Child Abuse & Neglect 57 (2016) 61–71

Contents lists available at ScienceDirect

Child Abuse & Neglect

Research article

# Does poor school performance cause later psychosocial problems among children in foster care? Evidence from national longitudinal registry data

Hilma Forsman[a,*], Lars Brännström[a], Bo Vinnerljung[a], Anders Hjern[b]

[a] Department of Social Work, Stockholm University, Sweden
[b] Centre for Health Equity Studies (CHESS), Stockholm University/Karolinska institutet, Sweden

ARTICLE INFO

*Article history:*
Received 22 December 2015
Received in revised form 19 May 2016
Accepted 2 June 2016

*Keywords:*
Foster care
School performance
Causal effect
Longitudinal
Cohort study

ABSTRACT

Research has shown that children in foster care are a high-risk group for adverse economic, social and health related outcomes in young adulthood. Children's poor school performance has been identified as a major risk factor for these poor later life outcomes. Aiming to support the design of effective intervention strategies, this study examines the hypothesized causal effect of foster children's poor school performance on subsequent psychosocial problems, here conceptualized as economic hardship, illicit drug use, and mental health problems, in young adulthood. Using the potential outcomes approach, longitudinal register data on more than 7500 Swedish foster children born 1973–1978 were analyzed by means of doubly robust treatment-effect estimators. The results show that poor school performance has a negative impact on later psychosocial problems net of observed background attributes and potential selection on unobservables, suggesting that the estimated effects allow for causal interpretations. Promotion of school performance may thus be a viable intervention path for policymakers and practitioners interested in improving foster children's overall life chances.



## 1. Introduction

Previous studies have consistently shown that children growing up in out-of-home care (OHC) constitute a high-risk group for future adverse outcomes. Compared to peers, they are greatly over-represented on various measures of disadvantage in young adulthood, including extensive public welfare recipiency, substance abuse, suicidal behavior, and criminality (Björkenstam, Björkenstam, Ljung, Vinnerljung, & Tuvblad, 2013; Vinnerljung & Hjern, 2011; Vinnerljung & Hjern, 2014; Vinnerljung & Ribe, 2001; Vinnerljung, Hjern, & Lindblad, 2006; von Borczyskowski, Vinnerljung, & Hjern, 2013).

Children in OHC often come from adverse family backgrounds; many have experiences of child maltreatment and some exhibit early emotional and behavioral problems, all of which have been shown to elevate risks for unstable life-course trajectories (Berzin, 2008; Currie & Spatz Widom, 2010; Fallesen, 2014; Havlicek, 2011). Additionally, foster children tend to be low achievers in school and enter adulthood with lower educational attainment than the majority population and peers with similar cognitive ability (Berlin, Vinnerljung, & Hjern, 2011; Clausen & Kristofersen, 2008; Egelund et al., 2008;

* Corresponding author at: Department of Social Work, Stockholm University, SE-106 91 Stockholm, Sweden. Tel.: +46 8163249.
*E-mail address:* hilma.forsman@socarb.su.se (H. Forsman).

http://dx.doi.org/10.1016/j.chiabu.2016.06.006
0145-2134/

Jackson & Cameron, 2011; Jackson, 1994; Pecora et al., 2006; Trout, Hagaman, Casey, Reid, & Epstein, 2008; Vinnerljung, Öman, & Gunnarson, 2005; Vinnerljung, Berlin, & Hjern, 2010).

Education represents one of the most important sources for individual opportunity (Boudon, 1974), a way out of childhood disadvantage (Pilling, 1990). The links between educational achievement/attainment and overall life chances are well rehearsed, and include mechanisms contributing to behaviors, capabilities, aspirations and expectations that allow individuals to function in modern societies and have choices about what sort of life they want to lead (Buchmann & Hannum, 2001; Jackson, 2013). Although the associations between educational achievement and later life outcomes are well documented in general (Björkenstam et al., 2011; Frønes, 2015; Gauffin, Vinnerljung, Fridell, Hesse, & Hjern, 2013; Jablonska et al., 2009) and in child welfare populations (Brännström, Vinnerljung, & Hjern, 2015), the reported associations between foster children's poor school performance and subsequent risks for adverse outcomes in young adulthood are exceptionally strong (Berlin et al., 2011; Vinnerljung et al., 2010).

Successful prevention programs are typically based on identification and targeting of risk factors that can be influenced (Ferrer-Wreder, Stattin, Lorente, Tubman, & Adamson, 2004). Poor school performance may be regarded as a strong risk marker for poor life-course trajectories among children in OHC, and a recent scoping review suggests that it can be influenced and improved while children are in care (Forsman & Vinnerljung, 2012). However, the mechanisms underlying the associations between poor school performance and poor later outcomes among foster children are not fully understood. The methodological shortcomings of prior research do not allow for causal interpretations of the estimated associations. Conducting a randomized controlled trial (RCT) is unfeasible because of ethical concerns, and the sheer number of potential confounders and the presence of selection bias in observational data complicate separating any causal effects of poor school performance from the effects of other factors. Yet we have to rely on observational data for pragmatic reasons, and a better understanding of the causal effect of foster children's poor school performance on later adverse outcomes to inform decision-making in child welfare policy and practice is needed if we want social interventions targeting children in OHC to be effective.

Aiming to support the design of effective intervention strategies, this study examines the hypothesized causal effect of foster children's poor school performance on subsequent psychosocial problems, here conceptualized as economic hardship, illicit drug use, and mental health problems, in young adulthood. Drawing on the counterfactual model of causality (Rubin, 1974), this study extends previous research as follows. First, we use comprehensive longitudinal register data on more than 7500 Swedish foster children, enabling rigorous controls for confounding factors such as parental socioeconomic positions. Second, we estimate the effect of poor school performance by means of inverse-probability-weighted regression-adjustment, a doubly robust method, which utilizes observed confounding factors to make poor school performance and outcomes independent once we condition on observables. This approach reduces well-known biases related to comparing people where there does not exist a sound basis for comparison. Last, we use endogenous treatment-effect estimators to control for potential influence of selection on unobservables.

## 2. Method

### 2.1. Data

Sweden has a long tradition of national registers with high quality data for health, socio-economic indicators, and child welfare interventions. These registers are based on the individually unique personal identification number (PIN) that follows every Swedish resident from birth – or time of immigration – to death. The PIN enables linking different registers on an individual level. In our dataset, a randomized control number, identical for all utilized registers, has replaced the PIN. We have retrieved information from the 10 registers listed in Table 1. 2008 was the last year of available data in our dataset for all registers. The study was approved by the regional ethics committee in Stockholm (dnr: 2010/5:1).

### 2.2. Population

Our population consists of children born in Sweden 1973–1978, who were placed in OHC before age 13 and resided in Sweden on December 31, 2008. Individuals who had a record of emigration or died before age 17 were excluded from the study. Foreign-born children were excluded since we wanted to avoid well-known links between language difficulties and poor school performance. In addition, we excluded a small group of individuals who were granted disability pension at age 23. Disability pension in such an early age strongly indicates that persons did their compulsory schooling in special schools for children with learning disabilities (Vinnerljung, Brännström, & Hjern, 2015). For others, it is an indicator of lasting somatic or mental impairment, which for most probably had antecedents during the years in compulsory school that affected their school performance. Furthermore, we excluded a small ambiguous group of individuals who did not have any registered grades from the final year of compulsory school. Missing values could be due to heavy absconding or suggest that persons did their compulsory schooling in schools that did not report grades (e.g. child welfare residential care facilities). As a result, our estimate of the prevalence of poor school performance can be viewed as conservative. After these delimitations, the study population consisted of 7522 persons, who were 30–35 years of age at the time of follow-up (2008).