Poverty, pathology and pills

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Family income inequalities and trajectories linked to self-harm in young people

Pearl LH Mok 1, Sussie Antonsen 2,3, Carsten B Pedersen 2,3, Matthew J. Carr 1, Nav Kapur 1, James Nazroo 4, Roger T. Webb 1

1 Centre for Mental Health and Safety, University of Manchester, England
2 Centre for Integrated Register-based Research, Aarhus University, Denmark
3 National Centre for Register-based Research, Aarhus University, Denmark
4 Cathie Marsh Institute for Social Research, University of Manchester, England

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Background

• Socioeconomic disadvantage and poverty has been linked with poorer child development, increased risks for psychological distress and self-harm (McLaughlin et al, 2011; Page et al, 2014).

• Self-harm is one of the main risk factors for subsequent suicide. Growing public health concern, especially amongst young people (Morgan et al, 2017).

• However, how risks of self-harm are modified by changes in family income levels over the childhood period remains unclear.
Aims

• Investigate the links between parental income trajectories (i.e. changes in parental income levels) during childhood and subsequent risks for self-harm, with parental income measured at 4 time points: at birth, and at ages 5, 10 and 15 years.

• Assess how time spent in financially disadvantaged vs. affluent conditions during upbringing modifies the association.

• Additionally examine violent offending as an outcome – self-directed vs. interpersonal violence (Sahlin et al, 2017).
Source of data – interlinked Danish national registers

- **Income Statistics Register**
  - Parental income

- **National Crime Register**
  - Violent crime convictions

- **Danish Civil Registration System**
  - Basic demographics
  - Birth; death; immigration; emigration
  - Unique ID numbers for all citizens
  - Parent-child linkage

- **Psychiatric Central Research Register**

- **National Patient Register**
  - Hospital-treated self-harm episodes
Parental income

Assessed in the year of birth, and at ages 5, 10 and 15 years.

Measured in quintiles, i.e. divided into fifths:

Quintile 1 (Q1) – Lowest 5\textsuperscript{th}, the least affluent;
Quintile 5 (Q5) – Highest 5\textsuperscript{th}, the most affluent
Relative risk of self-harm by parental income quintiles measured in the year of birth
Relative risk of self-harm according to time spent in financially disadvantaged versus affluent conditions during childhood

Continuously the least affluent during childhood

Continuously the most affluent during childhood
Relative risk of self-harm in relation to trajectories in parental income levels between birth and age 15:

Q5 (Highest – the Most Affluent) at Birth

![Graph showing incidence rate ratio (95% CI) for different parental income quintiles at age 15.]

- At birth: Q5 (Highest)
- Age 15: Q1 (Lowest, the least affluent)

Downwardly mobile
Relative risk of self-harm in relation to trajectories in parental income levels between birth and age 15: Q1 (Lowest) vs. Q5 (Highest) at Birth
Violent offending

Similar risk patterns as for self-harm, but associations were stronger.
Relative risk of self-harm and violent offending according to time spent in financially disadvantaged versus affluent conditions.

![Graph showing the relative risk of self-harm and violent offending](image)

- Continuously the least affluent
- Continuously the most affluent
Interpretations

• Family income is not only an indicator for financial and material resources, but also captures a multitude of other influences on child development, e.g. housing, neighbourhood, education, social participation.

• Familial adversities are interrelated – children from poorer families more likely to be exposed to multiple hardships.

• Parental income – marker for a range of familial physical and psychosocial environments.
Summary and implications

- Income inequality during childhood, and not only low income, is strongly associated with subsequent risks for self-harm and violent offending.

- The longer a child lived in poorer circumstances the higher the risk, and vice versa for time spent in affluent conditions.

- For any parental income level at birth, being upwardly mobile was associated with lower risk compared with being downwardly mobile.

- Tackling the underlying causes of inequality to enable upward socioeconomic mobility, at any stage during a child’s development, could potentially ameliorate risks for suicidal behaviours and interpersonal violence in the longer term.
Mok PLH, Antonsen S, Pedersen CB, Carr MJ, Kapur N, Nazroo J, Webb RT.

Family income inequalities and trajectories through childhood and self-harm and violence in young adults: a population-based, nested case-control study.

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