Department of Psychiatry

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Låg socioekonomisk status och samhällsvård som riskfaktorer för våld: Vad vet vi?

Amir Sariaslan, PhD
Senior Research Fellow

20 Mars, 2022

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E-vitamintillskott och hjärt-/kärlsjukdomar

Studie	Urvalsstorlek	Relativ risk [95% CI]
Rimm 1993	39,910	0.63 [0.47; 0.84]
Stampfler 1993	87,245	0.66 [0.50; 0.87]

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Cognitive development and social policy

AN Firkowska, A Ostrowska, M Sokolowska, Z Stein, M Susser, I Wald
+ See all authors and affiliations

Science 23 Jun 1978:
Vol. 200, Issue 4348, pp. 1357-1362
DOI: 10.1126/science.663616

Abstract

The city of Warsaw was razed at the end of World War II and rebuilt under a socialist government whose policy was to allocate dwellings, schools, and health facilities without regard to social class. Of the 14,238 children born in 1963 and living in Warsaw, 96 percent were given the Raven's Progressive Matrices Test and an arithmetic and a vocabulary test in March to June of 1974. Information was collected on the families of the children, and on characteristics of schools and city districts. Parental occupation and education were used to form a family factor, and the district data were collapsed into two factors, one relating to social marginality, and the other to distance from city center. Analysis showed that the initial assumption of even distribution of family, school, and district attributes was reasonable.

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Klassiska tvillingdesignen

- Antaganden:
  - MZ-tvillingar delar *samtliga* genetiska varianter
  - DZ-tvillingar i *genomsnitt* hälften
  - Samtliga tvillingpar delar sina tidiga miljöfaktorer

- Variansdekomponering
  - A: Ärftlighet
  - C: Delade miljöfaktorer
  - E: Unika miljöfaktorer (inkluderar även slumpfaktorer och mätfel)

- Molekylärgenetisk validering

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Meta-analysis of the heritability of human traits based on fifty years of twin studies

Tinca J C Polderman, Beben Benyamin, Christiaan A de Leeuw, Patrick F Sullivan, Arjen van Bochoven, Peter M Visscher & Danielle Posthuma

Affiliations | Contributions | Corresponding author

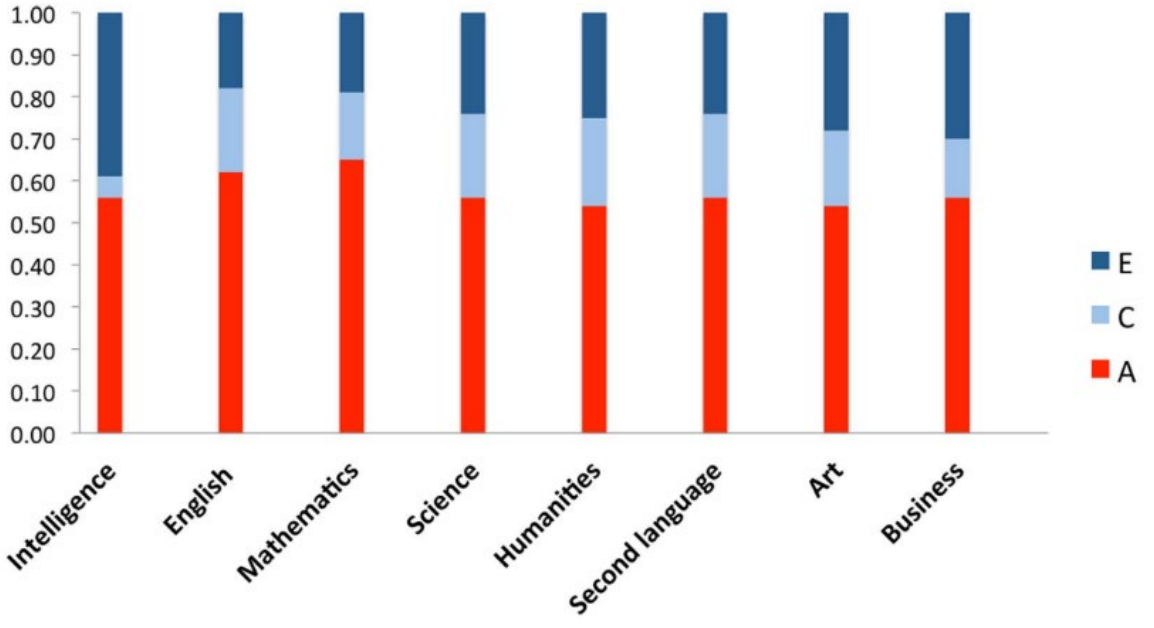
Nature Genetics **47**, 702–709 (2015) | doi:10.1038/ng.3285
Received 13 February 2015 | Accepted 01 April 2015 | Published online 18 May 2015

PDF | Citation | Reprints | Rights & permissions | Article metrics

Abstract

Abstract · Introduction · Results · Discussion · Methods · References · Acknowledgments · Author information · Supplementary information

Despite a century of research on complex traits in humans, the relative importance and specific nature of the influences of genes and environment on human traits remain controversial. We report a meta-analysis of twin correlations and reported variance components for 17,804 traits from 2,748 publications including 14,558,903 partly dependent twin pairs, virtually all published twin studies of complex traits. Estimates of heritability cluster strongly within functional domains, and across all traits the reported heritability is 49%. For a majority (69%) of traits, the observed twin correlations are consistent with a simple and parsimonious model where twin resemblance is solely due to additive genetic variation. The data are inconsistent with substantial influences from shared environment or non-additive genetic variation. This study provides the most



Rimfeld et al. (2015) *Sci Reports*

UNIVERSITY OF OXFORD

The high heritability of educational achievement reflects many genetically influenced traits, not just intelligence

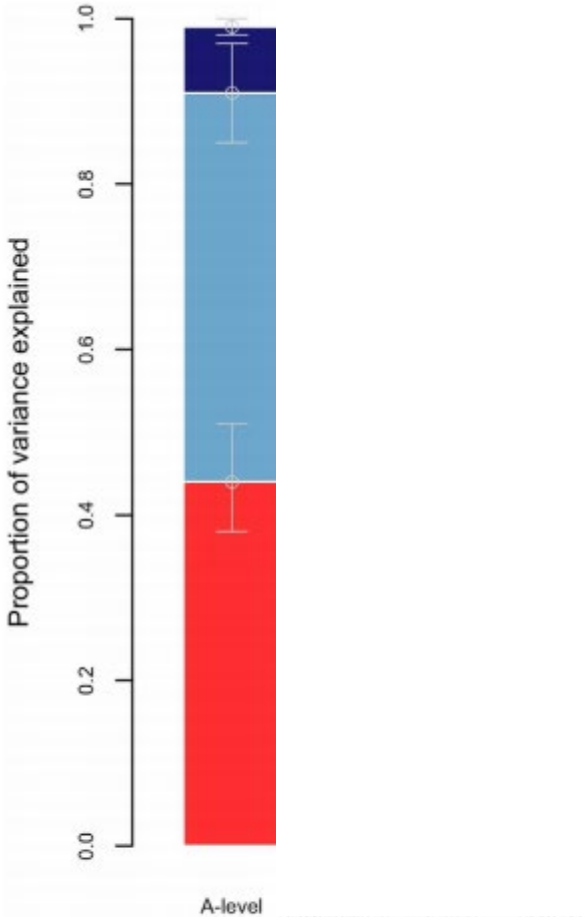
Eva Krapohl, Kaili Rimfeld, Nicholas G. Shakeshaft, Maciej Trzaskowski, Andrew McMillan, Jean-Baptiste Pingault, Kathryn Asbury, Nicole Harlaar, Yulia Kovas, Philip S. Dale, and Robert Plomin

PNAS October 21, 2014 111 (42) 15273-15278; published ahead of print October 6, 2014
https://doi.org/10.1073/pnas.1408777111

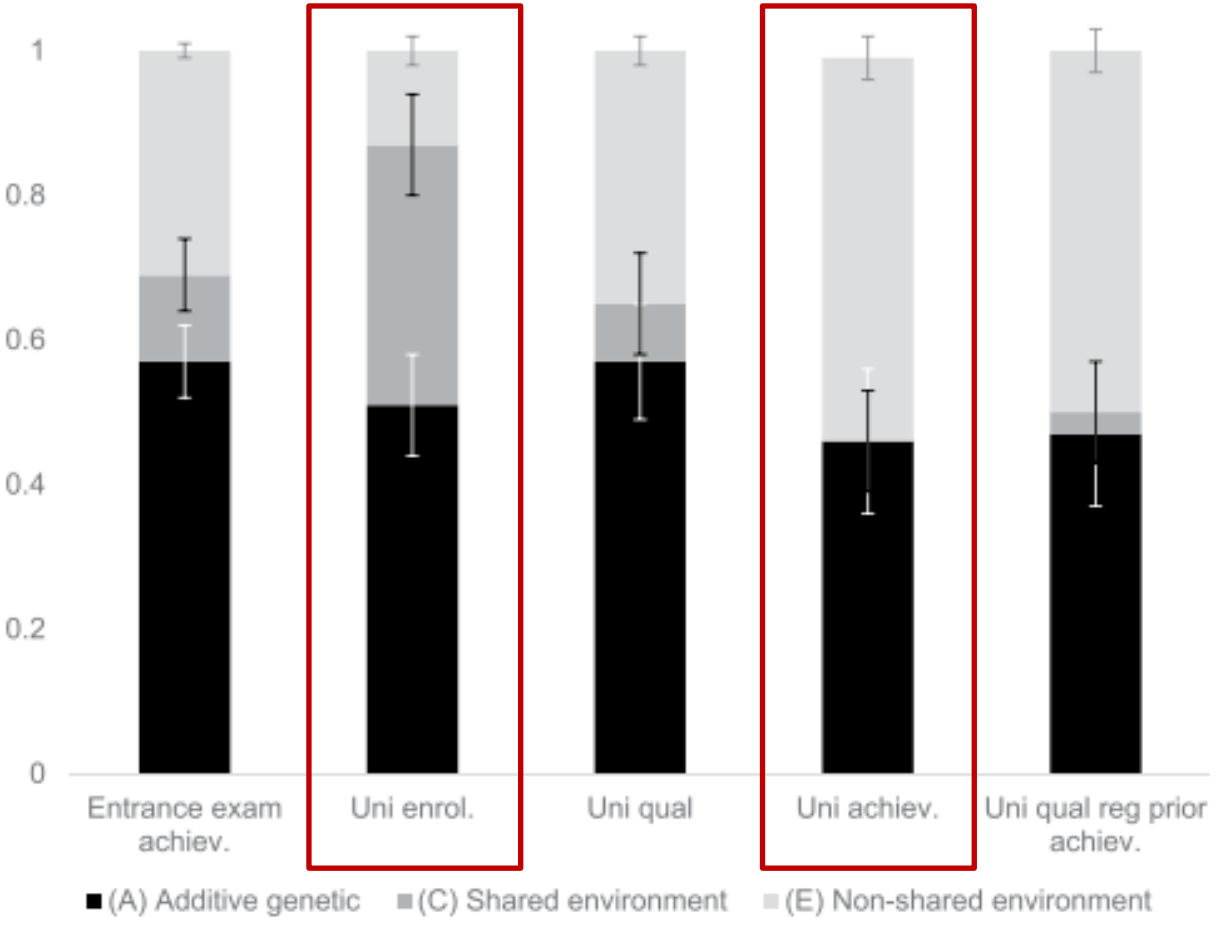
Edited by Michael S. Gazzaniga, University of California, Santa Barbara, CA, and approved September 10, 2014 (received for review May 13, 2014)

Significance

Differences among children in educational achievement are highly heritable from the early school years until the end of compulsory education at age 16, when UK students are assessed nationwide with standard achievement tests [General Certificate of Secondary Education (GCSE)]. Genetic research has shown that intelligence makes a major contribution to the heritability of educational achievement. However, we show that other broad domains of behavior such as personality and psychopathology also account for genetic influence on GCSE scores beyond that predicted by intelligence. Together with intelligence, these domains account for 75% of the heritability of GCSE scores. These results underline the importance of genetics in educational achievement and its correlates. The results also support the trend in education toward personalized learning.



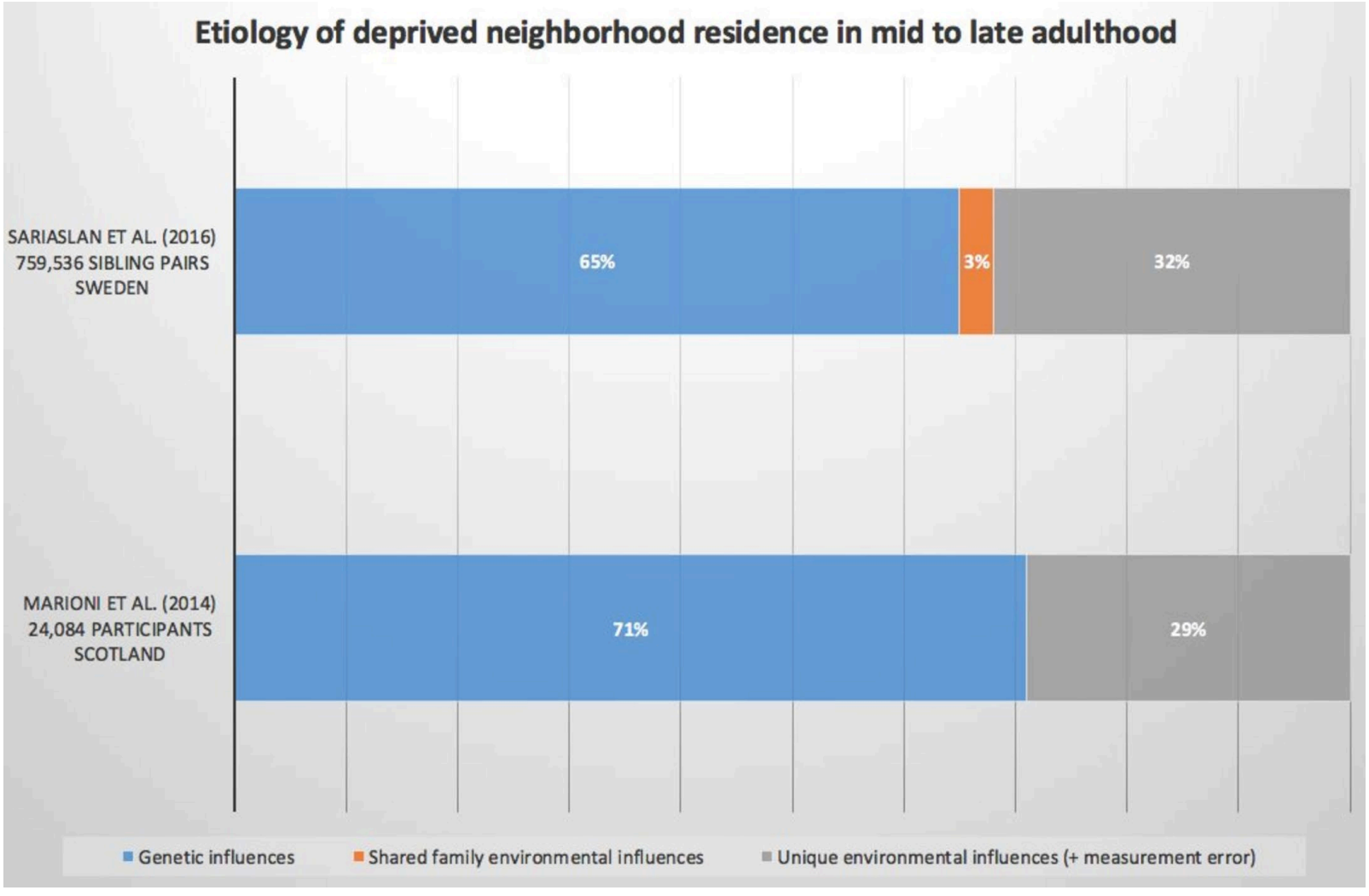
Rimfeld et al. (2016) *Sci Reports*



Smith-Woolley et al. (2018) *Sci Reports*

Table 1 Earlier studies on the genetic heritability of income

Source	Income measure	Gender	Country	r_{MZ}	r_{DZ}	h^2	c^2	e^2
Taubman (1976)	Log(annual income)	M	USA	0.54	0.30	0.48	0.06	0.46
Ashenfelter and Krueger (1994)	Log(hourly wage)	M,W	USA	0.56	0.36	0.40	0.17	0.44
Ashenfelter and Rouse (1998)	Log(hourly wage)	M,W	USA	0.63	0.37	0.52	0.11	0.37
Johnson and Krueger (2005)	Log(annual income)	M,W	USA	0.38	0.13	0.38	0.00	0.62
Schnittker (2008)	Log(annual income)	M,W	USA	0.40	0.26	0.28	0.12	0.60
Miller et al. (1995)	Log(avg. occup. income)	M,W	Australia	0.68	0.32	0.68	0.00	0.32
Miller et al. (1997)	Log(avg. occup. income)	M	Australia	0.59	0.56	0.07	0.52	0.41
Miller et al. (1997)	Log(avg. occup. income)	W	Australia	0.56	0.28	0.55	0.01	0.44
Miller et al. (2006)	Log(annual income)	M,W	Australia	0.50	0.14	0.50	0.00	0.50
Isacsson (1999)	Avg. of 3 year log incomes	M,W	Sweden	0.68	0.46	0.44	0.24	0.32
Björklund et al. (2005)	Avg. of 3 year log incomes	M	Sweden	0.36	0.17	0.36	0.00	0.64
Björklund et al. (2005)	Avg. of 3 year log incomes	W	Sweden	0.31	0.12	0.31	0.00	0.69
Cesarini (2010)	Log(3-year avg. income)	M	Sweden	0.49	0.29	0.40	0.09	0.51
Benjamin et al. (2012)	Avg. of 20 year log incomes	M	Sweden	0.63	0.27	0.63	0.00	0.37
Benjamin et al. (2012)	Avg. of 20 year log incomes	W	Sweden	0.48	0.22	0.48	0.00	0.52
Benjamin et al. (2012)	Avg. of 5 year log incomes	M	Sweden	0.51	0.20	0.51	0.00	0.49
Benjamin et al. (2012)	Avg. of 5 year log incomes	W	Sweden	0.30	0.20	0.20	0.10	0.70
Benjamin et al. (2012)	Log(annual income)	M	Sweden	0.41	0.16	0.41	0.00	0.59
Benjamin et al. (2012)	Log(annual income)	W	Sweden	0.27	0.14	0.25	0.02	0.73
Ørstavik et al. (2014)	Annual income	M	Norway	0.55	0.30	0.50	0.05	0.45
Ørstavik et al. (2014)	Annual income	W	Norway	0.45	0.17	0.45	0.00	0.55
			Avg. U.S.	0.50	0.28	0.41	0.09	0.50
			Avg. AUS	0.58	0.32	0.45	0.13	0.42
			Avg. SWE	0.44	0.22	0.40	0.05	0.56


Etiology of deprived neighborhood residence in mid to late adulthood
SARIASLAN ET AL. (2016)
759,536 SIBLING PAIRS
SWEDEN
65%
3%
32%
MARIONI ET AL. (2014)
24,084 PARTICIPANTS
SCOTLAND
71%
29%
Genetic influences
Shared family environmental influences
Unique environmental influences (+ measurement error)

OPEN

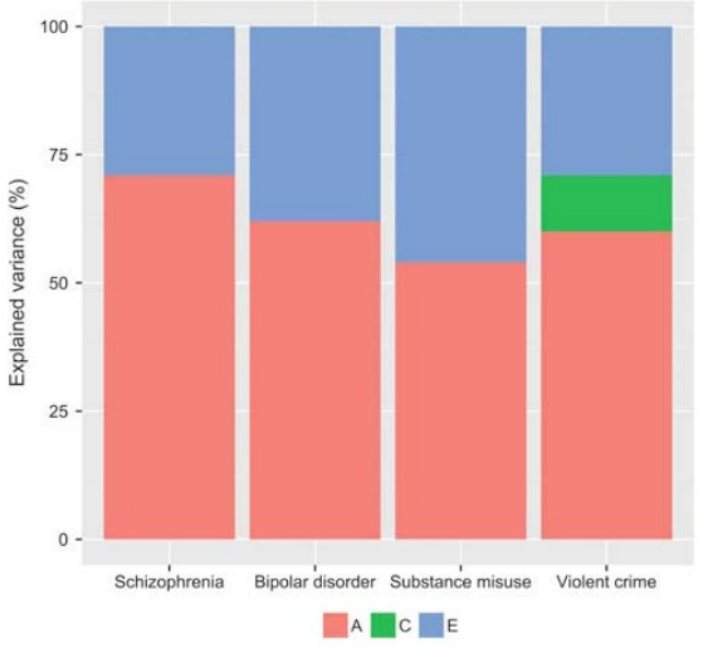
Molecular Psychiatry (2016) 21, 1251–1256
www.nature.com/mp

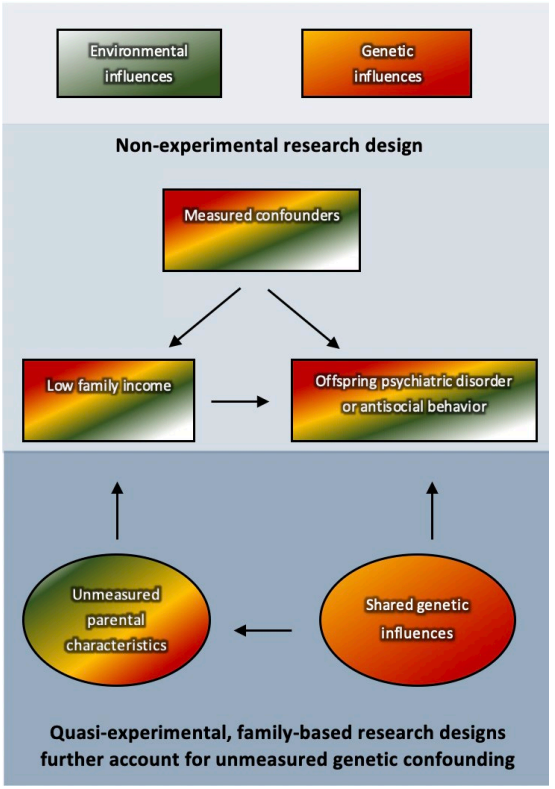
ORIGINAL ARTICLE

Genetic and environmental determinants of violence risk in psychotic disorders: a multivariate quantitative genetic study of 1.8 million Swedish twins and siblings

A Sariaslan[1], H Larsson[2] and S Fazel[1]

Patients diagnosed with psychotic disorders (for example, schizophrenia and bipolar disorder) have elevated risks of committing violent acts, particularly if they are comorbid with substance misuse. Despite recent insights from quantitative and molecular genetic studies demonstrating considerable pleiotropy in the genetic architecture of these phenotypes, there is currently a lack of large-scale studies that have specifically examined the aetiological links between psychotic disorders and violence. Using a sample of all Swedish individuals born between 1958 and 1989 ($n = 3\,332\,101$), we identified a total of 923 259 twin-sibling pairs. Patients were identified using the National Patient Register using validated algorithms based on International Classification of Diseases (ICD) 8–10. Univariate quantitative genetic models revealed that all phenotypes (schizophrenia, bipolar disorder, substance misuse, and violent crime) were highly heritable ($h^2 = 53–71\%$). Multivariate models further revealed that schizophrenia was a stronger predictor of violence ($r = 0.32$; 95% confidence interval: 0.30–0.33) than bipolar disorder ($r = 0.23$; 0.21–0.25), and large proportions (51–67%) of these phenotypic correlations were explained by genetic factors shared between each disorder, substance misuse, and violence. Importantly, we found that genetic influences that were unrelated to substance misuse explained approximately a fifth (21%; 20–22%) of the correlation with violent criminality in bipolar disorder but none of the same correlation in schizophrenia ($P_{\text{bipolar disorder}} < 0.001$; $P_{\text{schizophrenia}} = 0.55$). These findings highlight the problems of not disentangling common and unique sources of covariance across genetically similar phenotypes as the latter sources may include aetiologically important clues.




Environmental influences
Genetic influences
Non-experimental research design
Measured confounders
Low family income
Offspring psychiatric disorder or antisocial behavior
Unmeasured parental characteristics
Shared genetic influences
Quasi-experimental, family-based research designs further account for unmeasured genetic confounding

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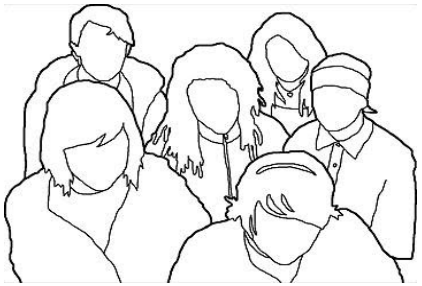
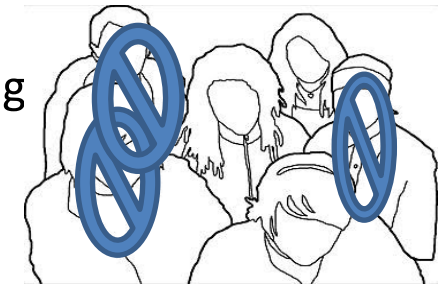
Traditionell approach

Låg SES

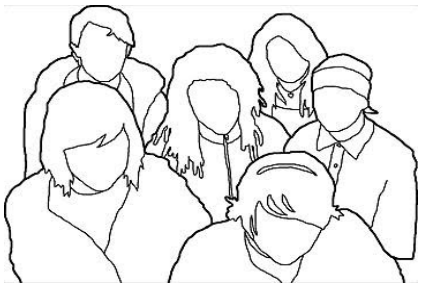


Uppföljning

3/6=50%



Hög SES

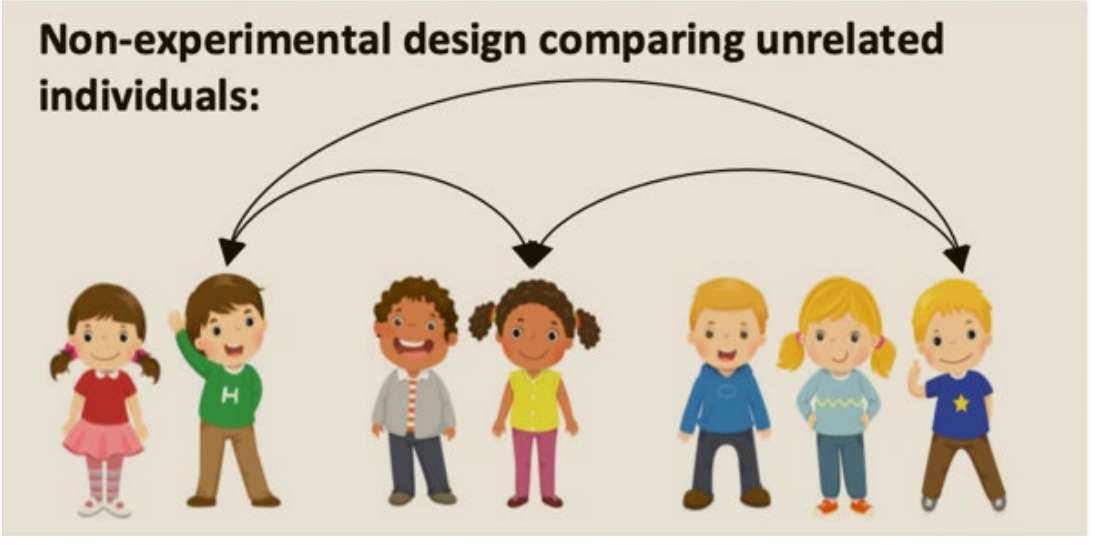


Uppföljning

1/6=17%

Relativ risk
= 0.5/0.17
= 3

Problem?


Non-experimental design comparing unrelated individuals:

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Alternativa jämförelser

- MZ-tvillingar
  - → Bättre kontroll för ärftliga faktorer
  - → Mindre urval → mer osäkra skattningar
  - → Delar fler miljöfaktorer jämfört med andra helsyskon

- Kusiner
  - → Delar i genomsnitt 12.5% av sina genetiska varianter men inte uppväxtmiljön
  - → Diskordanta par mer lika befolkningen i övrigt
  - → Inga syskoninfluenseffekter

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Childhood family income, adolescent violent criminality and substance misuse: quasi-experimental total population study

Amir Sariaslan, Henrik Larsson, Brian D'Onofrio, Niklas Långström and Paul Lichtenstein

Background
Low socioeconomic status in childhood is a well-known predictor of subsequent criminal and substance misuse behaviours but the causal mechanisms are questioned.

Aims
To investigate whether childhood family income predicts subsequent violent criminality and substance misuse and whether the associations are in turn explained by

Results
Children of parents in the lowest income quintile experienced a seven-fold increased hazard rate (HR) of being convicted of violent criminality compared with peers in the highest quintile (HR = 6.78, 95% CI 6.23–7.38). This association was entirely accounted for by unobserved familial risk factors (HR = 0.95, 95% CI 0.44–2.03). Similar pattern of effects was found for substance misuse.

Två naturliga experiment

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Familjeinkomst på våldsbrott (HRs)

	Modell I
Kvintil 1 vs Kvintil 5	6.78 [6.23; 7.38]

Modell I: Justerat för kön, födelseår och –ordning

International Epidemiological Association

International Journal of Epidemiology, 2021, 1–11
doi: 10.1093/ije/dyab099
Original Article

Original Article

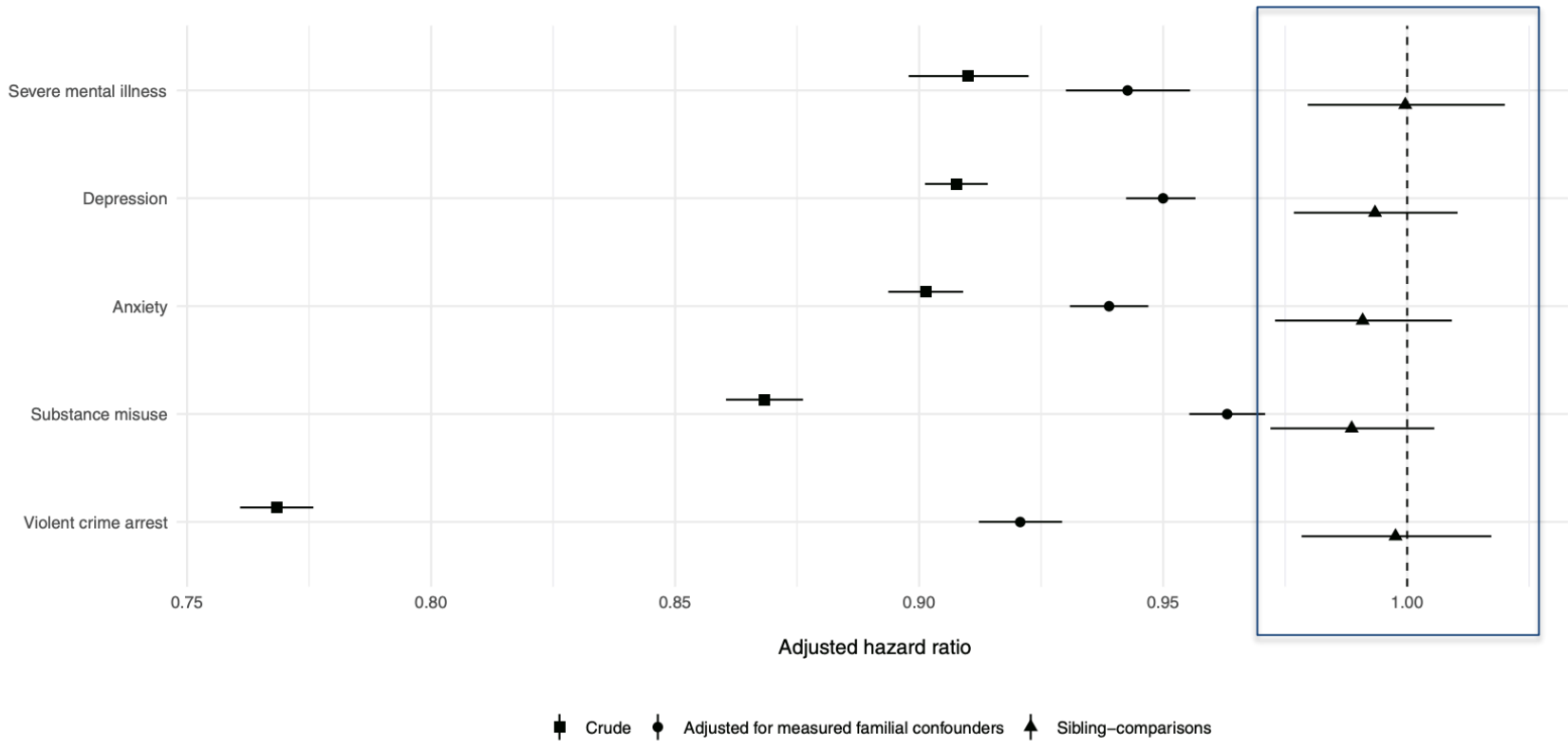
No causal associations between childhood family income and subsequent psychiatric disorders, substance misuse and violent crime arrests: a nationwide Finnish study of >650 000 individuals and their siblings

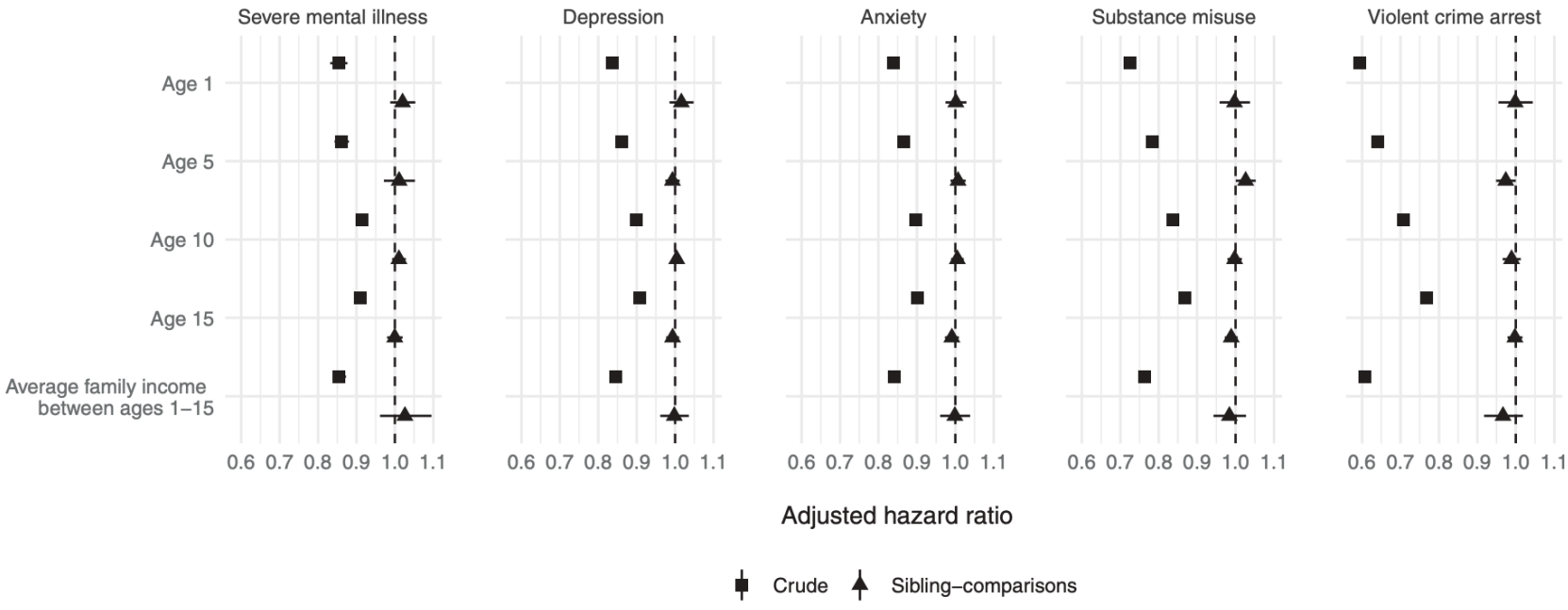
Amir Sariaslan [1]*, Janne Mikkonen,[2] Mikko Aaltonen,[3] Heikki Hiilamo,[1,4] Pekka Martikainen [2,5,6] and Seena Fazel[7]

[1]Social and Public Policy Unit, Faculty of Social Sciences, University of Helsinki, Helsinki, Finland, [2]Population Research Unit, Faculty of Social Sciences, University of Helsinki, Helsinki, Finland, [3]UEF Law School, University of Eastern Finland, Joensuu, Finland, [4]Finnish Institute for Health and Welfare (THL), Helsinki, Finland, [5]Centre for Health Equity Studies (CHESS), Stockholm University and Karolinska Institutet, Stockholm, Sweden, [6]Max Planck Institute for Demographic Research, Rostock, Germany and [7]Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford, UK

*Corresponding author. Social and Public Policy Unit, Faculty of Social Sciences, University of Helsinki, Unioninkatu 37, FI-00014, Finland. E-mail: amir.sariaslan@gmail.com

Received 29 November 2020Accepted 16 April 2021; editorial decision 6 April 2021


Severe mental illness
Depression
Anxiety
Substance misuse
Violent crime arrest
0.75
0.80
0.85
0.90
0.95
1.00
Adjusted hazard ratio
Crude
Adjusted for measured familial confounders
Sibling–comparisons


Severe mental illness
Depression
Anxiety
Substance misuse
Violent crime arrest
Age 1
Age 5
Age 10
Age 15
Average family income between ages 1–15
0.6 0.7 0.8 0.9 1.0 1.1
Adjusted hazard ratio
Crude
Sibling–comparisons

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Bostadsområden och antisociala beteenden

Published by Oxford University Press on behalf of the International Epidemiological Association
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International Journal of Epidemiology 2013;**42**:1057–1066
doi:10.1093/ije/dyt066

DEPRIVATION AND CRIMINALITY

The impact of neighbourhood deprivation on adolescent violent criminality and substance misuse: A longitudinal, quasi-experimental study of the total Swedish population

Amir Sariaslan,[1] Niklas Långström,[1] Brian D'Onofrio,[2] Johan Hallqvist,[3,4] Johan Franck[5] and Paul Lichtenstein[1]

Bostadsområden och psykiatrisk sjuklighet

Does Population Density and Neighborhood Deprivation Predict Schizophrenia? A Nationwide Swedish Family-Based Study of 2.4 Million Individuals

Amir Sariaslan*[,1], Henrik Larsson[1], Brian D'Onofrio[2], Niklas Långström[1], Seena Fazel[3], and Paul Lichtenstein[1]

[1]Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden; [2]Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN; [3]Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford, UK

*To whom correspondence should be addressed; Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, PO Box 281, Stockholm SE-171 77, Sweden; tel: +46-76-047-51-19, fax: +46-8-31-49-75, e-mail: amir.sariaslan@ki.se

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Hjärnskador och negativa livsutfall

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RESEARCH ARTICLE

Long-Term Outcomes Associated with Traumatic Brain Injury in Childhood and Adolescence: A Nationwide Swedish Cohort Study of a Wide Range of Medical and Social Outcomes

Amir Sariaslan, David J. Sharp, Brian M. D'Onofrio, Henrik Larsson, Seena Fazel

Published: August 23, 2016 • https://doi.org/10.1371/journal.pmed.1002103

Psykiatrisk sjuklighet och våld

Original Investigation

January 15, 2020

Risk of Subjection to Violence and Perpetration of Violence in Persons With Psychiatric Disorders in Sweden

Amir Sariaslan, PhD[1,2]; Louise Arseneault, PhD[3]; Henrik Larsson, PhD[4,5]; et al

» Author Affiliations | Article Information

JAMA Psychiatry. 2020;77(4):359-367. doi:10.1001/jamapsychiatry.2019.4275

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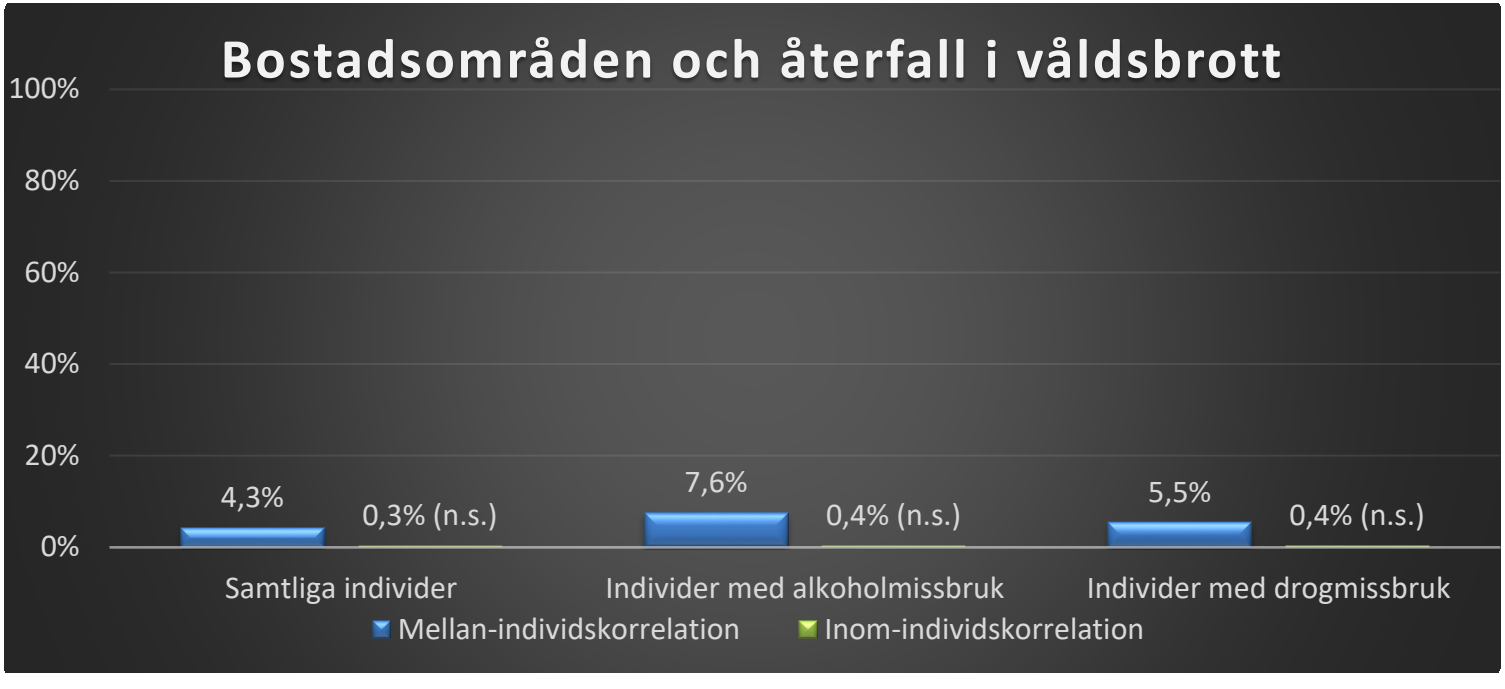
Neighborhood Influences on Violent Reoffending Risk in Released Prisoners Diagnosed With Psychotic Disorders

Amir Sariaslan ✉, Henrik Larsson, Paul Lichtenstein, Seena Fazel

Schizophrenia Bulletin, Volume 43, Issue 5, 1 September 2017, Pages 1011–1020,
https://doi.org/10.1093/schbul/sbx071
Published: 01 June 2017



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Sammanfattning

- Korrelation men inget stöd för kausalitet
  - Vad innebär det rent praktiskt?
- Dåligt kontrollerade studier för viktimisering
- Implikationer för interventioner?
- Randomisering framöver?

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Original Investigation

ONLINE ONLY FREE

October 25, 2021

Long-term Health and Social Outcomes in Children and Adolescents Placed in Out-of-Home Care

Amir Sariaslan, PhD[1,2,3]; Antti Kääriälä, PhD[4]; Joonas Pitkänen, MSc[5,6]; et al

» Author Affiliations | Article Information

JAMA Pediatr. 2022;176(1):e214324. doi:10.1001/jamapediatrics.2021.4324

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Bakgrund

ELSEVIER

Children and Youth Services Review
Volume 76, May 2017, Pages 74-83

Outcomes of children who grew up in foster care: Systematic-review ☆

Laura Gypen [a], Johan Vanderfaeillie [a], Skrallan De Maeyer [a], Laurence Belenger [a], Frank Van Holen [b]

(education, employment, wages, housing, mental health, substance abuse and criminality) is sparse. Using the PRISMA method, the outcomes of 32 original quantitative studies were compared. The studies were categorized into two groups reflecting on the child welfare orientation of the country: child protection vs. family service (Gilbert, Parton, & Skivenes, 2011). The results are clear as well as troubling. In both systems, children who leave care continue to struggle on all areas (education, employment, income, housing, health, substance abuse and criminal involvement) compared to their peers from the general population. A stable foster care placement, establishing a foothold in education and having a steady figure (mentor) who supports youth after they age out of care seem to be important factors to improve the outcomes.

ELSEVIER

Children and Youth Services Review
Volume 79, August 2017, Pages 107-114

Children in out-of-home care as young adults: A systematic review of outcomes in the Nordic countries

Antti Kääriälä [a], Heikki Hiilamo [a, b]

Of 333 studies identified, 20 met the inclusion criteria. All of these studies were cohort studies that employed social and health register data. OoHC placement was studied with nine outcome categories: self-supporting problems, educational challenges, mental health problems, criminality, teenage parenthood, mortality, suicidal behavior, alcohol and drug use, and disability pension. In each of these categories, young adults with a history in OoHC faced higher risks compared with the general population, even after adjusting for various birth parents' socio-economic, demographic, and mental health–related factors.

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Kunskapsluckor

- Är sambanden **kausala**? Komplex exponering
- Stark familjär aggregation av placeringar i samhällsvård
- Identifierade riskfaktorer på föräldranivå är måttligt till starkt ärftliga
- Individspecifika förväxlingsfaktorer (beteendeproblem/trauma) ignorerade i populationsbaserade studier
- Placeringsfaktorer och temporala effekter

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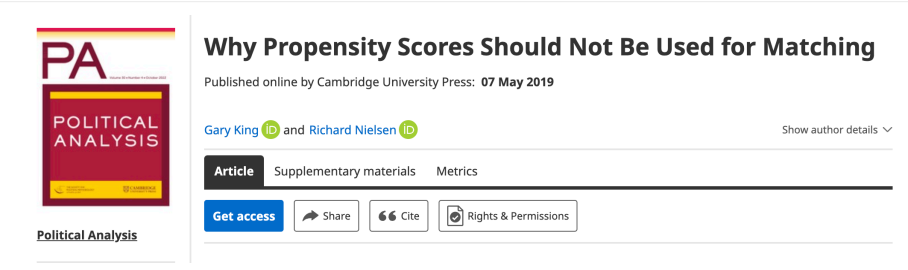
Olika forskningsdesigner

- Propensity score matching
- Policyreformer
- Handläggarbenägenhetsstudier
- BEIP
- Syskonjämförelsestudier



Original Article

Child Maltreatment
2020, Vol. 25(4) 383-392
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DOI: 10.1177/1077559519898755
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SAGE

Outcomes in Adulthood After Long-Term Foster Care: A Sibling Approach

Lars Brännström[1], Bo Vinnerljung[1], and Anders Hjern[2,3]

Abstract

When a child is removed from their home and placed in foster care, society takes over the responsibility for that child's well-being and development. Failure to provide a child with a nurturing upbringing may have negative consequences for the child as well as for society. Using Swedish longitudinal registry data for a national cohort sample of siblings, in which some were placed in foster care and others remained in their birth parents' care, this study asks whether long-term foster care ensures improved life chances. Results from multilevel regression analyses of a wide range of educational, social, and health-related outcomes in mature adult age (16 outcome constructs) support a row of previous studies indicating that traditional long-term foster care does not seem to improve maltreated children's life chances.

Keywords

foster care, longitudinal research, long-term effects, siblings

Metodologiska begränsningar:

- Små urval (n ~ 1000)
- Begränsad group (Långtidsplaceringar)
- Syskon inkluderade maternella halvsyskon
- "Icke-exponerade" inkluderade korttidsplaceringar

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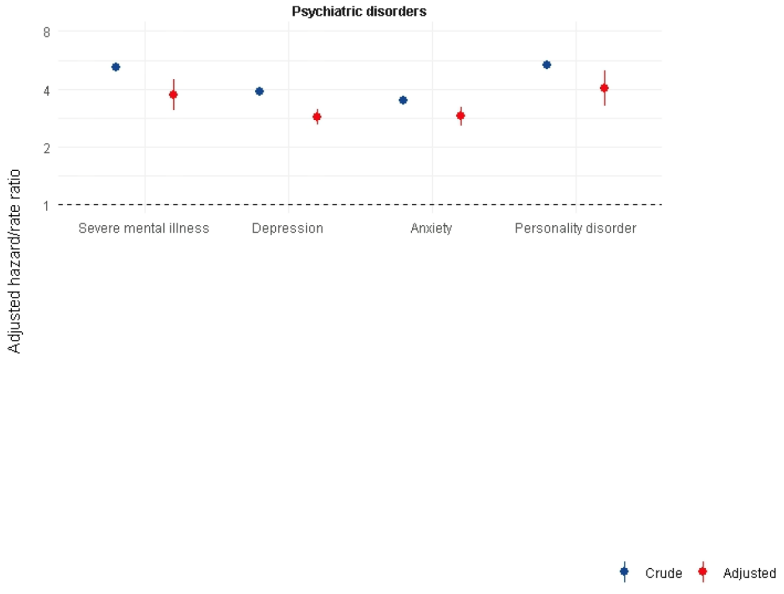
Utfall i vuxen ålder

- **Psykiatriska sjukdomar**
  - Psykossjukdomar (SMI)
  - Depression
  - Ångest
  - Personlighetsstörningar

- **Socioekonomisk status**
  - Låg utbildningsnivå
  - Försörjningsstöd
  - Långtidsarbetslöshet
  - Förtidspension

- **Olyckor och viktimisering**
  - Fall-relaterade olyckor
  - Trafikrelaterade olyckor
  - Förgiftningsolyckor
  - Våldsviktimisering

- **Antisociala beteenden, suicidalitet och tidig död**
  - Våldsbrott (misstankesdata)
  - Substansmissbruk (patient- och brottsdata)
  - Suicidala beteenden
  - Tidig död


Psychiatric disorders
Socioeconomic status
Adjusted hazard/rate ratio
8
4
2
1
Severe mental illness
Depression
Anxiety
Personality disorder
Crude
Adjusted

Andra förväxlingsfaktorer/mediatorer

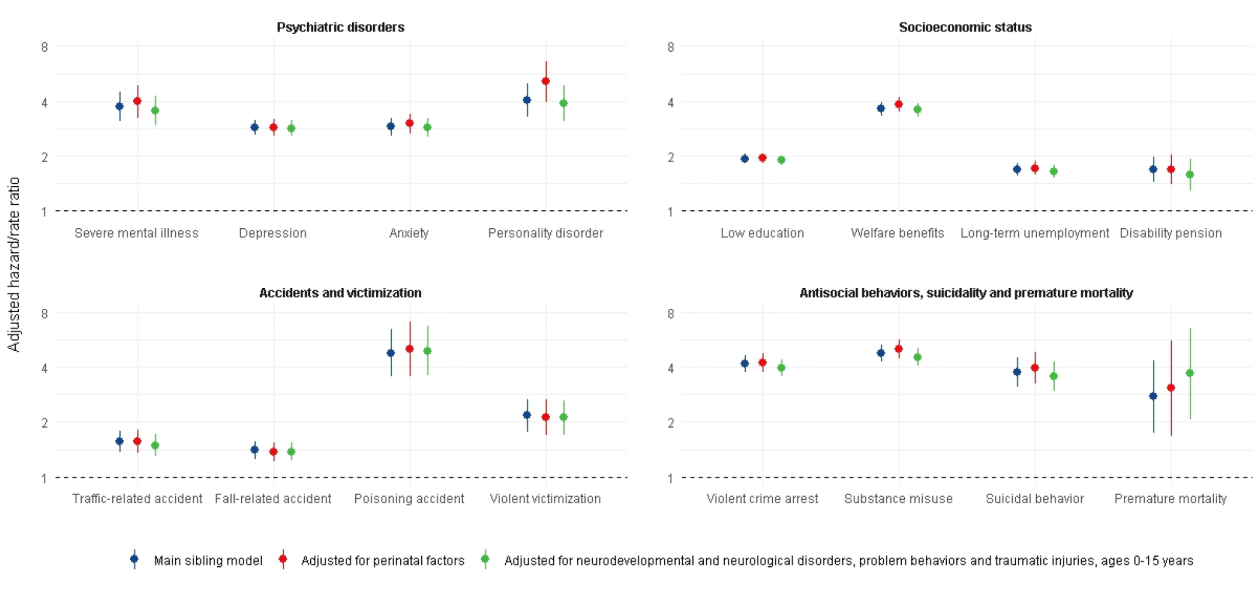


Table 3. Out-of-Home Care Placement Characteristics on Poor Adulthood Functioning Among Siblings in Families Where All Children Had Been Exposed to at Least 1 Placement Episode (n = 11 092)

Characteristic	aHR/aRR (95% CI)[a] Institutional care vs foster care
Psychiatric disorders	
Severe mental illness	2.33 (1.38-3.94)[b]
Depression	1.54 (1.14-2.09)[b]
Anxiety	1.50 (1.04-2.16)
Personality disorder	1.96 (0.96-3.99)
Injuries and violence	
Motor vehicle–related injury	1.41 (0.87-2.30)
Fall-related injury	1.03 (0.69-1.53)
Unintentional poisoning injury	1.62 (0.65-4.06)
Experiencing violence	1.35 (0.71-2.57)
Socioeconomic status	
Low education	1.29 (1.08-1.54)[b]
Welfare benefits	1.94 (1.37-2.75)[b]
Long-term unemployment	1.21 (0.93-1.58)
Disability pension	1.35 (0.79-2.33)
Antisocial behaviors and suicidality	
Violent crime arrest	2.23 (1.59-3.13)[b]
Substance misuse	1.44 (1.05-1.99)
Suicidal behavior	1.34 (0.78-2.31)

Abbreviations: aHR, adjusted hazard ratio; aRR, adjusted rate ratio.

[a] The estimates refer to within-family estimates comparing siblings who had been placed in care but were differentially exposed to placement characteristics. The estimates were further adjusted for sex, birth year, birth order, parental age at birth, urbanicity, single-parent household, family income, parental welfare benefits, and disability pension in addition to the following preplacement confounders: attention-deficit/hyperactivity disorder; autism spectrum disorder; intellectual disability; communication disorder; learning disorder; motor disorder; other neurodevelopmental disorders; any neurological disorder, conduct disorder, or oppositional defiant disorder; motor vehicle–related injury, fall-related injury, unintentional poisoning injury, and experiencing violence. The estimates for premature mortality as outcome lacked sufficient statistical power to be presented.

[b] Estimates with false discovery rate–corrected *P* values below .05.

JAMA Psychiatry | Original Investigation

Triggers for Violent Criminality in Patients With Psychotic Disorders

Amir Sariaslan, PhD; Paul Lichtenstein, PhD; Henrik Larsson, PhD; Seena Fazel, MD

IMPORTANCE Absolute and relative risks of violence are increased in patients with psychotic disorders, but the contribution of triggers for violent acts to these risks is uncertain.

OBJECTIVE To examine whether a range of triggers for violent acts are associated with risks of violence in patients diagnosed with psychotic disorders and in individuals without a psychiatric diagnosis.

DESIGN, SETTING, AND PARTICIPANTS Using a sample of all individuals born in Sweden between 1958 and 1988 (N = 3 123 724), we identified patients in the National Patient Register who were diagnosed with schizophrenia spectrum disorders (n = 34 903) and bipolar disorder (n = 29 692), as well as unaffected controls (n = 2 763 012). We then

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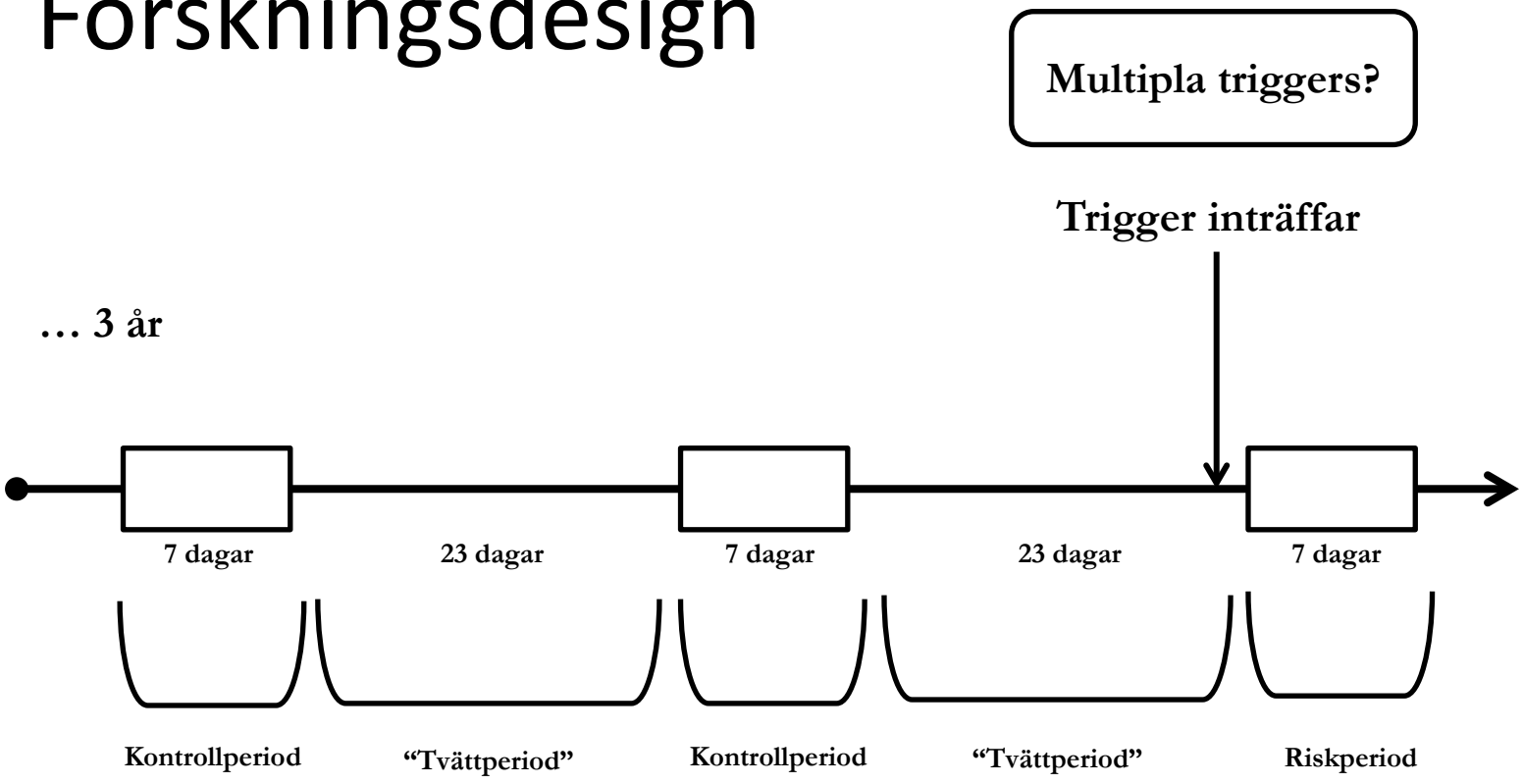
Forskningsdesign



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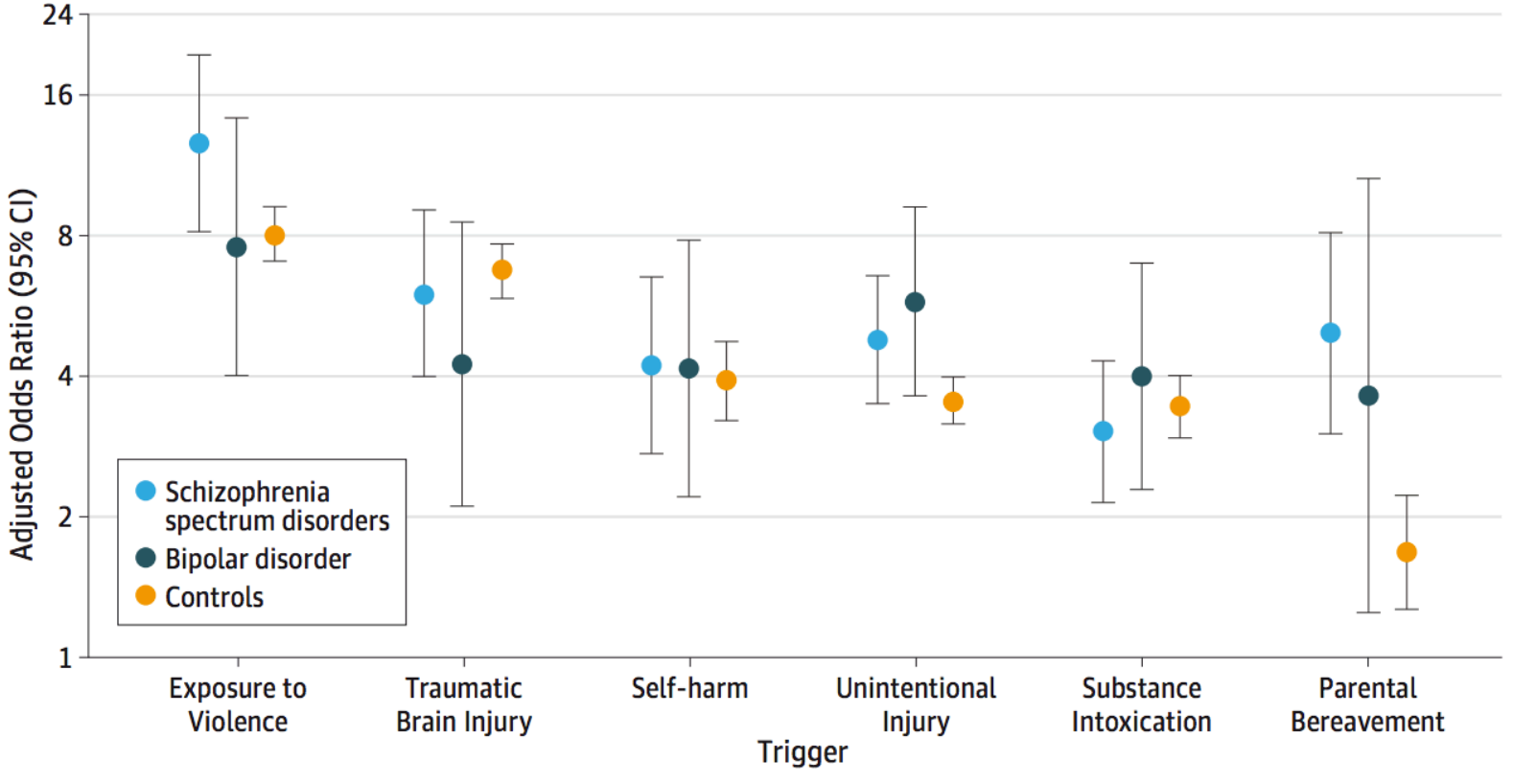
Statistiska modeller

- Justerade för ålder och kalendermånad
- SES från föregående år:
  - → Civilstånd
  - → Antal bostadsflytt
  - → Låg utbildningsnivå
  - → Låg familjeinkomst
  - → Boende i ett depriverat område
  - → Bidrag (försörjningsstöd/förtidspension)

Justeringarna hade negligerbara effekter

Figure. Relative Risks of Violent Crime



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Sammanfattning

- Från ***riskmarkörer*** till ***riskfaktorer***
  → Bättre kausal evidens för trauma än SES

- Triangulering av forskningsdesigner
  → Familjebaserade designer
  → Inom-individsdesigner

- Implikationer för interventioner