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# **Disability benefits and work reconsidered - is work really good for people with disabilities?**

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**CEDAR Working Papers 2021:16**  
Centre for Demographic and Ageing Research

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## Abstract

### Objectives

In this study we ask if employment is beneficial for people with disabilities (psychiatric respectively musculoskeletal diagnoses). We set out two hypotheses: 1) Disabled people with an employment report better health than those without employment. 2) Work conditions affect the extent to which work benefits the health.

### Methods

We used longitudinal data, the Swedish Survey of Living Conditions 2002/03 and 2010/11. The number of respondents were 1925 including both people with diagnoses and a control group without any diagnosis. Linear Probability Models were regressed to identify variations between disability groups, as regards the correlation between paid work and self-reported health.

### Results

People with diagnoses seemed to benefit from employment, and this was particularly evident for people with psychiatric diagnoses. The effect was also stronger in subjects with severe symptoms from their diagnosis. This may be because people with severe symptoms are more affected by their illnesses, and therefore gain more from participation in everyday activities. Having a job can work as an important source to fulfill various psychosocial needs. Further, experiences of poorer work environments tended to be associated with lower levels of health. This result is important given the trend that policies might result in that disabled people are forced to engage in work activities in order to receive benefits, irrespective of their work preferences.

### Conclusions

We conclude that the policy aim to involve the disabled in paid work is appropriate for improving health but policies should be more flexible in relation to individual needs of the disabled.



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#### **Key terms**

Employment, psychiatric, musculoskeletal, diagnosis, work environment, disability policy, working conditions.

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\* This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme, Grant Agreement No. 647125, 'DISLIFE Liveable Disabilities: Life courses and opportunity structures across time', headed by Lotta Vikström. This paper is the pre-print version submitted (May 2021) to a scientific journal (*Journal of Social Welfare*).

## **Introduction** *[Tables found at the end of the paper]*

Contemporary disability policies have been described in terms of both as a success and as a failure [1, 2]. A success, as being the most important vehicle for social integration of the disabled. Disability benefits are of crucial importance for the economic and overall well-being of the disabled and thus contribute substantially to the increased possibility of independence and autonomy among disabled people. A failure since generous, easy accessible public benefit programs during the 1980s and 1990s heavily increased reciprocity rates despite improved health and no clear medical or epidemiological explanation. Most public benefit programs are typically designed to provide economic protection in cases of rare events or serious conditions, such as accidents or severe illness. But during several decades disability benefits tended in many countries to take the form of a general early retirement route, with subsequent inactivity [3, 4,5]. Through broad eligibility criteria, including not only strict medical reasons such as unemployment, scholars argues that disability benefit programs have contributed to an exclusion from work of millions of working age people around Europe [1, 5, 6].

However, widespread concerns about the increasing number of people receiving disability benefits have in many countries sparked a re-orientation of disability policies. To avoid continued exclusion of disabled people from work, a new focus on re-integration and rehabilitation have characterized recent public reforms of disability policies [5]. In practice, this re-direction typically includes tighter eligibility criteria for qualifying for benefits and a stronger focus on work (re)-integration, often paired with various forms of welfare conditionality [7].

A basic rationale for the new disability policy profile is the assumption that work is in general good for health, a conclusion that is supported by a large body of research [5, 8] showing the positive effects of financial independence on health. Employment is the single most important source of economic resources, and it fulfills psychosocial needs by providing an individual with a professional identity and social status. These positive effects also form a contrast to the harmful health effects of unemployment and worklessness [5, 8], and there is a widespread consensus within research that work and employment are beneficial also for people with disabilities. Employment has been shown to have the potential to improve quality of life for disabled people and promote recovery and rehabilitation as well as increase independence and participation in society [8]

Policy reforms over the last decades have had real effects. In Sweden, for example, in the early 2000s, the disability benefit rolls added between 40,000–70,000 people per year. Today this figure has decreased to 11,000–15,000. The stock of recipients has also decreased substantially, from more than 550,000 in 2005 to 275,000 in 2019 [9]. The reforms seem to have had effect also on labour market participation. In 2019, close to 70% of disabled people in Sweden were active in paid work, which is an increase of around eight percentage points compared to 2013 [10]. Employment is, in accordance with present policy ambitions, increasing among disabled people.

However, in this context, it is also important to emphasize that employment can pose health hazards and thus might not be beneficial to health and wellbeing. There is a wealth of evidence that poor physical and psychosocial working conditions may affect an employee's physical and mental health. Job strain and chronic stress originating from work are known to

have negative effects on individual health and wellbeing. In their recent review, Siegrist and Wege (11) concludes that psychosocial working conditions, conclude that psychosocial working conditions, operationalized by three leading theoretical models (the demand-control model, the effort-reward imbalance model and the organizational injustice model) have been proven to be important social determinants of mental disorders such as depression. High levels of stress have also been shown to be associated with various expressions of ill health like cardiovascular disease, diabetes, and mortality [12, 13].

The extent to which work is beneficial for people with disabilities have also been questioned from a policy perspective. Recent policy reforms emphasize and enforce work participation and work norms through the implementation of conditionality. In other words, compulsory work training activities, job searches, courses, etc. are required for one to be eligible to earn benefits. Not meeting such demands may result in sanctions. Studies have demonstrated that benefit claimants experience this kind of conditionality as a pressure which “appear[s] to have recurrent and profoundly negative impacts on the health of people with histories of mental illness” [7]. It is thus possible that work may not always benefit health and wellbeing, and that mandatory work requirements in disability policies do not improve the health of disabled people.

In sum, there is evidence that work has beneficial health effects, but that those positive effects may be contingent on various circumstances. From a general welfare perspective, and in relation to present disability policy profiles, there is therefore a need to scrutinize the performance of the new work-centered policy paradigm. The aim of the present study is to explore whether employment has any positive effects for the health of disabled people. In so doing, we will also address the question of whether contemporary policy strategies are

actually beneficial for disabled people. The study depart form two specific hypotheses. First, disabled people who engage in paid work will report general better health and wellbeing than disabled people without any employment. Second, we hypothesize that work conditions and job attitudes will affect the extent to which work benefits the health and wellbeing of people with disabilities.

### **Data and methods**

To investigate the impact of paid work on the health of disabled people, we use the Survey of Living Conditions (ULF/SILC), which is conducted annually by Statistics Sweden on behalf of the Swedish parliament. This data has been collected since late 1970s and has a cross-sectional part and a longitudinal panel, and covers labour market indicators like employment history and working hours, as well as indicators on several welfare areas such as income, health and social relations. The data is collected by face-to-face standardized interviews and computer aided telephone interviews (CATI). In the longitudinal part, respondents are interviewed every eighth year (those interviewed 2001 are interviewed again in 2009, and so forth). In this study, the respondents were interviewed 2002/03 and again in 2010/11. The period under investigation coincides with implementation of workfare reforms, including disability and health insurance. At the end of the 1990s and the start of the 2000s, several reforms were implemented with the aim of involving unemployed and inactive individuals in employment. For example, eligibility for disability benefits have been successively stricter since the mid 1990s and today only strict medical reasons are recognized as reasons for granting disability benefits and the incapacity are expected to be chronic and last for the

foreseeable future. We thus study a time period during which far-reaching changes in the policies have been introduced.

### *Selections*

We focused on two disability groups, namely people with psychiatric diagnoses and musculoskeletal diagnoses, which are the two most common diagnoses in the Swedish population [10]. The reference group was people without any kind of diagnosis. From the 2002/03 ULF-data (time point zero, t0) we selected people from these specified groups and, among them, further selected only persons who were expected by age to be in the labour market (that is, by the next study year, t1, they had to still be younger than 66 years old). After applying these criteria, 1925 individuals remained in the work sample. Among these, just under 5% have psychiatric diagnoses, around 16% musculoskeletal diagnoses, and 79% reported no diagnosis.

To identify the diagnoses, the respondents were asked about any chronic illness or other long-term health problems, and if so, what kind of illness/health problem. Follow-up questions included asking how the problems manifest themselves, what the symptoms are, what the doctor says it is, and what diagnosis was established [14]. They also rated the severity of the diagnosis. This variable had four values (1=insignificant, 2=modest, 3=severe, 4=very severe) which in this study was reduced into either mild (insignificant or modest) or severe (severe or very severe).

### *Variables*



To test the hypotheses, we used a dichotomous dependent variable indicating self-rated “good health” at t1. It originated from a variable with three values ranging from 1 (very good health) to 3 (very poor health), where “good health” corresponded to value 1 of the original variable. To answer the first hypothesis, the main dichotomous independent variable was having a job at t1 (2010/11). In addition, we used a number of control variables that were other factors that could potentially affect a person’s health. For instance, one such factor is financial situation, which in this study was measured through the household’s cash margin. The original question was worded “Would your household be able to pay an unexpected expense of SEK 8,000 [around 800 Euros] within a month without borrowing or asking for help?”, which could be answered yes or no. Another such variable is important social relations [15] , and we use agreement or disagreement with the statement “I have a close friend”<sup>1</sup>, which takes the values yes or no. Both these variables have health implications [16, 17,18,19] when the workplace is central for both attaining social relations and securing the financial situation. Level of education can also impact health in different ways, not only by its link to income (which in turn has health implications), but also through variations in health promotion activities [20, 21, 22]. The three options for highest achieved level of education were compulsory, secondary, and higher education. Finally, we use some other control variables connected more directly to the individual. These are the baseline health condition at t0 (where possible values were “good”, “fairly good” and “bad”), age, and sex.

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<sup>1</sup> There are many types of social relations in a person’s life, including friends, partners, or children. We chose to use “close friend” as the indicator of social relations because it was the only variable that bivariately correlated with the health variable.

To test the second hypothesis, we used a number of variables related to work conditions, including factors like whether the work was physically or psychologically exhausting, whether co-workers were supportive, whether the individual was involved in planning, and so forth. The full list of variables can be found in table 4.

### *Methods*

To analyse the data, we used linear probability models (LPM). The dependent variable is dichotomous, and in the LPM, it takes the value 100 if self-rated health is good, or zero if the self-rated health is not good. The variable is then regressed on the independent variables through an Ordinary Least Square regression. The b-coefficients were interpreted as the likelihood (in percentage units) of good health. Overall, regressions performed by LPM showed the same results as those performed through logistic regressions, but the advantage of LPM is the interpretability. In order to ascertain the similarity between results, we also performed the models using logistic regressions.

### **Results**

The descriptive statistics (table 1) show that the characteristics of the two diagnosis groups differ somewhat. Those with a musculoskeletal diagnosis were more likely to report good health than are those with a psychiatric diagnosis, and they were also slightly more likely to have a job (despite being older) and a close friend. The financial capacity was similar for both groups, while individuals with a psychiatric diagnosis were more highly educated than individuals with a musculoskeletal diagnosis.

TABLE 1 ABOUT HERE

Table 2 (model 1) shows that having a job generally correlates with better health. In this sample, having a job increased the likelihood of good health by eight percentage points. There was also an interaction between respective diagnosis and job. Of those with a psychiatric diagnosis who had a job, the likelihood was nearly an additional 20 percentage points of reporting good health, as compared to individuals with a psychiatric diagnosis without a job. The corresponding result for individuals with a musculoskeletal diagnosis was slightly over 13 percentage points. Besides health condition at t0 and age, cash margin played a significant role for the probability of good health.

TABLE 2 ABOUT HERE

The severity of the impact of diagnosis varies. In this sample, around 38% reported severe complications from their diagnosed diseases (not shown in the tables). Within the group of severe complications there were slightly more people with psychiatric diagnoses than people with musculoskeletal diagnoses. The severity of the diseases may affect the connection between having a job and health, which we took into account in two additional models. For individuals with severe complications (model 2), the regression indicated an interaction effect between the diagnosis and job. For people with a psychiatric diagnosis who had a job, the likelihood of good health was almost 30 percentage points higher than people with a psychiatric diagnosis without a job. The corresponding for individuals with a

musculoskeletal diagnosis was lower, around 18 percentage points. In model 3, we regressed the model on people with mild complications, and the interactions between diagnosis and job on health was far less pronounced. For people with a psychiatric diagnosis, the interaction was insignificant, while the interaction between musculoskeletal diagnosis and job increased the likelihood of good health by around 11 percentage points.

Obviously we cannot determine the causal order of the correlations between having a job and health outcome. To get an indication of the causation behind this correlation, we looked at how respondents assessed their changes in health over time in relation to changes in their job position (table 3). There were four possible combinations of job positions: having a job at both times, not having a job either time, gaining a job between t0 and t1, and losing a job between t0 and t1. The health situation can remain the same over time or it can change for better or worse. Table 3 shows that the four combinations of job positions correlate with changes in self-rated health. Among those who started to work between t0 and t1, 33% reported better health while 7% reported worse health. Among people who lost their job, 24% reported better health while 19% reported worse health. This pattern could indicate that a loss of a job is negative for health, while the gain of a job is positive. Interestingly, individuals who didn't have jobs at either time more frequently reported health improvements. This overrepresentation is probably due to initially poorer health. At t0, these respondents assessed their health as worse than all other groups (mean = 2.13).

TABLE 3 ABOUT HERE

Based on the findings so far, we tentatively conclude that work correlates with good health among people with disabilities. We now turn to the second hypothesis, which is that work conditions and job attitudes affects the extent to which work is beneficial for health in people with disabilities. In this phase, only individuals with jobs were represented.

Descriptively, the characteristics of the two diagnostic groups are similar. A large share are highly educated and have job positions that demand high education/skills. Further, most have jobs within the private sector, and the respondents usually have skills relevant for the job (see table 1 in the appendix for details).

Table 4 shows the results from analyses where we compare means in order to examine the relationships between the characteristics of individuals' workplaces and how they rate their health (as before, the mean ranges from 1 to 3 where 1 is "good health" and 3 is "bad health"). To start with, individuals who did not have jobs at t1 rated an average mean of 2.11 on the health variable at t1 (data not shown), which is the basis for comparison in the following analyses of relationships between working environment indicators and health rating. Table 4 indicate, as we have seen above, that people with jobs report generally report better health than people without jobs, although there are some deviating outcomes. Individuals with musculoskeletal diagnoses who have physical exhausting jobs, or have jobs they have negative feelings toward (as measured by the individual's "Feeling on the way to work"), score particularly high on the health variable (i.e., they self-report worse health).

Similarly, individuals with psychiatric diagnoses who are not involved in the planning of work or are overqualified for their job reported worse health than those who are involved in the planning of work and those who are not overqualified for their jobs (table 4). In addition,

respondents in this group rated their health significantly worse if their job was “hectic”, even though they still rated their health better than individuals in the same group who did not have jobs.

TABLE 4 ABOUT HERE

## Discussion

This study set out to investigate whether paid employment is beneficial for people with disabilities. The rationale for the study is that enforced work norms in contemporary disability policies are guided by a firm belief that work is good for health [5, 8]. To that end, we investigated two hypotheses: first, that paid work results in better health and wellbeing for disabled people, and second, that work conditions and job attitudes affect the extent to which work is beneficial for health.

The first hypothesis is largely confirmed. Disabled people with an employment report better health than do disabled people without employment, and this result held true for individuals with either psychiatric or musculoskeletal diagnoses. We also saw a stronger effect in subjects with more severe symptoms. We suggest that this may be because individuals with more severe symptoms are likely to be more affected by their illnesses, and therefore more deprived of possibilities to participate in various everyday activities. Having a job can thus work as a more important source to fulfill various psychosocial needs.

We also see some support for our second hypothesis. Experiences of poor physical and psychosocial work environments tended to be associated with lower levels of health. Although the results did not show very strong associations among the various factors, we found a pattern indicating that poor working conditions decreases self-reported levels of health among the disabled, a pattern more clearly seen in individuals with psychiatric diagnoses. The indicator of how the subjects feel about their job showed that employment that are disliked is not beneficiary for health. This result is important given the trend of increased conditionality in contemporary disability policies — in other words, policies that might force disabled people to engage in work activities in order to receive benefits, irrespective of their work preferences.

In relation to contemporary disability policies, this study further suggests that the policy aim to involve the disabled in paid work is an appropriate measure for improving health. At the same time, the study indicates that the extent to which employments may be beneficial for the health of the disabled is dependent on the quality of the job. Work can thus be either good or bad for the disabled. The take home lesson from this study is therefore that the assumption that work is beneficial for health needs to be somewhat more nuanced in relation to disabled people. The differences between groups of disabled, as shown in this study, also suggest that polices should be more flexible in relation to individual needs of the disabled since individuals may be susceptible to poor work environment exposure to varying degrees.

### *Strengths and Limitations*

The strength of this study is the unique longitudinal data with detailed information on health and diagnoses. The availability of this data enables us to study the health status for people with different kind of diseases. To some extent, the study suffers from small sample sizes, which produces unstable estimates. In addition, although we use longitudinal data, it is hard to determine the causal relationship between work and health. It might very well be the case that employed people have such a position only because their health is good, instead of the reverse. It is not possible for this study to determine the relative impact of such selection effects. We tried to address this issue by showing positive effect on health of gaining a job, and the negative effect of losing a job. This result, together with the clear positive interaction effects between having a diagnosis and a job on good health (which becomes even stronger when breaking out the severe cases from the rest), leads us to think that at least some part of the relationship is causal — i.e., employment positively affects health and not the reverse.

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TABLES

Table 1. Descriptive of the selected groups.

Variables	Values	Musculoskeletal diagnosis t0 (16%)	Psychiatric diagnosis t0 (4%)	Without diagnosis t0 (79%)
good health (t1)	Yes	63	57	92
	No	37	43	8
health t0	Good	57	33	95
	Fairly good	29	41	5
	Bad	14	25	0
Job t1	Yes	72	68	87
	No	28	32	13
Cash margin	Yes	80	77	88
	No	20	23	12
Close friend	Yes	88	81	90
	No	12	19	10
Sex	Man	42	32	49
	Woman	58	68	51
Age	Cont. (mean)	50	46	44
Level of education	Compulsory	15	7	7
	Secondary	52	50	41
	Higher	33	43	52

Table 2. Probability of good health at t1. Linear probability models. The control group in each model is persons without diagnoses.

	Model 1	Model 2	Model 3
	Total	Severe complications + ref group	Mild complications + ref group
	B	B	B
Constant	82,28***	88,37***	80,05***
<b>Diagnosis t0</b>			
<i>(Ref. no diagnosis)</i>			
Psychiatric diagnosis	-26,22***	-43,33***	-20,83**
Musculoskeletal diagnosis	-23,42***	-29,61***	-22,64**
<b>Job t1 (ref No)</b>	7,95***	7,83***	7,69***
<b>Interaction psychiatric diagnosis * job t1</b>	19,90**	29,87**	16,45
<b>Interaction musculoskeletal diagnosis * job t1</b>	13,05**	17,66**	11,39*
Controls			
<b>Cash margin (Ref. No)</b>	12,02***	12,19***	12,19***
<b>Close friend (Ref. No)</b>	2,03	-1,95	3,25
<b>Health at t0</b>			
<i>Ref. Good</i>			
Bad	-40,86***	-35,85***	-40,84***
Fairly good	-22,21***	-20,45***	-19,65***
<b>Woman</b>	2,03	2,42	1,50
<b>Age</b>	-,25***	-,25***	-,19**
<b>Level of education</b>			
<i>Ref. Primary</i>			
Secondary	,57	-2,05	-,74
Higher	2,25	-,87	1,60
R2	,26	,25	,16
N	1925	1675	1772

(152 with  
diagnosis)(249 with  
diagnosis)

Significance: \*\*\*=p&lt;0,001; \*\*=p&lt;0,01; \*=p&lt;0,05

Table 3. *Change in health among individuals with diagnoses, in relation to change in job position. Percent.*

Health situation (difference between t0 and t1)	No job at either time	Job both times	Have gained job	Have lost job
Unchanged	40	65	60	57
Worse	17	12	7	19
Better	43	23	33	24
	n=53	n=215	n=72	n=63
Mean self-rated health t0. 1(good) – 3 (bad).	2,13	1,45	1,65	1,93

Table 4. *Bivariate correlations between job characteristics and self-rated health (mean ranging from 1–3) at t1.*

Job characteristics	Variable values	Musculoskeletal diagnoses	Psychiatric diagnoses
Physical exhausting (index based on four questions related to the physical work environment)	Not at all	1,44	1,31
	1	1,44	1,75
	2	1,47	1,57
	3	1,55	1,50 (n=4)
	Very much	2,40	1,00 (n=3)
Repeated movements	Yes	1,45	1,72
	No	1,48	1,40
Psychological exhausting	Yes	1,56	1,58
	No	1,39	1,54
Monotonous	Yes	1,46	1,33
	No	1,47	1,62
Hectic	Yes	1,45	1,67*
	No	1,52	1,09
Feeling of inadequacy	Often	1,56	1,68
	Rarely/never	1,44	1,42
Involved in the planning of work	No	1,53	2,29
	some	1,50	1,45
	Yes	1,50	1,50
Working alone	Always/often	1,86	-
	To some extent	1,35	1,58
	Not at all	1,47	1,55
Support from colleagues	Yes	1,49	1,52
	No	1,50	1,80
Qualifications	Accurate qualification	1,51	1,45
	Overqualified	1,56	2,14
	Underqualified	1,33	1,80
Feeling on the way to work	Positive	1,43	1,53
	Negative	2,25***	1,83

Significance\*\*\*=p&lt;0,001 \*\*=p&lt;0,01 \*=p&lt;0,05

Appendix. Table 1. *Characteristics of individuals who have a job t1.*

Variables	Values	Musculoskeletal diagnoses (n=287)	Psychiatric diagnoses (n=65)
Level of education	Compulsory	11	3
	Secondary	52	49
	Higher	36	48
Type of job (SSYK 1 level)	Job that requires higher education, or chief position (1-3)	42	46
	Administration and customer service	9	5
	Service, care, shop sales	21	32
	Agricultural, horticultural, forestry fishery	2	2
	Building, manufacturing	10	12
	Mechanical manufacturing, transport	7	7
	Elementary occupations	7	2
Sector	Private	62	63
	Municipal/state	38	37
Form of employment	Full time	67	52
	Part time	33	48