Union Formation and Dissolution among Disabled Men in the Stockholm Birth Cohort Multigenerational Study

Alessandra Grotta (Karolinska Institutet, Stockholm, Sweden) & Robin Högnas (Stockholm University, Stockholm, Sweden)

Introduction

Decades of research has underscored the patterns of family formation and dissolution across different groups and associated implications of these patterns for long-term health and longevity, including economic outcomes (Goode. 1951; Bumpass. 1990; Tumin. 2018). Most of these studies, however, have largely overlooked family formation and dissolution patterns among individuals with disabilities. Clarke and McKay (2014) recently investigated this topic using national British data and found a positive association between having significant health problems or impairments and being either single or separated. To the best of our knowledge, there are only a few studies that have explored the role of disability on family formation and dissolution using European data. Therefore, this project extends the literature by exploring patterns of family formation and dissolution using data from a Swedish birth cohort.

Data and Methods

We used data from the 1953 Stockholm Birth Cohort Study Multigenerational Study (SBC Multigen), a cohort of *N*=14,608 men and women born in 1953 who lived in the Stockholm Metropolitan area in 1963 (Almquist Y. et al., 2019). Follow-up of these subjects using Swedish National Registers, including the Total Population Register and the Cause of Death Register, was available up to 2015. For this study, we draw on data from the National Conscript Board to identify disabled men as those who i) underwent physical and psychological examinations in between 1971 and 1974 and ii) reported a reduction in health leading to an exemption from military and non-military defense obligations. We further examined ICD-8 (*International Classification of Diseases, Revision 8*) codes associated with the medical diagnosis to further classify subjects with i) mental ii) mobility/sensory and iii) other disabilities. We used data from Census 1970, 1975, 1980, and 1985, and LISA (Longitudinal integrated database for health insurance and labour market studies) 1990-2015 to identify civil status and reconstruct histories of legal unions of cohort members up until 2015. We classified subjects as single, married/registered partner, divorced/separated partner, widow/surviving partner. No complete data on cohabitations was available, therefore we did not use this information in our study. We further included information on cohort member's school marks at age 13, as well as information on the cohort member's family (parental divorce at age 7, family's level of education, family's socio-economic status) in the analysis.

Cox proportional hazard regression models were used to estimate hazard ratios (HR) and 95% confidence intervals (95% CI) to quantify the association between disability and i) union formation, and ii) union dissolution. Non-disabled men were used as the reference category. For the union formation analysis, the time scale was years from 1971, with follow-up starting either in 1971, 1972 or 1973 depending on when the subject underwent the conscription examination, and ended at the time of first union, emigration, death or 2015, whichever occurred first. For the union dissolution analysis, follow-up started at the time of the first union formation and ended at the time of first dissolution, emigration, death or 2015, whichever occurred first. The assumption of proportionality was tested using Schoenfeld residuals. Estimates from both unadjusted and adjusted models (for parental divorce at age 7,

family's level of education, family's socio-economic status, school marks at age 13) were computed. For the union dissolution analysis, we also adjusted for age at first marriage. In a second step, we investigated the association between different types of disability and both union formation and union dissolution.

Results

Out of $n=6,716$ men who had a record in the conscription data, $n=444$ were identified as having a disability. Among disabled men, 68%, 12% and 20% were classified as men with a mental, mobility/sensory and other disability. When comparing men with and without disability in terms of family's background, the former were significantly more disadvantaged, and with significantly lower school marks.

During the follow-up, $n=203$ and $n=4,560$ union formations were observed among men with and without a disability, respectively. The crude HR for entering a civil union was .54 (95% CI 0.47-0.62), a 46% decrease in union formations among disabled men compared to non-disabled men. When adjusting the model for confounders, the HR slightly decreased but remained highly significant (HR=.62; 95% CI 0.52-0.73). See Table 1. When investigating the association between different types of health conditions, mental and physical/sensory disabilities were significantly associated with lower chances of union formations, while men classified as having other disabilities were not statistically different from the non-disabled men.

During the follow-up, $n=109$ and $n=1,835$ union dissolutions were observed among men with and without a disability, respectively. The crude HR for separation was 1.54 (95% CI 1.21-1.88), a 54% increase in union dissolutions among disabled men compared to non-disabled men. When adjusting the model for confounders, the HR decreased slightly but remained highly significant (HR=1.33; 95% CI 1.05-1.67). See Table 2. In terms of different types of health conditions, only men classified as having a mental health condition had a significantly higher risk of experiencing a union dissolution compared to non-disabled men.

Discussions

Our findings suggest that disability is associated with a 38% decrease in union formations and with a 33% increase in union dissolutions. After characterizing disabled men through ICD diagnoses codes reported at the medical examination, our preliminary results suggest that the chance of union formation and risk of dissolution varies by different types of disabilities.

Due to data limitations, we may have underestimated the association between disability and union formation and dissolution for two reasons. First, disability status was assessed only once between 1971 and 1973, and to the extent that men classified as non-disabled in the early 1970s were later diagnosed with a disability, our results may be downwardly biased. Second, we used conscription data to assess disability status, so men who were not invited to appear before the draft board were excluded from our study. Among them, there were men who were already serving in the military forces and seamen, as well as men who were severely physically or mentally disabled. Therefore, men were excluded, who may have been less likely to enter a union or to face more problems in terms of marital adjustment.

Implications

Potential mechanisms related to poverty and educational achievement should also be considered and investigated to understand what, if any, role these factors play among later generations. Finally, the observed increased risk of family dissolution associated with a disability should be further explored in relation to welfare policies that support families with disabled members.

References

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Table 1. Associations between disability and union formation				
	Events	HR	95% CI	P-value
Crude				
Non-disabled	4,560	1.00	-	
Disabled	203	0.54	0.47-0.62	<0.001
Adjusted*				
Non-disabled	4,119	1,00	-	
Disabled	180	0.55	0.47-0.63	<0.001
Adjusted**				
Non-disabled	3,880	1.00	-	
Disabled	142	0.62	0.52-0.73	<0.001
* Family background (social class, education, parental divorce by age 7)				
** Family background (social class, education, parental divorce by age 7) and 9th grade marks				

Table 2. Associations between disability and union dissolution				
	Events	HR	95% CI	P-value
Crude+				
Non-disabled	1,835	1.00	-	
Disabled	109	1.54	1.27-1.88	<0.001
Adjusted+*				
Non-disabled	1,645	1,00	-	
Disabled	97	1.54	1.25-1.91	<0.001
Adjusted+**				
Non-disabled	1,525	1.00	-	
Disabled	73	1.33	1.03-1.67	0.030
+ Adjusted for age at 1st union formation				
* Family background (social class, education, parental divorce by age 7)				
** Family background (social class, education, parental divorce by age 7) and 9th grade marks				