

Self-reported health and sickness benefits among parents of children with a disability

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ABSTRACT

This article investigates the possible consequences in self-reported health and receipt of sickness benefits when parenting a child with a disability. This study uses data from the population health study, The Nord-Trøndelag Health Study (HUNT 2), and the historical event database, FD-Trygd, which contains Social Security and national insurance data for the Norwegian population. In the analysis, we compare 1587 parents of a child with a disability to other parents. Results indicate that parenting a disabled child impacts on self-reported health, particularly among mothers; however, being a parent to a disabled child has a much stronger effect in explaining the variance in received sickness benefits, and also length of time and frequency of having received sickness benefits. Parents with disabled children report just slightly lower self-reported health but are on sickness benefits more often than other parents which may be attributed to their extended care responsibilities.

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KEYWORDS

Parenting children with disability; health outcomes; support system

Introduction

The main aim of this article is to investigate the potential consequences, in terms of self-reported health and the receipt of sickness benefits, of being a parent to a child with a disability. Past research findings have suggested that having a child with a disability may be one risk factor, interplaying with other risk factors, for the development of negative health outcomes. The international literature points to the risk of negative mental and physical health outcomes among parents, as well as negative consequences for family composition and functioning, the risk of social deprivation and low socio-economic status (Bailey et al. 2007; Burton, Lethbridge, and Phipps 2008; Emerson 2003; Emerson and Hatton 2005; Giallo and Gavidia-Payne 2006; Hastings et al. 2005; Hatton et al. 2010; Laurvick et al. 2006; Raina et al. 2005; Seltzer et al. 2001; Stoneman 2007).

Results from the Wisconsin Longitudinal Study indicated that being parents to children with a disability can lead to divergent outcomes (Seltzer et al. 2001). Such parents had lower rates of employment, larger families and lower levels of social participation, but were 'equal' to parents of children without disability in terms of educational level, marital status, physical health and psychological well-being (Seltzer et al. 2001). Burton, Lethbridge, and Phipps (2008) used panel data from the Statistics National Longitudinal Survey of Children and Youth (1994–2000) in Canada to identify the development of adverse health outcomes in mothers, especially in instances in which the child had been diagnosed with a long-term disability. Having a child with a disability seems to affect the mother's health to a greater extent than it does the father's (Burton, Lethbridge, and Phipps 2008).

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Emerson and Hatton (2005) analysed a representative sample of 7070 families in the UK who were responsible for 12,916 children across a period of 17 years. They found that approximately 10% of the children had either a disability or were at 'high risk of disabilities', as the authors defined it. The families of these children were more likely to be of a lower socio-economic status compared to families with children without disability. However, Emerson (2003) found, once all other variables were taken into account, that having a child with intellectual disabilities marginally reduced the odds of mothers screening positive for having mental health problems (i.e. that having a child with intellectual disabilities appears to be protective of possible mental health problems).

In general, it is not the child's disability, per se, that seems to be a predictor of health and psychosocial outcomes among parents, but rather behavioural and emotional problems, care needs, family functioning and socio-economic status (Burton, Lethbridge, and Phipps 2008; Emerson 2003; Giallo and Gavidia-Payne 2006; Hastings et al. 2005; IASSID 2013; Laurvick et al. 2006, Raina et al. 2005; Stoneman 2007). Similar findings have been reported among parents of children diagnosed with cancer (Klassen et al. 2007). The literature also has indicated that mothers more frequently report negative consequences of having children with a disability as compared to fathers (Burton, Lethbridge, and Phipps 2008, Hastings et al. 2005, Olsson and Hwang 2001; Veisson 1999). Other studies have identified a greater prevalence of symptoms of depression among mothers of children with a disability than among other mothers, although it has been shown that the differences may be less than expected (Bailey et al. 2007).

These research findings have shown that the parents of children with a disability were at risk of developing negative health outcomes; this was especially apparent among mothers of such children. Yet, there were some divergent findings that revealed a complex picture of the course of development of negative health outcomes. The current study will consider the situation among a Norwegian population, using data from a population study – The Nord-Trøndelag Health Study (HUNT 2) – as well as from a historical event database – FD-Trygd, which contains Social Security and national insurance data for the Norwegian population. The use of population data and both subjective and objective measures may provide important insights into the potential health outcomes of parenting a child with a disability and marks a significant contribution to the body of literature in this field of research. However, the knowledge is context-dependent and the social divide is not as pronounced in Norway as in many other countries; as such, there is no strong relationship (if any) between having a child with a disability and social deprivation. For example, Emerson and Hatton (2005) found a predominance of single-parent households among families with children with a disability in the UK, while this is demonstrably not the case in Norway, where it is in fact the opposite (Lundeby and Tøssebro 2008). Findings from other countries may therefore not be immediately transferable to a Norwegian setting and vice versa.

Method

The study was funded by The Norwegian Directorate of Health and was conducted according to the procedures approved by the relevant ethics bodies: (1) the Data Inspectorate (2) the Regional Committees for Medical and Health Research Ethics (REC) and (3) the Norwegian Privacy Ombudsman for Research.

Data and variables

This study used two sets of data – The Nord-Trøndelag Health Study (HUNT) and the historical event database, FD-Trygd, which contains Social Security and national insurance data for the Norwegian population.

The Nord-Trøndelag Health Study (The HUNT Study) is a collaboration between HUNT Research Centre (Faculty of Medicine, Norwegian University of Science and Technology NTNU), Nord-Trøndelag County Council, Central Norway Health Authority and the Norwegian Institute of Public Health.

The HUNT Study is a population study that today is a database of personal and family medical histories collected during three intensive studies conducted in Nord-Trøndelag County. The population is homogenous, lives in mainly rural areas with five smaller cities and has a level of education and income somewhat below the national average. HUNT 1 was carried out in 1984–1986 to establish the health history of 75,000 people; HUNT 2 was carried out from 1995–1997 and HUNT 3 was completed in 2008. Repeated examinations and follow-ups with the same population allowed researchers to ascertain changes in health and vital status at both the individual and family levels (<http://www.ntnu.no/hunt/inenglish>). This study uses only data from HUNT 2.

FD-Trygd is a historical event database that includes topics such as demography, social conditions, Social Security, including supplementary benefits (SUB), employment, search for work, state employees, income and wealth. The statistical unit is the individual and information in the database consists of registrations of events that span each person's life. FD-Trygd contains information for the entire Norwegian population from 1992 onward. For each person in the database, it is possible to connect to all people belonging to the same family (http://www.ssb.no/english/mikrodata_en/datacollection/fdtrygd/).

Identification of families having a child with a disability

First, we identified every child in Nord-Trøndelag County aged 0–18 who had received SUB on the grounds of disability or chronic illness between 1992 (the first year in which such events were registered in FD-Trygd) and 2007. The parents of these children were identified through a family identification number in FD-Trygd, which corresponded with the identification numbers of either the family or the individual in the HUNT studies. Through this procedure, we identified 1587 participants in HUNT 2 who were parents of a child who had received SUB on the grounds of disability or chronic illness during the period 1974–2007.

In the subsequent analysis, we compared parents in the HUNT 2 study of a child with a disability with other parents, also in the HUNT 2 study. All mothers participating in HUNT 2 were asked how old they were when they had their first child. The data give information of the age of mothers of children without a disability when their first child was born, and the age of parents of children having a disability at the time the child was born (not necessarily their first child). Note that we do not have data on whether men without a child with a disability have fathered any children.

Dependent variables from FD-Trygd: sickness benefits

Sickness benefits are compensation paid by the Social Security administration for loss of income from employment in the event of incapacity for work due to illness or injury. The employer pays for the first 16 calendar days during which the employee is sick (the first 14 calendar days prior to 1998), with Social Security paying thereafter. FD-Trygd only includes sick leave episodes paid by Social Security. The sickness-benefits register in FD-Trygd includes information on all sickness-benefits periods in the Norwegian population from 1990 onward.

In this study, we found all records of periods of sickness benefits in the sickness-benefits register for participants in the HUNT 2 from 1990–2005 – in all, there were 359,347 separate records. Given the fact that one person can have several sickness benefits records, we recoded the information across three variables: whether the HUNT 2 participant received sickness benefits during the period 1990–2005; the number of times the person had received sickness benefits for each year from 1990 to 2005 and the number of days on sickness benefits for each sickness period.

Because our goal was to compare sickness benefits among parents with children with a disability to other parents, we computed the following variables to arrive at the best possible standard for comparison:

Parents of children with a disability:

- Sickness-benefits incidences after the birth of a child with a disability;
- Mean days on sickness benefits per year after the birth of a child with a disability and
- Mean times on sickness benefits per year after the birth of a child with a disability.

Mothers of children without a disability:

- Sickness-benefits incidences after the birth of their first child;
- Mean days on sickness benefits per year after the birth of their first child and,
- Mean times on sickness benefits per year after the birth of their first child.

Men without children with a disability (not necessarily fathers):

- Sickness-benefits incidences in the period 1990–2005;
- Mean days on sickness benefits for each year from 1990–2005 and
- Mean times on sickness benefits for each year from 1990–2005.

Health indicators (HUNT 2)

Self-reported health was measured in HUNT 2 via the question, 'How is your present state of health?' (translated from Norwegian). There were four response categories, which ranged from 4, 'very good', to 1, 'poor'. Self-reported health is treated as a continuous variable in the analysis.

Long-standing illness was measured in HUNT 2 via the question, 'Do you suffer from any long-standing limiting somatic or psychiatric illness, disease or disability?' The answers were categorized as either 'yes' (value = 1) or 'no' (value = 0).

Occupational and educational variables (HUNT 2)

Educational level was obtained via self-reporting and showed the respondent's level of education at the time of the HUNT 2 – that is, in 1996. The question, 'What is your highest level of education?' was answered via one of five categories, which were subsequently recoded as 'Primary school', 'Secondary school' and 'Higher education'.

Occupational status in 1996 was obtained from HUNT 2, as the respondents were asked about their current occupational status. The question, 'What kind of work do you currently do?' was answered with the categories: 'Paid work', 'Self-employed', 'Full-time housework', 'Student, military service', 'Unemployed, laid off' and 'Retired/on Social Security'. The first two categories were recoded as 'Working' (value = 1) and the rest were recoded as 'Not working' (value = 0).

Hours of paid work per week was obtained via the open-ended question, 'How many hours of paid work do you do in a normal week?'

Analysis

In the analyses of self-reported health and long-term illness, the comparison groups were mothers born between 1946 and 1976 of a child with a disability born before 1996 (the time of the HUNT Study) and mothers born between 1946 and 1976 who had their first child before 1996. For men, the comparison groups were fathers born between 1946 and 1966 of a child with a disability born before 1996 and men in the same age range without a child with disability. Because we do not know the parental status of the men in the latter group, the age range is smaller than that used for mothers to obtain the best standard for comparison.

The age range was the same in the analysis of sickness benefits; however, the criterion was not that the child was born before 1996, but instead whether the respondent received sickness benefits after the birth of a child with a disability compared to the birth of a first child for the mothers of a child without a disability. For men, the analyses were concerned with whether the fathers received sickness benefits after the birth of a child with a disability as compared to all men. Only respondents who were working as of 1996 were included in the analysis of sickness benefits because a person has to be employed to have received this benefit.

The SPSS software package version 19.0 was employed for the statistical analyses. The statistical significance was set at $\alpha = 0.05$. Independent sample *t*-tests and a chi-square test were used to determine significant differences between groups. Hierarchical regression analysis and multiple logistics regressions were applied to explore any significant impact on the dependent variables. Because of the presence of a large body of redundant information, only the last step in the hierarchical

regression analysis will be presented in the tables; however, any potentially important information revealed by or included in earlier steps will be commented on in the text.

Results

Table 1 presents a description of all groups in the sample across key variables. Mothers of a child with a disability were less likely to be married ($\chi^2 = 12, p < .001$), which may be due to the fact that mothers of a child with a disability are younger than other mothers (t -value = 19, $p < .001$). In fact, having a

Table 1. Characteristics of respondents included in the analysis.

	Mothers	Mothers of a child with a disability	Men	Fathers of a child with a disability
Age ^a		***		***
Mean (SD)	42.8 (7.5)	37.5 (6.0)	44.7 (6.0)	42.3 (5.2)
(N)	(14,323)	(713)	(12,215)	(400)
Married (1996)		***		***
Yes	66.6	60.0	61.5	80.8
(N)	(9461)	(428)	(7482)	(352)
Educational level (1996)		***		ns
Primary School	20.8	14.5	19.9	19.0
Secondary School	53.3	65.5	55.1	57.4
Higher education	25.9	20.0	25.1	23.6
(N)	(14,197)	(705)	(12,064)	(399)
Occupational status in 1996		***		**
Working	81.1	67.2	92.2	95.8
(N)	(10,674)	(439)	(11,743)	(383)
Work hours paid per week (1996)		***		ns
1–19 hours	19.5	27.8	3.0	1.2
20–29 hours	21.9	25.9	1.6	2.3
30–34 hours	12.4	11.6	3.0	3.5
35–40 hours	43.0	33.1	74.6	77.1
40 + hours	3.2	1.6	17.8	15.8
(N)	(10,532)	(432)	(9841)	(341)
Self-reported health (1996)	ns		ns	
Bad	0.9	1.4	1.1	1.5
Not good	17.1	18.3	14.7	14.6
Good	60.8	59.6	64.0	63.1
Very good	21.3	20.7	20.3	20.9
(N)	(14,203)	(706)	(12,142)	(398)
Long-standing illness (1996)				
Yes	17.0	20.2*	18.7	19.5 ^{ns}
(N)	(2359)	(139)	(2224)	(77)
Sickness benefits (if working in 1996)				
Yes	80.5	89.2***	65.7	78.7***
(N)	(11,548)	(554)	(11,214)	(432)
Mean days on sickness benefits per year after birth of child with a disability/first child (if working in 1996)				
Mean (SD)	22.6 (20.4)	29.2 (28.0)***	17.0 (18.3)	21.8 (25.8)***
(N)	(9300)	(552)	(7373)	(340)
Mean times per year on sickness benefits after birth of child with a disability/first child (if working in 1996)				
Mean (SD)	0.27 (0.21)	0.48 (0.54)***	0.21 (0.21)	0.36 (0.46)***
(N)	(8586)	(550)	(7373)	(339)

^aAll mothers were born during 1946–1976, with a child born before 1996. All men were born during 1946–1966 and fathers of a child with a disability had that child prior to 1996.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

child with a disability slightly increased the chances of being married when controlling for age (OR = 1.17). Fathers of a child with a disability were a bit younger than other men (t -value = 8, $p < .001$) and were approximately 20% more likely to be married as compared to other men ($\chi^2 = 61$, $p < .001$). This is not unexpected, as the members of the comparison group 'other men' do not necessarily have children or families.

Table 1 shows that, in terms of occupational and educational variables, mothers of a child with a disability more often had attained a secondary education ($\chi^2 = 41$, $p < .001$), were less likely to be working ($\chi^2 = 84$, $p < .001$) and were more likely to be working part time if working at all ($\chi^2 = 30$, $p < .001$) compared to other mothers. Fathers with a child with a disability did not differ to the same degree from other men. They were, however, more likely to be working ($\chi^2 = 7$, $p < .01$).

The groups did not differ when it came to self-reported health and long-standing illness, except for the fact that mothers of a child with a disability reported more instances of long-standing illness than did other mothers ($\chi^2 = 5$, $p < .05$). However, there were large differences noted between mothers of a child with a disability and other mothers and between fathers of a child with a disability and other men when it came to sickness benefits (mothers: $\chi^2 = 26$, $p < .001$; men: $\chi^2 = 31$, $p < .001$), mean days on sickness benefits per year (mothers: t -value = 7, $p < .001$; men: t -value = 9, $p < .001$) and mean times on sickness benefits per year (mothers: t -value = 19, $p < .001$; men: t -value = 21, $p < .001$). This means that parents of a child with a disability received sickness benefits more often and for longer periods of time than did members of the comparison group.

Table 2 presents a regression analysis that predicts self-reported health among mothers and men. When it was introduced (Step 1), having a child with a disability did not contribute significantly to explaining the variance in the model for either mothers or fathers. When controlled for age (Step 2), having a child with a disability became significant. As shown in Table 1, mothers without a child with a disability were older than their counterparts of a child with a disability and age had a significant impact on self-reported health, which may explain the observation that having a child with a disability first was impactful when controlled for age. The same can be said of fathers of a child with a disability as compared with men without a child with a disability. In the final step, having a child with a disability was found to have a small, albeit significant, negative impact on self-reported health among mothers (beta = -0.04 , $p < .001$). Age and having attained higher education were therefore the main predictors that explained the variance in the model, with beta values of -0.18 and 0.16 , respectively, for mothers and -0.17 and 0.16 , respectively, for men.

By looking at the change in $-2LL$, Table 3 shows that age is the main factor in explaining variance in long-standing illness among mothers. For each year older, the chances of having a long-standing illness increased by a factor of 1.05 for mothers. Having a secondary school or higher education level reduced the chances of having a long-standing illness for both mothers (OR = 0.86/0.66, respectively)

Table 2. Hierarchical regression analysis predicting self-reported health.

	Mothers					Men				
	<i>b</i>	SE(B)	Beta	<i>p</i> -value	ΔR^2	<i>b</i>	SE(B)	Beta	<i>p</i> -value	ΔR^2
Constant	3.52	0.04		.000		3.70	0.05		.000	
Child with a disability (Step 1)	-0.11	0.02	-0.04	.000	.00	-0.06	0.03	-0.02	.063	.00
Age (Step 2)	-0.02	0.00	-0.18	.000	.03***	-0.02	0.00	-0.17	.000	.03***
Married (Step 3)	0.06	0.01	0.04	.000	.00***	0.06	0.01	0.05	.000	.00***
Education (Step 4)					.02***					.02***
Secondary school	0.11	0.01	0.09	.000		0.10	0.01	0.08	.000	
Higher education	0.24	0.02	0.16	.000		0.23	0.02	0.16	.000	
R^2 :				.05					.05	

Note: 'Reporting': beta values (*b*), standard errors (SE B), standardized betas (beta), *p*-value and explained variance (R^2) and change in explained variance (ΔR^2) (mothers: $N = 14,908$; men: $N = 12,539$).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3. Logistic regression predicting long-standing illness.

	Mothers			Men		
	<i>p</i> -value	Odds ratio (OR)	Change in -2LL (sig.)	<i>p</i> -value	Odds ratio (OR)	Change in -2LL (sig.)
Child with a disability (Step 1)	.000	1.56	5 (.03)	.111	1.23	0 (.680)
Age (Step 2)	.000	1.05	192 (.000)	.000	1.04	52 (.000)
Married (Step 3)	.000	0.81	20 (.000)	.000	0.71	59 (.000)
Education (Step 4)			42 (.000)			45 (.000)
Secondary school	.009	0.86		.022	0.88	
Higher education	.000	0.66		.000	0.64	
-2LL (total change)		12,639 (709)			11,203 (642)	
		$R^2 = \text{Cox \& Snell: } 0.02$			$R^2 = \text{Cox \& Snell: } 0.01$	
		Nagelkerke: 0.03			Nagelkerke: 0.02	

Note: 'Reporting': *p*-value, odds ratio (OR), -2LL and change in -2LL (mothers $N = 15,036$; men $N = 12,615$).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

and men (OR = 0.88/0.64, respectively) compared to having only a primary school level of education. Being married explained more of the variance in long-standing illness for men (change in -2LL = 59 of 11,203; OR = 0.71) than it did for mothers (change in -2LL = 20 of 12,639; OR = 0.81). Having a child with a disability had no significant impact on long-standing illness for men (OR = 1.23; $p = \text{ns}$); however, having a child with a disability increased the chances of having a long-standing illness among mothers (OR = 1.56; $p < .001$).

Table 4 presents logistic regressions meant to predict if mothers or men have received sickness benefits after the birth of a child with a disability (or after the birth of a first child for mothers without a child with a disability). Only persons who were working in 1996 are included in the analysis. Table 4 shows that, for mothers of a child with a disability, they were more than twice as likely to have received sickness benefits compared to other mothers (OR = 2.15; $p < .001$). The same was true for fathers of a child with a disability compared to other men (OR = 2.12; $p < .001$). Being married reduced the chances of having received sickness benefits for mothers (OR = 0.75; $p < .001$); however, this was not the case for men (OR = 0.97; $p = \text{ns}$). A secondary or higher education level reduced the chances of having received sickness benefits for both mothers and men; however, education was a much stronger contributor to the explanation of variance in sickness benefits for men than it was for mothers (change in -2LL = 487 of 12,444 for men; change in -2LL = 20 of 10,286 for mothers). Age did not have an impact on sickness benefits for mothers, contrary to the self-reported dependent variables in Tables 2 and 3. However, age did have a small impact on sickness benefits for

Table 4. Logistic regression predicting sickness benefits after the birth of a child with a disability/first child.

	Mothers			Men		
	<i>p</i> -value	Odds ratio	Change in -2LL	<i>p</i> -value	Odds ratio	Change in -2LL
Child with a disability (Step 1)	.000	2.15	31 (.000)	.000	2.12	31 (.000)
Age (Step 2)	.341	1.00	3 (.102)	.000	1.01	9 (.002)
Married (Step 3)	.000	0.75	27 (.000)	.559	0.97	6 (.010)
Education (Step 4)			33 (.000)			487 (.000)
Secondary school	.000	0.75		.000	0.69	
Higher education	.000	0.64		.000	0.28	
Paid work hours per week (Step 5)	.960	1.00	0 (.960)	.076	0.95	3 (.075)
-2LL (Total change)		10,286 (94)			12,444 (538)	
		$R^2 = \text{Cox \& Snell: } 0.01$			$R^2 = \text{Cox \& Snell: } 0.05$	
		Nagelkerke: 0.01			Nagelkerke: 0.07	

Note: 'Reporting': *p*-value, odds ratio (OR), -2LL and change in -2LL (ΔR^2) (mothers $N = 12,102$; men $N = 11,646$).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5. Hierarchical regression analysis predicting mean days on sickness benefits per year after the birth of a child with a disability/first child.

	Mothers					Men				
	<i>b</i>	SE(B)	Beta	<i>p</i> -value	ΔR^2	<i>b</i>	SE(B)	Beta	<i>p</i> -value	ΔR^2
Constant	20.43	1.62		.000		14.01	2.16		.000	
Child with a disability (Step 1)	8.11	1.03	0.08	.000	.01***	5.74	1.05	0.07	.000	.00***
Age (Step 2)	0.13	0.03	0.05	.000	.00***	0.29	0.04	0.10	.000	.01***
Married (Step 3)	-1.84	0.50	-0.04	.000	.00***	-1.70	0.48	-0.05	.000	.00***
Education (Step 4)					.01***					.02***
Secondary school	-2.88	0.61	-0.07	.000		-3.87	0.56	-0.11	.000	
Higher education	-4.71	0.67	-0.10	.000		-8.09	0.67	-0.18	.000	
Paid work hours per week (Step 5)	0.14	0.18	0.01	.447	.00	-1.34	0.29	-0.06	.000	.00***
R^2 :			.02					.04		

Notes: 'Reporting': beta values (*b*), standard errors (SE B), standardized betas (beta), *p*-value and explained variance (R^2) and change in explained variance (ΔR^2) (mothers $N = 8732$; men $N = 6607$). Only respondents who were working in 1996 and who had received sickness benefits during the period 1990–2005 were included in the analysis.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

men (OR = 1.01; $p < .001$). The variables in the models explained more of the variance in sickness benefits for men (Cox & Snell: 0.05; Nagelkerke: 0.07) than they did for mothers (Cox & Snell: 0.01; Nagelkerke: 0.01).

The constant in Table 5 tells us that, before controlling for all of the variables in the models, mean days on sickness benefits are 20.4 days for mothers and 14 days for men (i.e. mean days for mothers/men without a child with a disability born pre-1974 (or born pre-1964 for men), who are not married, have a primary school level of education and who work at least one hour per week). The unstandardized regression coefficient (*b*) showed that having a child with a disability increased mean days on sickness benefits by just over 8 days for mothers (beta = 0.08, $p < .001$) and just under 6 days for men (beta = 0.08, $p < .001$). Age did impact mean days on sickness benefits, however, more strongly for men than for mothers (beta = 0.10 and beta = 0.05, respectively). Being married reduced mean days on sickness benefits; however, the effect was rather weak (mothers: beta = -0.04, $p < .001$; men: beta = -0.05, $p < .001$). Education was the strongest predictor of having received sickness benefits over a longer period of time and the effect was stronger among men than among mothers (mothers/men: secondary school beta = -0.07/-0.11, higher

Table 6. Hierarchical regression analysis predicting mean times on sickness benefits per year after the birth of a child with a disability/first child.

	Mothers					Men				
	<i>b</i>	SE(B)	Beta	<i>p</i> -value	ΔR^2	<i>b</i>	SE(B)	Beta	<i>p</i> -value	ΔR^2
Constant	0.29	0.02		.000		0.28	0.03		.000	
Child with a disability (Step 1)	0.23	0.01	0.20	.000	.04***	0.15	0.01	0.14	.000	.02***
Age (Step 2)	0.00	0.00	0.00	.761	.00	0.00	0.00	0.01	.643	.00
Married (Step 3)	-0.03	0.01	-0.05	.000	.00***	-0.02	0.01	-0.03	.008	.00**
Education (Step 4)					.00***					.01**
Secondary school	-0.02	0.01	-0.04	.005		-0.02	0.01	-0.05	.001	
Higher education	-0.03	0.01	-0.06	.000		-0.08	0.01	-0.14	.000	
Paid work hours per week (Step 5)	0.00	0.00	0.02	.115	.00	-0.01	0.00	-0.03	.009	.00**
R^2 :								.04	.03	

Notes: 'Reporting': beta values (*b*), standard errors (SE B), standardized betas (beta), *p*-value and explained variance (R^2) and change in explained variance (ΔR^2) (mothers $N = 8729$; men $N = 6607$). Only respondents who were working in 1996 and who had received sickness benefits during the period 1990–2005 were included in the analysis.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

education: $\beta = -0.10/-0.18$). More hours of paid work per week reduced the mean days on sickness benefits for men ($\beta = -0.06, p < .001$), although the same was not true among mothers ($\beta = 0.01, p = ns$).

Table 6 shows regression models that predict the mean number of times on sickness benefits per year after the birth of a child with a disability/first child. The models show that, for mothers, having a child with a disability was the main predictor of the variables in the model, able to explain mean times on sickness benefits per year ($\beta = 0.20, p < .001$). Having a child with a disability also explained part of the variance among men ($\beta = 0.14, p < .001$), together with education (higher education: $\beta = -0.14, p < .001$).

Discussion

Parenting a child with disabilities often implies encountering challenges and extended care responsibilities that those parents of a child without a disability are able to avoid. This study produced results that corroborate previous findings in the UK – and US-based literature, which had indicated that having a child with a disability can be a risk factor for poor health outcomes, especially for mothers (Bailey et al. 2007; Burton, Lethbridge, and Phipps 2008; Emerson 2003; Emerson and Hatton 2005; Giallo and Gavidia-Payne 2006; Hastings et al. 2005; Hatton et al. 2010; Laurvick et al. 2006; Raina et al. 2005; Seltzer et al. 2001; Stoneman 2007). However, the findings of this study suggest that the relationship between being a parent to a child with a disability and self-reported health is fairly weak for mothers and almost non-existent (non-significant) for men. This may imply that contextual factors in Norway can lead to somewhat divergent findings compared to results from the English – and American-based literature. Norway is a high-income country, but differs from the USA and the UK both in regard to the types of services available to parents – such as day care and economic support – and the higher rate of female employment (Tøssebro and Wendelborg 2015). Furthermore, a recent study conducted in Norway has shown divergent results from the English and American bodies of literature (IASSID 2013), with lower divorce rates among families with children with a disability as compared with their counterparts with children without disabilities (Lundeby and Tøssebro 2008), which is consistent with the findings here.

On the other hand, it is interesting to note that having a child with a disability is a much stronger contributor in explaining the variance in receiving sickness benefits, the length of time during which individuals received sickness benefits and the frequency with which they received those sickness benefits. It may seem like a discrepancy that parents of children with a disability report just slightly lower self-reported health but are on sickness benefits more often than other parents. These findings raise the question of the extent to which parents receive sickness benefits due to their own illness or due to reasons that are related to their extended caregiving responsibilities. Further investigation has revealed that, of the 359,347 sickness-benefit periods recorded from 1990 to 2005, only 117 such instances were recorded due to sick children or other circumstances related to the child. This implied either that those parents of children with a disability are, in fact, sicker or that parents of children with a disability receive a substitute diagnosis and that the increased frequency with which they seek and receive sickness benefits is, in fact, able to be attributed to their extended care responsibilities. It may also be due to a quirk in general practitioners' methods of writing medical certificates – they may take into account the patient's total life situation, including both work and family demands, and write a medical certificate after an overall evaluation. Instead of being 'gate keepers' in the welfare state, general practitioners' could see their role as advocates of parents with disabled children, and may be even encouraging them to take a sickness benefits due to their stressful parenting situation. This may be preventive for negative health outcomes and thus explaining the discrepancy between self-reported health and absence from work. Another explanation may well be that living of a child with a disability over time leads to negative health outcomes and physical or mental fatigue, which manifests itself in several sickness-benefits periods during a lifetime, and because the self-reported health indicators are measured at only a single point in time – in 1996 – they did not capture total health outcomes that might have developed over time. The answer may be a combination of several of these explanations.

It has often been pointed out that parents can be tasked with the role of coordinator and promoter in the face of the support system because of deficiencies in the procedures, measures, coordination and follow-up (Askheim, Andersen, and Eriksen 2004; Norwegian Board of Health Supervision 2007; Sosialdepartementet 2003; Tøssebro and Lundebj 2002; Tøssebro and Ytterhus 2006). This means that families with children with a disability are subject to additional responsibilities, which may lead to poorer health outcomes. First, additional responsibilities – practical, physical and emotional – may lead to poorer self-reported health. Second, parents can find something wrong with themselves in order to receive sickness benefits, so that they will then be able to cope with their extended care responsibilities and the additional work they must perform in dealing with the support system. This may explain why parents of children with a disability received sickness benefits more often and over longer periods of time as compared with parents of children without disabilities. They were not themselves sicker, per se, but the parents were living with additional physical and emotional responsibilities that may have caused them long-term health problems or required a respite from a demanding daily life.

Haugen, Hedlund, and Wendelborg (2012) described, in a qualitative study of parents of a child with a disability, the complexity experienced in terms of participation in work life, especially for mothers. On the one hand, they spoke often about how important it was to have a job, for both self-esteem and to maintain a sense of 'normalcy'; on the other hand, they also described how difficult it was to live up to the commitments of work life demands. This was because of all the extra work required in the face of the support services and extended care responsibilities. While participation in work life can be good for their self-esteem, self-esteem can be broken down by a feeling of failure resulting from a high rate of work absence (Haugen, Hedlund, and Wendelborg 2012).

Conclusions

The results of the current study are broadly consistent with those of other studies and suggest that mothers of children with a disability are a vulnerable group in terms of health outcomes. This may be due to mothers taking on the majority of the added responsibilities for the extended care associated with parenting a child with a disability. However, the rather weak relationship between having a child with a disability and self-reported health may be related to participation in work life. Compared with mothers in other countries, Norwegian mothers have a high rate of labour force participation (Lohne and Rønning 2005). In this study, we found evidence – in line with previous research (e.g. Lundebj and Tøssebro 2009) – that mothers of children with a disability reduce their work participation relative to other mothers. In Norway, mothers of children with a disability increase their rate of labour force participation as their child ages (Lundebj and Tøssebro 2009; Wendelborg 2010) but, compared with other mothers, they are more likely to work part-time (Lundebj 2006; Lundebj and Tøssebro 2009). Work affiliation may be essential for health outcomes and may be of value in itself through the contributions made to self-esteem; it also can be an arena for social interaction and the receiving of social support. Participation in the labour force can help improve access to social support systems and thereby improve quality of life and the likelihood of a positive health outcome. A lack of employment can thus be a contributing factor in the explanation of why mothers of children with a disability report poorer health than do other mothers.

Disclosure statement

No potential conflict of interest was reported by the authors.

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