Key terms employee; motivation; older worker; organization; retirement; work ability; work environment.

In most of the industrial world, the fraction of older people is continuously increasing (1). A work session on demographic projections in Lisbon in 2010 stated that current demographic trends, characterized by low fertility and increasing longevity and leading to an ageing population, have economic and budgetary implications (2). A consequence analysis carried out by the Organization for Economic Cooperation and Development (OECD) compared the elderly boom to the social effect arising from natural disasters (3). In the OECD countries, it is estimated that 29% of men and 34% of women will be ≥60 years in 2050, compared with 15% of men and 20% of women in 2000 (4). In the EU25 (European Union of 25 members), more than 33% of men and 38% of women are estimated to be ≥60 years in 2050, up from 18% of men and 24% of women in 2000 (4). The demographic situation is similar in most of the Western world and in the Nordic countries, as illustrated by the following predicted figures for men and women, respectively, in 2050: USA 24% and 28%; Sweden 28% and 30%; Finland 31% and 35%; Germany 34% and 39% (4).

The demographic change will result in an increased old age dependency ratio when fewer in the workforce have to provide for more elderly people. For the EU27, the old age dependency ratio is expected to rise from 25% in 2008 to 38% in 2030. In other words, 100 people in the working population supported 25 people aged ≥65 years in 2008, but they are estimated to support 38 people by 2030 (5). In addition, the policies in 21 countries regarding the social protection system, including old age and disability pension, a negative attitude to older

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workers, and ill-suited working conditions force older workers into early retirement (6). As a consequence of the ageing population, society has to increase the number of working hours in the economy, which stresses the importance of motivating the population to work to an older age in order to maintain the welfare state. Several European countries have already decided to take this step (7–9).

Most of the theoretical models that are used in retirement studies are not developed specifically to consider old age retirement but rather economics, organizational and social needs, personal development, wellbeing, and health (10). Good physique, mental health, and work ability are often reported to be very important factors for whether people are able to continue their working life or take sick leave or some form of retirement (10, 11, 15–29). Health has been called a key determinant of early retirement (30).

Another factor often described in earlier retirement studies is economic: personal finances and retirement incentives (eg, incentives that keep employees in the workforce through poverty or pull them into retirement and make it possible to stop working through economic well-being) (10, 13, 14, 22, 26, 30–33).

Poor physical work environment and arduous work conditions leave people worn out and push them to leave working life early (15, 21, 34–39). Some studies have shown that older workers seem to need more time to rest, and highlight moderate working pace and working time as being very important for the older workforce (1, 10, 11, 23, 26, 38).

Mental work conditions, stress and job control have also been mentioned as important predictors for people's retirement planning, and retirement seems to be a possible socially acceptable way to withdraw from a demanding work situation (10, 11, 15, 21, 25–28, 34–39).

Feeling satisfied with the daily work and receiving attention in the work situation have been cited as important factors in the intention to extend working life (15, 22, 23, 28, 40, 41). This is particularly the case if the attitude is positive, and older workers are treated as wise and experienced, or negative (ie, there is a stereotypical picture of older workers as stagnant and an encumbrance) (23, 26, 42, 43).

Another factor that affects the decision to extend working life according to previous research is the level of education, competence, and possibility for skills development of older workers, but also whether they are able to use their skills in their work (17, 19, 26, 31, 40, 44, 45). But it is not only working life that matters. The prevailing attitude of society, marital status, whether the life partner is working, or if the older worker wants to spend more time with relatives and leisure pursuits may influence individuals to withdraw from working life (12, 15, 19, 22, 26, 29, 46–48).

The decision to retire is complex, multidisciplinary and involves a lot of different research areas. However, earlier studies have shown that personal factors (such as health and economic well-being) and environmental factors (such as work characteristics and leisure interest) both influence the planning of and decisions about retirement (1, 10, 11). Some factors seem to influence workers to stay in the workforce, whereas others seem to pull or push workers to leave the workforce (10, 12–14). A review of old age policies in 21 countries concluded that the current social protection system, including old age and disability pension, pulls older workers into early retirement (6). At the same time, a negative attitude to older workers together with ill-suited working conditions for their needs and capacity push older workers out of work (6).

The aim of this cross-sectional study, among healthcare personnel ranging in age from 55–64 years and working in southern Sweden, was to evaluate the main factors associated with why people want to, or believe they can, work until age 65 years or beyond. The reason for this is that even though an individual is pulled or pushed and able to do something does not mean that they want to do it, and vice versa. To better understand the retirement planning process, it is therefore of particular interest to examine the "can" and "want to" perspectives and investigate how different factors are associated with perspectives from earlier studies and retirement theories.

Methods

The dataset used in this study originated from a Swedish National Institute of Working Life study in 2004, which examined factors of interest for retirement.

Study population

The initial study population identified consisted of 2822 individuals born between 1940–1949. Subjects were identified by the personnel register as being employed in the health and medical care service in Scania, the most southern county in Sweden. The study population had the same employer, which minimized the risk of different employment conditions, rehabilitation policies, and retirement policies (49). Working in the public sector has been associated with early withdrawal from the working life in a previous study (26).

The individuals in this study were sent a questionnaire by post. After two reminders, 1815 individuals answered the questionnaire. However, 23 individuals did not state whether they think they can and want to work ≥65 years. Those individuals were excluded from the study, resulting in a total of 1792 individuals in the final

study population. This corresponded to a response rate of 63.5%. The majority of the participants were women (84%). In addition, women had a higher response rate (68%) compared with men (59%). The median age among the participants was 59 years, which was very similar to that of the non-respondents (58 years).

The distribution of occupations among the participants was: 21% nurses, 20% medical secretaries, 17% doctors, 15% nursing assistants, 7% physiotherapists, 7% welfare officers, 5% psychologists, 5% psychiatric nursing assistants, and 3% occupational therapists. The proportion of non-participants was highest among doctors (25%) and lowest among physiotherapists, occupational therapists, psychologists, and welfare officers (14%). In all, 13% of the respondents were on part- or full-time sick leave and 16% had a part- or full-time disability pension. Of the participants, 91% were born in Sweden, 4% in another Nordic country, 4% in non-Nordic European country and 1% outside Europe. As regards civil status, 75% of the participants were married/co-habiting, 4% were partly co-habiting, and 21% were single. Among the participants with a partner, 61% had a partner who worked full-time, 13% had a partner who worked part-time, and 26% had a partner who did not work at all.

Questionnaire

Two questions formed the basis for the outcomes in this study. The first question was whether the respondent *wants to* work until 55–59, 60–64, 65, or ≥66 years of age and the second question was whether the participant believes they *can* work until 55–59, 60–64, 65, or ≥66 years of age. The answering options were dichotomized at 65 years of age (ie, working until <65 versus ≥65 years of age).

Originally the participants filled in a questionnaire that included 158 statements. For each statement, the participants had five answering options ranging from fully agree to fully disagree. The answers to each statement were then sorted into three categories; fully agree, neither fully agree nor fully disagree, and fully disagree. Based on previous knowledge within this research field, the statements were sorted into nine areas. The selection of the statements was based on previous studies performed by our research group (15, 40), a literature review (50), and other surveys (51–54). The questionnaire was tested in a group of 15 individuals employed within the healthcare sector. Evaluation of this pilot process resulted in reformulation of a few statements.

In our study, we used 65 of the 158 original statements. They were sorted into nine areas: (i) physical and mental health (9 statements), (ii) personal economic incentives (8 statements), (iii) physical work environment (3 statements), (iv) mental work environment (9 statements), (v) work pace and working time (8 statements), (vi) managerial and organizational attitude to older workers (6 statements), (vii) competence and possibility for skills development (10 statements), (viii) motivation and work satisfaction (7 statements), and (ix) family/leisure pursuits and attitude to pension in society (5 statements).

Statistical analysis

Logistic regression models generating odds ratios (OR), 95% confidence intervals (95% CI), and P-values were used to investigate the statements associated with the outcomes "want to work until age 65 years or beyond" and "can work until age 65 years or beyond". For each of the two outcomes, we used the following analytical strategy.

Analyses within each of the nine areas. We started with univariate analyses (ie, we evaluated the associations for one statement at a time). In a second step, we kept the statement with the lowest P-value (if $P<0.05$) and tentatively included all other statements, one at a time. In a third step, we kept the two statements with the lowest P-values (if both $P<0.05$) and tentatively included the remaining statements one at a time. This procedure continued for as long as the P-values for all included statements were <0.05.

Analyses including all nine areas. We started by including the selected statements from areas (i) and (ii) in a multivariate model (ie, the areas "physical and mental health" and "personal economic incentives"). The statements with P-values <0.05 were kept in the model to the next step, in which we also included the selected statements from area (iii). This procedure continued until all nine areas were included in a final model. After that, the out-sorted statements from the nine areas were tested, one at a time, in the final model, to check once more if the model was robust.

Background variables. In the final multivariate model, we also evaluated the importance of background variables (age, gender, and marital status) by including them in the model.

Results

Outcomes

The proportion of individuals who stated that they can work until age 65 years or beyond was 54% (table 1). A higher proportion was observed among the older participants (62%), ie, those in the age range 60–64 years,

compared with the younger participants (48%). The proportion of individuals who stated that they want to work until age 65 years or beyond was 38% (table 2). Again, the proportion was higher among the older (47%) than younger participants (33%).

Out of the 1792 respondents, 36% stated that they can *and* want to work until age 65 years or beyond, 44% stated that they can *and* want to work until 55–64 years of age, 17% stated that can work until age 65 years or beyond *but* they only want to work until 55–64 years of age, and 3% stated that they can work until 55–64 years of age but they want to work until age 65 years or beyond.

Statements associated with "can" work

In the final multivariate model, 11 statements were statistically significantly associated with "can work until age 65 years or beyond" (table 3). The statements were from seven of the nine areas. Three statements were from the area "personal economic incentives" and two from the area "physical and mental health". Those areas that were not represented in the final model were "motivation and work satisfaction" and "managerial and organizational attitude to older workers".

The strongest observed association, defined as the highest OR, was for the statement "I hope for an offer from my employer to stop working before age 65". Comparing the individuals who disagreed with this statement with those who agreed with it gave an OR of 4.3 (95% CI 3.2–5.9). The second strongest association was observed within the area "mental work environment". Comparing the individuals who disagreed with the statement "my work is too mentally demanding for working until age

Table 1. Proportion of respondents in the age classes 55–59 and 60–64 years who believed they "can" work to 55–59, 60–64, 65 and >66 years.

Age of respondent	Age (years) to which respondents believed they can work							
	55–59		60–64		65		≥66	
	N	%	N	%	N	%	N	%
55–59	86	7.9	485	45	367	34	149	14
60–64	10	1.4	261	37	309	44	131	18
All	96	5.3	746	42	676	38	280	16

Table 2. Proportion (%) of respondents in the age classes 55-59 and 60-64 years who "want to" work to 55–59, 60–64, 65 and >66 years.

Age of respondent	Age (years) to which respondents want to work							
	55–59		60–64		65		≥66	
	N	%	N	%	N	%	N	%
55–59	154	14	574	53	271	25	89	8.2
60–64	30	4.2	351	49	233	33	99	14
All	184	10	925	51	504	28	188	10

Table 3. Distributions regarding "can" outcome for statements included in final multivariate model. Increased odds ratio (OR) indicate individuals believed they have increased possibility to work age ≥65 years. [95% CI=95% confidence interval; Ref=reference.]

Agree or disagree with the statement in each area	Univariate estimates		Multivariate model	
	OR	95% CI	OR	95% CI
Physical and mental health				
I feel mentally worn out				
Agree	Ref		Ref	
Partly agree	2.1	1.6–2.7	0.9	0.6–1.4
Disagree	4.1	3.2–5.4	1.7	1.1–2.5
I have bad health and have/am probably going to get disability pension before age 65				
Agree	Ref		Ref	
Partly agree	5.0	3.5–7.2	1.6	1.7–4.3
Disagree	3.3	3.3–6.2	2.6	1.4–3.4
Personal economic incentives				
I am saving in different ways to make it possible to stop working before age 65.				
Agree	Ref		Ref	
Partly agree	2.9	2.2–3.8	1.6	1.1–2.3
Disagree	6.9	5.5–8.8	2.6	1.9–3.6
My intention is to work beyond age 65 to get a better pension				
Disagree	Ref		Ref	
Partly agree	3.0	2.1–4.1	1.8	1.1–2.8
Agree	5.4	3.9–7.6	1.9	1.2–3.0
I hope for an offer from my employer to stop working before age 65				
Agree	Ref		Ref	
Partly agree	3.7	2.7–5.0	2.1	1.4–3.1
Disagree	13	10–17	4.3	3.2–5.9
Physical work environment				
My work is too physically demanding for working age ≥65 years				
Agree	Ref		Ref	
Partly agree	2.4	1.7–3.3	1.4	0.9–2.1
Disagree	6.3	4.6–8.6	2.2	1.5–3.4
Mental work environment				
My work is too mentally demanding for working age ≥65 years				
Agree	Ref		Ref	
Partly agree	3.5	2.7–4.6	2.1	1.4–3.0
Disagree	12	9.2–15	4.0	2.8–5.7
Working pace and working time				
The working pace in my daily work is rapid				
Agree	Ref		Ref	
Partly agree	1.4	1.1–1.8	1.0	0.7–1.5
Disagree	2.5	1.9–3.1	1.5	1.0–2.1
Competence and possibility for skills development				
I feel that my competence is used in a satisfactory way within the organisation				
Disagree	Ref		Ref	
Partly agree	1.0	0.7–1.4	1.8	1.2–2.9
Agree	1.6	1.2–2.1	1.6	1.1–2.5
Due to my age I get fewer possibilities to be supervised				
Agree	Ref		Ref	
Partly agree	1.5	1.1–1.9	1.1	0.7–1.5
Disagree	1.1	0.8–1.5	0.6	0.4–0.9
Family/leisure pursuits and attitude to pension in society				
I will stop working before age 65 when my life partner/close friend stops working				
Agree	Ref		Ref	
Partly agree	3.6	2.7–4.9	2.2	1.5–3.3
Disagree	8.5	6.4–11	3.8	2.6–5.4

65 years or beyond" with those who agreed with it gave an OR of 4.0 (95% CI 2.8–5.7). When the background variables age, gender and marital status were included in the final model, the OR changed only marginally (data not shown).

Statements associated with "want to" work

In the final multivariate model, 12 statements from five of the nine areas were associated with "I want to work until 65 years of age or beyond" (table 4). None of the statements from the areas "physical work environment", "mental work environment", "working pace and working time" and "competence and possibility for skills development" qualified for the final model. However, five statements from the area "personal economic incentives", three from the area "family/leisure pursuits and attitude to pension in society", and two from the area "managerial and organizational attitude to older workers" qualified for the final model.

The strongest association was observed for the statement "I will probably stop working before age 65 through an early age pension", included in the area "personal economic incentives". When comparing individuals who disagreed with this statement against those who agreed with it, an OR of 8.6 (95% CI 4.8–15) was observed. A strong association was also observed for another statement within the same area; when comparing individuals who disagreed with the statement "I hope for an offer from my employer to stop working before age 65" with those who agreed with it, an OR of 7.9 (95% CI 5.4–11) was observed. When we included the background variables age, gender, and marital status in the final model, the OR changed only marginally (data not shown).

Discussion

This study indicated that there is a difference between "can" and "want to" work in an extended working life. There were more individuals who believed they can work than those who stated that they want to work until age 65 or beyond. Employees aged 60–64 years more often reported that they can and want to work until age 65 or beyond than those aged 55–59 years. The nine areas chosen to cover the field were based on earlier studies (10–51). Three of these areas were significantly associated with why people want to work, and why they think they can work, until 65 years or beyond. The results showed that the other six areas also influenced whether older workers believed they can *as opposed to* want to work until 65 years or beyond.

The study design was cross-sectional, which means that the results should be interpreted as the workers'

Table 4. Distributions regarding "want to" outcome for statements included in final multivariate model. Increased odds ratio (OR) indicate individuals believed they have increased possibility to work age ≥65 years. [95% CI=95% confidence interval; Ref=reference.]

Agree or disagree with the statement in each area	Univariate estimates		Multivariate model	
	OR	95% CI	OR	95% CI
Physical and mental health				
I usually wake up in the middle of the night				
Agree	Ref		Ref	
Partly agree	1.3	1.0–1.7	1.2	0.8–1.9
Disagree	2.3	1.8–2.8	2.0	1.4–2.8
Personal economic incentives				
I will probably stop working before age 65 through early age pension [a]				
Agree	Ref		Ref	
Partly agree	6.1	4.3–8.6	1.8	1.2–2.9
Disagree	33	21–51	8.6	4.8–15
I am saving in different ways to make it possible to stop working before age 65				
Agree	Ref		Ref	
Partly agree	3.0	2.3–4.0	1.6	1.1–2.4
Disagree	9.6	7.3–13	2.2	1.5–3.3
My intention is to work beyond age 65 to get a better pension				
Disagree	Ref		Ref	
Partly agree	3.4	2.5–4.6	1.9	1.2–3.0
Agree	7.1	5.3–9.8	2.2	1.4–3.5
I hope for an offer from my employer to stop working before age 65				
Agree	Ref		Ref	
Partly agree	5.2	3.8–7.1	3.6	2.4–5.4
Disagree	27	20–36	7.9	5.4–11
I do not want to decrease my number of working hours even if my economic situation allows that				
Disagree	Ref		Ref	
Partly agree	2.6	2.0–3.4	2.4	1.6–3.6
Agree	4.3	3.4–5.4	3.5	2.4–5.1
Attitude to older workers in the organization				
There are special arrangements to adapt the work situation to senior employees at my workplace				
Disagree	Ref		Ref	
Partly agree	1.8	1.4–2.2	1.9	1.4–2.7
Agree	2.0	1.4–2.7	1.7	1.0–3.0
The managers' attitude towards senior employees is positive at my workplace				
Disagree	Ref		Ref	
Partly agree	0.8	0.5–1.1	2.0	1.1–3.8
Agree	1.0	0.7–1.4	2.7	1.0–4.6
Motivation and work satisfaction				
My work is a very important part of my life				
Disagree	Ref		Ref	
Partly agree	4.9	1.9–12	2.2	0.8–6.3
Agree	14	5.8–36	3.2	1.1–8.8
Family/leisure pursuits and attitude to pension in society				
I will stop working before age 65 when my life partner/close friend stops working				
Agree	Ref		Ref	
Partly agree	4.3	3.0–6.0	2.3	1.4–3.8
Disagree	23	14–37	4.8	2.6–8.8
In my circle of acquaintances, it is common to work beyond age 65				
Disagree	Ref		Ref	
Partly agree	2.3	1.8–3.0	1.5	1.0–2.2
Agree	3.5	2.5–4.8	1.9	1.1–3.3
The common attitude in society is stop working before age 65				
Agree	Ref		Ref	
Partly agree	1.1	0.8–1.5	1.1	0.7–1.8
Disagree	2.1	1.7–2.7	1.7	1.1–2.5

[a] Today possible from age 61 in Sweden.

own attitudes and predictions about extended working life/retirement planning. The questionnaire was sent out after a review of the theoretical basis in the area and the majority of the statements in the questionnaire have previously been validated. In addition, a pilot study was performed to ensure that the statements included fulfilled the objectives. Although we had a relatively large number of participants in the study, a potential weakness was that 36.5% of the individuals in the original study population did not participate. Unfortunately, we have almost no information about the non-respondents and accordingly, it is not possible for us to estimate their importance. However, according to information from the diary used when people called to state that they did not want to participate, health and conflicts with managers seemed to be the most common reasons for non-participation.

It is also critical to consider that everyone included in the study population was employed. There could therefore have been a healthy worker effect and selection bias if those with poor health had already left the workforce. On the other hand, we used individuals working in the same workforce, and internal comparisons are reported to be one of the most effective ways of reducing the healthy worker effect (52).

The respondents were mostly women occupied in professions in the health and medical care sector, although there were less women among the doctors responding. Thus the study population consisted mostly of women, but that reflects the reality in the healthcare sector and the models were robust even after adjusting for gender. The models were also robust after adjusting for age and marital status.

Economic incentives and economic policy are previously well-known factors to pull or push older workers to retire or extend working life (10, 13, 14, 22, 26, 30–33). Compared with the other areas examined in this study, this seemed to be the most important factor for older workers when planning retirement and whether they believe they can and want to work until 65 years or beyond. Health was a slightly less important factor influencing whether older workers believe they can and want to extend their working life. Health is reported to improve after retirement among those in poor work situations (30), although being "pushed" into retirement can also result in increased mental health problems (11). Although individuals need good health to be able to work and have a good work capacity (1, 10, 11, 15–29), economics seemed to be of more importance than health status among the respondents in our study.

The reason why employees aged 60–64 years in this study more often reported that they can and want to work until 65 years could be that people often feel younger than their chronological age and seem to postpone the final decision to retire when they realize that retirement also involves the loss of the social ingredient and work status (15).

A surprise in this study was that life partners and close friends play such an important role regarding whether older workers believe they can, and want to, go on working past 65 years. This was more highly associated with extending the working life than, for example, health, physical work environment, or work satisfaction. Some previous studies have indicated the importance of marital status among women and change in marital status among men (10, 22, 26, 29). In this study, marital status was not significant in the model, but we included a direct statement in the questionnaire on whether the respondent was planning to retire at the same time as his/her life partner or close friends. The attitude in the surrounding environment is important in promoting healthy choices (47, 54), and the present study also indicated that the attitude in the close social environment is important for retirement planning. The attitude of society to retirement planning and time of retirement seems therefore to be an important factor to consider for a country intending to postpone people's retirement age.

One strength of this study was the possibility to determine differences between whether older workers believed they can and whether they want to extend their working life. All nine areas in the analysis had been identified in earlier studies as very important to retirement and retirement planning (10–48), but not all had been included in the same study. Furthermore, to the best of our knowledge earlier studies had made no distinction between whether older workers believed they "can" and/or "want to" have an extended working life.

Mental and physical work environment, work pace, and skill and competence were particularly important factors in whether older workers believed they can work until 65 years of age or beyond. The mental work environment was also one of the most important factors in this respect. In addition, work as an important part of life and the attitude of managers and the organization toward older workers were important factors in the decision to extend working life. This "can" and "want to" perspective will hopefully make a contribution to understanding the retirement planning process. It does not contribute information on the factors that pull or push people out of working life, but rather examines the factors that make these older workers believe they "can" and/or "want to" work until 65 years of age or beyond. This knowledge can hopefully be important in intervention planning.

Due to the demographic change in society affecting human resources planning and the working life in the future (1–11), it is essential to continue studies within this research area. In such future research, it is important to test whether the models developed in this study continue to be robust when used for other sectors.

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