DiVA
http://www.diva-portal.org

This is the published version of a paper published in *Sociologisk forskning*.

Citation for the original published paper (version of record):

Brännlund, A., Edlund, J. (2017)
Education: family resources help girls more than boys when it comes to mental-health problems.
Sociologisk forskning, 54(4): 329-334

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:
http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-143986

ANNICA BRÄNNLUND & JONAS EDLUND

Education: Family resources help girls more than boys when it comes to mental-health problems

Abstract
Research has established that school performance relates: (i) negatively with poor mental health during childhood and (ii) positively with family socioeconomic resources. In this article, we examine the potentially moderating effects of family resources on the relationship between school performance and poor mental health, using register data covering all children born in Sweden in 1990. The dependent variable is graduation from upper secondary school. We perform separate analyses for girls and boys. Our results indicate that compensatory effects of the socioeconomic resources of the family on the risk of graduation failure among those with poor mental health is more pronounced among girls compared to boys.

Keywords: upper secondary school graduation, family socioeconomic resources, mental health

EDUCATION IS A central determinant of various outcomes over the life course of individuals. In this article, we elaborate chiefly on previous research which has established that school performance is: (i) negatively related with poor mental health during childhood and adolescence (Brännlund et al. 2017), and (ii) positively related to socioeconomic family resources (Breen et al. 2010).

But how widespread is the impact of socioeconomic family resources on the chances for educational success? May socioeconomic resources of the family even moderate the strong negative relationship between poor mental health and educational performance? To answer this question, we use register data covering all children – including parental data – born in 1990.

Background

It has long been recognised that family and individual resources are not equally distributed among individuals, and such differences are mirrored in school performance. Parental resources have a strong impact on their children's future life chances – as the opportunities for resourceful families to invest money, knowledge, skills, and using

© Författaren och Sveriges Sociologförbund, ISSN 0038-0342, 2002-066X (elektronisk).

social networks for the benefit of their children are much more extensive compared to less resourceful families (Breen et al. 2010).

Socioeconomic background is usually understood as the parents' level of education, social class, and income. Children from less advantaged backgrounds, with limited academic, cultural and economic resources, are less likely to enter higher education (Breen et al. 2010). In addition, single parenthood and immigrant background are seen as risk factors for educational failure (McLanahan and Sandefur 2009; Aslund et al. 2011).

Regarding individual resources' effects on educational performance, we focus on mental-health status (Gustafsson et al. 2010), and the extent to which family-related resources may compensate for the risk of educational failure among those suffering from poor mental health. The share of young people suffering from poor mental health has steadily increased over the last decade, irrespective of whether poor mental health is measured as prescription of drugs or self-rated by the respondents.[1] Further, the prevalence of poor mental health is higher among girls than boys (Socialstyrelsen 2013).

Data

The data come from SIMSAM (Lindgren et al. 2016) which combines data from different national administrative registers.

The sample contains all children born in Sweden in 1990 and remained to live in Sweden up to 2010. The cohort is followed up to 2009 when a vast majority is expected to graduate from upper secondary school. The data comprise all students who completed their compulsory schooling in spring of 2006 and continued to upper secondary school the following autumn, n=109 233. The success-rate of completing upper secondary education in 2009 was in total 78.0 percent.

Variables

Graduation from upper secondary school is a dichotomous dependent variable coded 100 if upper secondary education was completed in 2009 and 0 if not.

The measurement of mental-health problems relies on the Swedish Prescribed Drug Register, which is available for the years 2005–2009 during which the students would have been 15 to 19 years old. It contains data on all prescribed and dispensed drugs following the Anatomical Therapeutic Chemical (ATC) classification system. Our indicators of mental-health problems cover prescriptions of medicine belonging to the ATC codes N05 (psycholeptics) and N06 (psychoanaleptics) for the years 2005–2009. This variable, drug prescription [D], varies between 0 (no prescription) and 5 (prescriptions every year).

Parental education is measured by the parent with the highest level of educational

1 For further information, see; www.socialstyrelsen.se/statistik/statistikdatabas and www.statistikdatabasen.scb.se.

attainment [E]. Four levels are distinguished. Parental income [I] is based on annual disposable income 2004–2009. We use the mean value of both parents' income over the period. The unit for the income scale is 100 KSEK. Parental unemployment [U] is the mean value of father's and mother's unemployment experiences for the period 1990–2009. The scale varies between 0 (no unemployment) and 20 (at least one period of unemployment each year). Civil status [S] is measured by the mother's civil status 1990–2009 and has three categories: the mother was married or cohabiting over the complete period; the mother changed civil status one or several times over the period; the mother lived alone during the whole period.[2]

Finally, there are three control variables. Parental country of birth [C] distinguishes between: i. both parents born in Sweden, ii. one parent born in Sweden, and iii. no parent born in Sweden. Health status at birth is measured by the Apgar-score [A] (0-10 scale). Low birth weight [B] (yes/no).

Methods

Separate analyses for girls and boys were performed. The most important reason is the systematic differences between the sexes concerning both frequency and types of mental-health problems (Kessler 2003). Girls more often experience internalizing disorders, such as having poor self-esteem, suffering from depression and anxiety. For boys, externalizing problems, such as emotional dysregulation and impulsivity, are more common.

We apply a linear probability OLS model; the reported coefficients can be understood as changes in percentage units for the probability of graduating upper secondary school.

Results

In the analyses, we are primarily interested in the interaction effects between family socioeconomic resources and mental-health problems on school performance. [3]

2 Information regarding the fathers' civil status was not available in the data.

3 It is worth noting that the observed main effects of the independent variables in Table1 do only change negligibly from models excluding interaction effects. Tables are available upon request.

Table 1. Probability to graduate upper secondary school by various individual and family oriented resources. Linear probability Regression Model (OLS). Significant coefficients (p < .05) in bold. Cell entries are unstandardized regression coefficients and standard errors.

		Boys		Girls	
		B	**S.E**	**B**	**S.E**
	Intercept	**91,87**	2,59	**85,86**	2,71
E	**Education**				
1	Compulsory	**–18,65**	0,80	**–14,83**	0,79
2	Secondary 2 years	**–8,67**	0,53	**–5,35**	0,53
3	Secondary 3 years	–1,00	0,53	0,66	0,52
4	University degree	0		0	
I	**Income**	**0,38**	0,10	**0,53**	0,11
U	**Unemployment**	**–0,80**	0,06	**–0,66**	0,06
C	**Country of birth parents**				
1	Both Sweden	**1,64**	0,73	1,07	0,70
2	One Sweden	**–2,23**	0,88	**–1,96**	0,84
3	Non Sweden	0		0	
S	**Civil status**				
1	No partner – stable	**–16,13**	1,24	**–13,90**	1,18
2	Mixed over time	**–10,50**	0,37	**–8,75**	0,36
3	Married/cohabitating – stable	0		0	
D	**Drug prescription**	**–13,99**	1,17	**–10,60**	0,88
A	**Apgar**	–0,35	0,25	0,40	0,26
B	**Low birth weight**	–1,29	1,14	0,19	1,08
	E*D				
	E1*D	1,10	1,29	**–2,43**	1,06
	E2*D	–0,38	0,93	**–2,55**	0,73
	E3*D	–0,86	0,93	**–2,53**	0,74
	E4*D	0		0	
	I*D	**0,73**	0,27	**0,48**	0,19
	U*D	0,01	0,10	–0,09	0,08
	S*D				
	S1*D	1,89	1,61	–2,23	1,31
	S2*D	–0,64	0,64	**–2,04**	0,51
	S3*D	0		0	

In Table 1, the dependent variable is graduation from upper secondary school. Although the primary effects of family socioeconomic resources are strongly related to school performance, we will not comment on these. Beginning with the results for boys, all but one of the interaction effects are non-significant. Parental income, however, has a significant compensatory impact of mitigating the risk of failing upper secondary school graduation for those suffering from mental-health problems. For boys having low-income parents (measured at decile 1 in the sample: 139 KSEK), that received medical prescriptions for five years decreased the probability to graduate from upper secondary school by 65 percentage units when compared to boys with no prescriptions. For boys from a high-income family (decile 9: 326 KSEK), the corresponding figure is 58 percentage units. The impact of poor mental health on the chances of graduating is thus somewhat less severe for boys having parents with high incomes than for boys having low-income parents.

Moving over to the sample of girls, we find several indications of socioeconomic compensatory effects mitigating the risk of failing upper secondary school graduation among those who are experiencing poor mental health. For the level of education of parents, the interaction terms show that the compensatory effect is primarily related university education. When comparing girls with five years of drug prescription with those with no prescription, we find that having at least one parent with a university degree decreases the probability for successful graduation with 53 percentage units. The corresponding figure for girls having parents with compulsory education is 65 percentage units. When it comes to parental income and civil status, the interaction terms indicate that the risk of failure to graduate upper secondary school is reduced for girls from a high-income family, as well as for those who are living in a stable two-adult household.

Discussion

To the extent that the socioeconomic resources of the family have compensatory effects for mitigating the risk of educational failure among those suffering from poor mental health, the analysis showed that this related principally to girls. A relevant question to ask is why family socioeconomic resources have compensatory effects for girls but very little for boys?

One possible explanation is that the type of mental-health problems differs between boys and girls. While girls tend to suffer from internalized mental-health issues, such as anxiety, mood disorders and depression, boys' mental-health problems are more often external - involving antisocial behaviour and substance abuse disorders. Another plausible explanation relates to traditional gender roles, where the child's sex most certainly influences parents' expectations and support strategies. Also, what children perceive as expected behaviour of them might depend on whether they are girls or boys.

References

Aslund, Olof, Per-Anders Edin, and Peter Fredriksson (2011) "Peers, neighborhoods, and immigrant student achievement: Evidence from a placement policy." *American Economic Journal: Applied Economics* 3(2):67–95.

Breen, Richard, Ruud Luijkx, Walter Müller, and Reinhard Pollak (2010) "Long-term trends in educational inequality in Europe: class inequalities and gender differences." *European Sociological Review* 26(1):31–48.

Brännlund, Annica, Mattias Strandh, and Karina Nilsson (2017) "Mental-health and educational achievement: the link between poor mental-health and upper secondary school completion and grades." *Journal of Mental Health* 26(4):318–325.

Gustafsson, Jan-Eric, Mara Allodi Westling, Alin Åkerman, Charli Eriksson, Lilly Eriksson, Siv Fischbein, Mats Granlund, Per Gustafsson, Sophia Ljungdahl, and Terje Ogden (2010) *School, learning and mental health: a systematic review*. Stockholm: The Royal Swedish Academy of Sciences.

Kessler, Ronald C. (2003) "Epidemiology of women and depression." *Journal of affective disorders* 74(1):5–13.

Lindgren, Urban, Karina Nilsson, Xavier de Luna, and Anneli Ivarsson (2016) "Data Resource Profile: Swedish Microdata Research from Childhood into Lifelong Health and Welfare (Umeå SIMSAM Lab)." *International Journal of Epidemiology* 45(4):1075–1075g.

McLanahan, Sarah, and Gary Sandefur (2009) *Growing up with a single parent: What hurts, what helps*: Harvard: University Press.

Socialstyrelsen. 2013. *Psykisk ohälsa bland unga.* Stockholm: Socialstyrelsen.

Corresponding author:
Annica Brännlund
Mail: annica.brannlund@umu.se

Authors

Annica Brännlund is Associate Professor of Sociology at the Department of Applied Educational Science, Umeå University. Her main areas of research are education, health and social justice.

Jonas Edlund is Professor of Sociology at the Department of Sociology, Umeå University. His main areas of interest are comparative political sociology and stratification.