

How family income is associated with suicidal and violent behaviour in young adults



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Self-harm and violent criminal behaviour can be common problems in young adults and adolescents and have adverse consequences on public health.^{1,2} Self-harm is not just an expression of despair but also closely related to suicide,^{3,4} which is a leading cause of death in young people.¹ Also, the risk of violent crime conviction is increased in people who self-harm.⁵ Exposure to violence is associated with increased risk of health problems,² such as suicidal behaviour, other mental health problems, and chronic physical disorders, and furthermore, interpersonal violence is a leading cause of death in young adults in the USA.²

A link between parental socioeconomic status and offspring's risk of criminal behaviour⁶ and self-harm^{1,7} has previously been suggested, but whether changes in parental income during childhood are related to a change in the risk of these outcomes remains unanswered. To address this question, Pearl Mok and colleagues' interesting and well conducted study⁸ published in *The Lancet Public Health* explores the association between parental income and the risk of self-harm and violent crimes in individuals in Denmark at ages 15–33 years. The nested case-control study included 21 267 individuals with a hospital-treated first episode of self-harm and 23 724 individuals with their first convictions for a violent crime. Parental income was measured in the year of the offspring's birth and at ages 5 years, 10 years, and 15 years. All included individuals were born between Jan 1, 1982, and Dec 31, 2000, and had two Danish-born parents who still resided in Denmark on the offspring's 15th birthday. The valuable nationwide Danish registers were constructively used, and each case was randomly age-matched and gender-matched to 25 controls with no experiences of the outcome.

One of the most important findings was that children brought up in families with lowest income and who remained in this group throughout their childhood had the highest risk of both self-harm (incidence rate ratio [IRR] 7.2, 95% CI 6.6–7.9) and violent offending (13.0, 11.9–14.1) compared with the reference group of children living in families with the highest income-level from birth until their 15th birthday.⁸ Notably, the longer

the time spent in a low-income family environment, the higher the risk of both self-harm and violent behaviour later in life.

Another remarkable finding was that children living in the most downwardly mobile family income group had higher risk of self-harm (IRR 2.3, 95% CI 2.1–2.6) and violent offending (2.9, 2.6–3.2) than those who were brought up in the most upwardly mobile group (IRR 1.6 [95% CI 1.4–2.0] for self-harm and 1.6 [1.3–2.0] for violent offending) when compared with the reference group of children consistently living in the highest family income environment. In other words, the relative risk of both outcomes was more greatly affected if the family became less affluent during childhood than if it became more affluent.

The findings lead to the question “What is behind the social downwards mobility?”. Several potential important confounders of the associations—ie, parental educational level and mental illness—were considered and were found to explain a substantial part of the association. However, the relative risk patterns remained. As in all other studies based on administrative data, risk of both residual confounding and overadjustment exists. Parental-related factors not considered in the study such as stressful life events, wellbeing, and experiences of self-harm and violent behaviour are likely to have a role in the observed associations. As the authors discuss, the strong associations are unlikely to be entirely explained by material resources, and the present study does not clarify the mechanisms behind the associations identified. However, future studies should certainly try to clarify this because such knowledge would have important implications for preventive work against self-harm and violent behaviour. As the authors mention, immigrants are likely to have even higher risks of both outcomes.⁹ Whether the findings can be replicated in other cohorts, including minority groups, is a question of interest.

The study has very important take-home messages from a prevention and public health perspective because with the use of refined, high-quality analyses, the study shows that a downwards as well as an upwards change in family-income and accumulation of poverty during childhood is closely related to young

individuals' health and social behaviour. It is likely that the associations are even stronger in high-income countries with higher levels of social inequality than that seen in Denmark. Findings confirm the need for early interventions and improved efforts to support lower-income families.^{2,10} However, special focus should not be restricted to families experiencing absolute poverty. Awareness of the risk in children living in families with downwards-changing economic patterns is also highly important. Family and society are among the most important sources to address when aiming to improve young people's health and positive development.¹¹ However, improved interventions supporting socially disadvantaged families in high-income countries are needed. Such efforts could potentially lead to prevention of self-harm and violent behaviour.

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