

ORIGINAL ARTICLE

Working while on a disability pension in Finland: Association of diagnosis and financial factors to employment

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Abstract

Aims: The aim of this study was to find out whether health and financial factors are associated with engagement in paid work during a disability pension. **Methods:** The data included a 10 per cent sample of Finns aged 20–62 years who were drawing earnings-related full or partial disability pension in 2012 ($n = 14,418$). Logistic regression analysis was used to estimate odds ratios for working while on a full or partial disability pension. **Results:** Fourteen per cent of full disability pensioners and 76 per cent of partial disability pensioners were engaged in paid work. Full disability pensioners due to mental disorders were working less often than full disability pensioners due to other diseases. Partial disability pensioners due to cardiovascular diseases were working more than partial disability pensioners due to other diseases. More recent timing of disability pension was associated with working for both partial and full disability pensioners. Working while on disability pension was more common among those with higher education. Partial disability pensioners with average pension worked more often than those with high pension. **Conclusions:** By knowing the factors associated with working while on a disability pension, policies could be more efficiently allocated to encourage disability pensioners to take up work. One way would be to support disability pensioners with low education to work more. Another way to increase work among disability pensioners is to support the recently retired in working longer.

Key Words: *Disability pension, work, health, education, timing of disability pension*

Introduction

The low employment rate of people with reduced work ability is a large social and labour market challenge in many countries [1–3]. Many people are forced to leave the labour market too early because of health problems, and people with disabilities or chronic illnesses have a relatively low employment rate and relatively high poverty risk [2–6]. During the last few years, increasing the labour market participation of the disabled has become an important aim of disability and labour market policies [7]. Working is seen to positively affect disability pensioners' level of living and well-being, but also to contribute to prolonging working lives. Many efforts have been made to promote possibilities for the disabled to continue working and increase employment [8–10]. While the

topic is high on the political agenda, working while on a disability pension has not been covered much in existing literature and, thus, little is known about the factors associated with working. This article provides empirical evidence from Finland and focuses particularly on the association of health and financial factors with working while on a disability pension.

A relatively high number of working-age individuals are on disability pension in Finland, and 6.4 per cent of those aged 16–64 years were drawing disability pension in Finland in 2015 [11]. Disability pension can be granted to a person aged 17–62 years, who has an illness, handicap or injury that reduces his or her work ability and lasts for at least one year. Full disability pension is granted if the work ability is

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Date received 29 November 2016; reviewed 22 March 2017; accepted 8 August 2017

reduced by at least three-fifths and partial disability pension is granted if the work ability is reduced by at least two-fifths. Some 14 per cent of all disability pensioners were receiving partial disability pension, and the share of partial disability pensioners has grown during recent years. The partial disability pension is half of the corresponding full pension. While a full disability pension is granted on the principle that the individual's ability to work is weak and he or she is no longer required to work, the partial disability pension is based on the idea that the individual continues to work with their remaining work ability. Ten per cent of full disability pensioners and almost 80 per cent of partial disability pensioners were working at the end of 2012 [12].

In the Finnish pension system, working is allowed within the personal earnings limit determined by pre-retirement earnings. Full disability pensioners' earnings may be a maximum of 40 per cent of the average earnings of the last five pre-retirement years, and 60 per cent for partial disability pensioners [13]. If the earnings exceed the 60 per cent earnings limit, the pension is suspended [13]. In 2010, a return to work from disability pension was made easier with a temporary act that allowed disability pensioners to earn up to 713 euros per month (limit in 2012) in addition to the pension. This provisional act is in force until the end of 2020. Despite the reform, statistics show that the number of working full disability pensioners remained at the same level from 2007 to 2012 [12].

Depending on the medical reasons for the disability pension, retirees may have different limitations to work while on a disability pension. The main health problems leading to a disability pension are musculoskeletal diseases and mental disorders, which together covered over 60 per cent of all new disability pensions [11]. Disability pensioners due to cardiovascular diseases and musculoskeletal diseases are more likely to continue working [12,14], which may also be related to the age structure of the retirees. The timing of retirement may also be associated with the probability of working. People who have recently retired are more likely to work than those who have been on a disability pension longer, because of their existing contacts with working life. Instead, finding a new job with limited work ability may be challenging and a longer absence from work may affect motivation and skills [15].

People with disabilities in all age groups encounter poverty and material deprivation more often compared to those with no disability [2]. Disability pensioners have a lower average pension than other pensioners [11], which may force them to work while on a disability pension. There may also be

socio-economic differences in working while on a disability pension. People with lower socio-economic status may have a lower probability of working while on a disability pension because their working conditions have often been more demanding [16], or they have more experiences of unemployment than people with an upper socio-economic status.

The Finnish pension system is, for many reasons, an interesting case for international readers. Not only because of the relatively high proportion of working-age people on disability pension and a pension scheme that enables working, but also because the Finnish earnings-related pension insurance is comprehensive and covers all earnings from work with very uniform benefits and conditions for receiving them. In many countries, the earnings-related and occupational pension schemes provide coverage selectively to a given occupation, industry or type of employment [17]. The data used in this study are also exceptional. The register data are reliable and represent earnings-related full and partial disability pensioners exhaustively. It is also remarkable that the data include all earnings received from paid work or entrepreneurship and all disability pensions, also from the national pension system. In previous studies, working has typically been measured by having a work contract. In this study, the amount of earnings can be used to measure the extent of working. The data thus enables the use of different euro limits to evaluate the amount of working.

Data and methods

We used longitudinal register data from Statistics Finland, which consists of information from various registers. The data comprised a nationally representative 10 per cent sample of Finns. We restricted the data to individuals who were aged 20–62 and drew earnings-related disability pension at the end of 2012. Retirement data from the years 1995–2012 were obtained from The Finnish Centre for Pensions. Our aim was to study those with a previous work history; we have not included in our study those disability pensioners whose pensions consist only of national pension. Since earnings from paid work and self-employment were measured during the calendar year 2012, those who had retired in 2012 were excluded. The data included 14,418 disability pensioners. A total of 12,969 (90 per cent) received a full disability pension, and 1440 (10 per cent) received partial disability pension.

Engagement in paid work. Engagement in paid work was measured by income derived from paid work or self-employment during 2012. The earnings of full

disability pensioners were divided into four groups: 0–1000, 1000–2000, 2000–5000 and over 5000 euros in the year 2012. Partial disability pensioners' earnings were divided into six groups: 0–2000, 2000–5000, 5000–10,000, 10,000–15,000, 15,000–20,000 and over 20,000 euros in year 2012. We used different classifications of earnings for full and partial disability pensioners since partial disability pensioners were more often working and their earnings were higher than those of full disability pensioners.

Education. Socio-economic status was measured by education. Education included the highest educational level of the pensioner, consisting of the following categories: primary school (up to nine years), secondary school (up to 11–12 years), lower tertiary education (up to 15 years) and higher tertiary education (16+ years).

The amount of disability pension. The amount of disability pension includes benefits-related disability (ESSPROS classification) [18]. It includes, for example, earnings-related disability pensions and national disability pensions. The amounts of disability pensions in 2012 were divided into quintiles, separate for full and partial disability pensioners.

Timing of disability pension. The duration of disability pension was divided into four groups: disability retirement 2010–2011, 2005–2009, 2000–2004 or before the year 2000.

Cause of disability. The diagnoses for disability retirement were classified according to the International Classification of Diseases (ICD-10). The following diagnostic groups were used: musculoskeletal diseases (M00–M99), mental and behavioural disorders (F00–F99), cardiovascular diseases (I00–I99), diseases of the nervous system (G00–G99) and other diseases.

Covariates. Age, gender, marital status and information regarding underage children were used as control variables in the models. Age was classified into following groups: 20–49 years, 50–54 years, 55–59 years and 60–62 years in 2012. Disability pensioners were also classified into married or cohabiting, and those who were unmarried, widowed or divorced. They were also divided into those who had underage children and those who had not.

Distributions of background factors and covariates among partial and full disability pensioners are shown in Table I.

Statistical analysis. The amount of working was examined by percentage tables using different

earning limits. Logistic regression analysis was used to analyse engagement in work while on earnings-related disability pension according to different background factors. We made separate analyses for full and partial disability pensioners. At first, we showed how single factors were associated to working while on a disability pension (model 1). In full models, all statistically significant factors were included (model 2).

Results

Table II displays the full disability pensioners' earnings from paid work or self-employment in 2012. A total of 84 per cent of full disability pensioners earned less than 1000 euros. Nine per cent of full disability pensioners earned over 5000 euros and very few earned between 1000 and 5000 euros. Earnings increased with higher education or a higher amount of disability pension, and more recent retirement. Those who had retired due to musculoskeletal diseases worked more often, and those who had retired due to mental disorders, less often than others. These associations were fairly similar regardless of the earnings limits used. However, those with a small disability pension had earnings between 1000 and 5000 euros less frequently, but more frequently earnings higher than 5000 euros.

In further analyses we examined the associations (odds ratio (OR), 95% confidence interval (CI)) of health and financial factors to working while on a full disability pension when the retirees were defined as working if their earnings exceeded 2000 euros. Sensitivity analyses using other earnings limits showed that the cut-off points did not affect the results significantly. The full model includes statistically significant background factors and has been adjusted with information on disability pensioners' marital status and having underage children. Results showed that higher education was associated with working. Full disability pensioners with higher tertiary education were twice as likely to be working (OR 2.1; 95% CI 1.6–2.8) than those with only primary education. The amount of disability pension was not associated with working to a statistically significant degree and, therefore, it was not included in the full model. Disability retirees due to mental disorders were working less frequently than disability retirees due to musculoskeletal diseases or other diseases. The OR for working while on a full disability pension due to musculoskeletal diseases was 1.7 (95% CI 1.5–1.9) compared to those with mental diagnoses. More recent disability retirement was also associated with working. The OR for working among those whose disability pension had begun before the

Table I. Characteristics of full and partial disability pensioners in the year 2012.

		Full disability pension	Partial disability pension
		%	%
Gender	Men	52.6	34.7
	Women	47.4	65.4
Age	20–49	18.5	14.7
	50–54	16.3	16.5
	55–59	31.9	37.0
	60–62	33.4	31.8
Marital status	Married/cohabiting	42.3	61.0
	Unmarried/widow/divorced	57.7	39.0
Underage children	No	91.1	87.8
	Yes	8.9	12.2
Education	Primary	32.9	20.9
	Secondary	50.7	52.7
	Lower tertiary	13.7	21.3
	Higher tertiary	2.8	5.1
Disability pension (quintiles)	1 quintile	20.0	20.0
	2 quintiles	20.0	20.0
	3 quintiles	20.0	20.0
	4 quintiles	20.0	20.0
	5 quintiles	20.0	20.0
Timing of disability pension (year)	–1999	22.7	5.0
	2000–2004	22.0	10.4
	2005–2009	35.9	42.0
	2010–2011	19.5	42.6
Cause of disability	Mental disorders	43.9	17.1
	Musculoskeletal diseases	24.9	53.1
	Cardiovascular diseases	6.5	4.7
	Other diseases	24.7	25.1
		<i>n</i> = 12,978	<i>n</i> = 1440
Disability pension, quintiles		Euros:	Euros:
1st quintile		0–9870	0–6335
2nd quintile		9870–12,610	6335–7900
3rd quintile		12,610–15,190	7900–9390
4th quintile		15,190–19,420	9390–11,990
5th quintile		19,420–	11,990–

year 1999 was 0.5 (95% CI 0.4–0.5) compared to those who retired between the years 2010 and 2011.

Table III shows partial disability pensioners' earnings from paid work or self-employment in 2012. Some 20 per cent of them had earnings less than 2000 euros. A fourth earned 10,000–15,000 euros and another fourth 15,000–20,000 euros, while for 20 per cent, earnings were over 20,000 euros. The descriptive statistics show the expected associations between earnings and background factors; for example, disability pensioners with higher tertiary education mainly have high earnings. A total of 81 per cent of those had earnings over 20,000 euros in the year 2012. About 25 per cent of those with a small disability pension were also in the smallest earnings group. In the group of highest disability pension, almost 30 per cent had earnings less than 2000 euros, and over 40 per cent had over 20,000 euros. Those with more recent retirement more often belonged to the high

earnings groups. Those who had retired due to cardiovascular diseases more often had better earnings, but otherwise the differences between diagnostic categories were small.

Table III also shows the associations (OR, 95% CI) of different factors to working while on a partial disability pension, when the retirees' earnings exceeded 5000 euros. The full model includes statistically significant variables and has been adjusted with age, gender and marital status. When using the earnings limit of 5000 euros, working while on a partial disability pension was more common among those with higher tertiary education than primary education (OR 9.0; 95% CI 3.4–24.3). Those partial disability pensioners whose disability pension was at an average level were working more than those with high or low disability pension. Also, those partial disability pensioners who had retired more recently were more often working while on a

Table II. The associations of health and financial factors with working among full disability pensioners using different earnings limits, showing odds ratios (ORs) and confidence intervals (CIs) for working while on a full disability pension (earnings > 2000 euros in the year 2012).

		Earnings, %				Single model		Full model*	
		0–1000	1000–2000	2000–5000	5000–	OR	95% CI	OR	95% CI
Education	Primary	86.5	1.9	4.2	7.4	1.00		1.00	
	Secondary	83.6	2.5	5.5	8.7	1.23	1.10–1.38	1.19	1.06–1.34
	Lower tertiary	79.0	3.1	5.4	12.5	1.66	1.42–1.93	1.61	1.38–1.89
	Higher tertiary	76.5	2.5	5.3	15.8	2.03	1.55–2.66	2.10	1.59–2.77
Disability pension (quintiles, euros)	0–9870	83.9	1.3	3.1	11.8	1.03	0.88–1.20		
	9870–12,610	84.6	2.3	5.3	7.7	0.89	0.76–1.04		
	12,610–15,190	84.8	2.4	5.1	7.6	0.87	0.74–1.01		
	15,190–19,420	83.5	2.3	5.2	9.0	0.98	0.84–1.15		
Timing of disability pension	19,420–	82.0	3.6	5.5	8.9	1.00			
	–1999	88.4	1.8	4.0	5.8	0.38	0.32–0.44	0.45	0.39–0.53
	2000–2004	87.5	1.9	3.2	7.4	0.41	0.35–0.48	0.45	0.39–0.53
	2005–2009	83.9	2.4	5.1	8.6	0.55	0.49–0.62	0.57	0.50–0.64
Cause of disability	2010–2011	73.9	3.5	7.3	15.3	1.00		1.00	
	Mental disorders	87.7	1.9	4.4	6.0	1.00		1.00	
	Musculoskeletal diseases	78.3	2.8	5.9	13.0	2.01	1.78–2.27	1.70	1.49–1.94
	Cardiovascular diseases	82.3	2.9	4.9	10.0	1.50	1.22–1.85	1.27	1.02–1.57
<i>n</i>	Other diseases	82.5	2.7	4.7	10.1	1.50	1.32–1.71	1.30	1.10–1.50
		10,868	308	632	1,170				
	%	83.7	2.4	4.9	9.0				

*Model adjusted: marital status and children (under 18 years).

disability pension. OR for working was 0.4 (95% CI 0.2–0.6) for those who had retired on a disability pension before the year 2000, compared to those who retired on a disability pension between the years 2010 and 2011. Disability pensioners due to cardiovascular diseases were working more often than those who had retired due to mental disorders (OR 2.3; 95% CI 1.1–5.1).

Discussion

In the Finnish pension system, engagement in paid work while on disability pension is allowed within the personal earnings limit determined by pre-retirement earnings. The limits are higher for partial disability pension than for full disability pension. Continuing to work while on a partial disability pension is customary, whereas working while on a full disability pension has been shown to be relatively rare.

In the present study, 14 per cent of those on full disability pension were engaged in working while drawing disability pension when 2000 euros (annual earnings) was used as the cut-off point for working. If 5000 euros was used as the cut-off point, the proportion decreased to 9 per cent. Of those on partial disability pension, 76 per cent were working if earnings of at least 5000 euros were used as the cut-off point. Regardless of the type of disability pension, the factors associated with work income were rather similar.

Working while on a disability pension was more common for those with higher education. More recent disability retirement was also associated with working. There were some differences regarding the health reasons: for full disability pensioners, working was also less common among those who had retired due to mental disorders than for those retired due to musculoskeletal diseases. Also, partial disability pensioners with cardiovascular diseases were working more often than those retired due to mental disorders. The financial factors (i.e. the level of disability pension) turned out to be less significant. Working while on a partial disability pension was more common on an average disability pension.

Altogether, our study found large educational differences in working while on a full or partial disability pension. Disability pensioners with higher education were more likely to work than disability pensioners with a lower level of education. These educational inequalities in working may partly reflect general socio-economic differences. Employment after disability retirement may be associated with previous working careers and prior experience of unemployment. People with higher socio-economic status and higher education have often had continuous working careers and less unemployment. Upper non-manual classes have also been found to work more often in later middle age than manual workers [19]. Manual workers also

Table III. The associations of health and financial factors with working among partial disability pensioners using different earnings limits, showing the odds ratios (ORs) and confidence intervals (CIs) for working while on a partial disability pension (earnings > 5000 euros in year 2012).

		Earnings, %						Single model		Full model*	
		0–2000	2000–5000	5000–10,000	10,000–15,000	15,000–20,000	20,000–	OR	95% CI	OR	95% CI
Education	Primary	26.6	4.7	6.3	23.9	22.3	16.3	1.00		1	
	Secondary	20.6	4.7	7.5	29.4	25.7	12.1	1.34	1.00–1.79	1.29	0.95–1.77
	Lower tertiary	13.7	2.9	4.9	16.0	35.0	27.5	2.27	1.54–3.34	2.36	1.54–3.62
	Higher tertiary	5.4	1.4	2.7	4.1	5.4	81.1	6.27	2.45–16.04	9.04	3.37–24.29
Disability pension (quintiles, euros)	0–6335	25.9	7.0	13.3	33.2	8.7	11.9	1.00	0.70–1.40	1.00	
	6335–7900	17.9	3.0	5.5	45.7	25.4	2.4	1.85	1.27–2.69	1.84	1.25–2.70
	7900–9390	12.9	4.2	3.2	24.5	46.5	8.7	2.37	1.60–3.15	2.30	1.53–3.47
	9390–11,990	13.9	1.7	4.5	8.4	38.0	33.5	2.63	1.76–3.94	2.46	1.60–3.78
	11,990–	27.4	4.9	5.9	8.3	11.1	42.4	1.03	0.72–1.46	0.77	0.51–1.15
Timing of disability	–1999	33.3	6.9	6.9	19.4	20.8	12.5	0.33	0.20–0.55	0.35	0.20–0.61
	2000–2004	24.8	6.0	8.7	22.8	18.1	19.5	0.51	0.34–0.76	0.46	0.29–0.70
	2005–2009	21.3	4.0	7.1	22.6	25.0	20.0	0.67	0.51–0.88	0.66	0.49–0.89
	2010–2011	15.0	3.6	5.2	26.4	29.3	20.5	1.00		1.00	
Cause of disability	Mental disorders	18.7	3.7	7.7	22.0	25.6	22.4	1.00		1.00	
	Musculoskeletal diseases	19.7	4.3	5.8	26.3	26.1	17.8	0.91	0.64–1.28	0.99	0.68–1.44
	Cardiovascular diseases	9.0	4.5	6.0	28.4	22.4	29.9	1.86	0.87–3.98	2.32	1.05–5.14
	Other diseases	21.8	4.1	7.1	20.2	26.9	17.4	0.82	0.56–1.20	1.08	0.72–1.63
	<i>n</i>	282	60	93	347	373	285				
	%	19.6	4.2	6.5	24.1	25.9	19.8				

*Model adjusted: gender, age and marital status.

run a higher risk of disability [20,21] and have often had more physically adverse working conditions than those with a higher socio-economic status [22,23]. People with higher socio-economic status may, therefore, have better possibilities to adapt their tasks to their work ability.

Our analyses showed that there was no association between the amount of disability pension and the probability of working among full disability pensioners. Instead, partial disability pensioners with average disability pension seemed to work more often than others. It may be that existing earnings limits affect the probability of working while on a disability pension. Full disability pensioners' earnings may be a maximum of 40 per cent of the average earnings of the last five pre-retirement years, and 60 per cent for partial disability pensioners, but nevertheless up to 713 euros in 2012 [13]. Among those with low pre-retirement earnings, this euro limit gave the right to earn more than the limit based on stabilized earnings, which may have encouraged their working. Secondly, higher earnings may restrict working while on a disability pension, if the earnings exceed the earnings limits for working on a disability pension. The first quintile of disability pension includes those disability pensioners whose disability benefit was suspended. However, this does not affect the results since the number of such disability retirees is very small.

Our study found that working while on a disability pension was more probable among those whose disability retirement had started more recently. Working while on a disability pension was much less likely for those who retired before year 2000 compared to those who retired 2010–2011. Also, an earlier study found that those partial disability pensioners whose retirement had started less than a year ago were working more often than those who had retired earlier [14]. People who have recently retired on a disability pension may find it a lot easier to continue working, compared to those whose retirement happened many years ago. They may have more connections to working life and their skills and working experience may be more often up-to-date [15,24] than those who have been on a disability pension longer. Future studies should focus in more detail on the length of employment among disability pensioners; that is, whether their working continues only for a short time after retirement and becomes less popular a few years after retirement, or whether it continues for a longer period, and what the factors associated with this phenomenon are.

Full disability pensioners with mental disorders were working less often than others. There may be several reasons for the lower employment rate of disability pensioners with mental disorders. Disability pensioners due to mental disorders are often younger

than other disability pensioners. Their incapacity to work may have started earlier and, thus, they may have less working experience [25]. It is also known that people with mental health problems face especially large barriers in the labour market [26,27], they have a much lower employment rate and are often more economically inactive than non-disabled people [28]. The working history of disability pensioners with mental disorders may also be more fragmented than for other disability pensioners. The employment gap has been found to increase sharply with the severity of the mental disorder [29]. Employers' attitudes toward people suffering from mental disorders may also be negative, and they do not easily employ people with mental illnesses [30]. Working conditions may also set limits for working. These may be possible explanations why the employment rate among disability retirees due to mental illnesses is relatively low.

The data were reliable and representative. Because the information was obtained from registers, there was no reporting bias or missing information. The data included a large set of sociodemographic and income factors, as well as causes of disability pension and timing of disability pension. It is notable that partial disability pension is only possible in the earnings-related pension system. Thus, the data we used did not include those disability pensioners who received national disability pension only. They are a somewhat divergent group, because their amount of working before retirement has been scant and, thus, their pension is small. However, those pensioners who have both earnings-related disability pension and national disability pension were included in the study. The amount of earnings was used to describe disability pensioners' work. This allowed us to examine the extent of working using different earnings limits. However, earnings differ somewhat (e.g. by age, gender, occupation or socio-economic status) and, thus, they do not necessarily give the right picture of pensioners' time spent working. Household income was not included in the study, even though it is probable that household income influences livelihoods and, therefore, the willingness to work. Also, for example, the ability to take action, health, geographical location or labour market possibilities may have an impact on employment after disability retirement.

In Finland, and in many countries, a major aim of social policy is to encourage the disabled to use their remaining working capacity to work more and to remove obstacles to work participation. Our study finds that there are many factors associated with working while on a disability pension. Among those with higher education, working while on a disability pension was considerably more common than among

the less educated. Another important result was that people who had recently retired were working more often than those who had been on a disability pension longer. Therefore, actions should target the period right after retirement, and thereafter make sure that those who have recently retired keep up working longer while on a disability pension. Employers' attitudes to disability pensioners working should also be positive and encouraging. Also, all those people who have the willingness and working capacity for it should be given opportunities to continue working after disability retirement.

Declaration of conflicting interests

The authors declare that there is no conflict of interest.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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