



Growing up in economic hardship: The relationship between childhood social assistance recipiency and early adulthood obstacles

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Despite the vast body of literature investigating the effects of childhood economic conditions, few studies have investigated the significance of the timing and extent of economic hardship experienced during childhood. This study utilised the 1987 Finnish Birth Cohort, which includes all 59,476 children born in Finland in 1987, to explore the impact of the timing of childhood economic hardship on subsequent well-being, with a special emphasis on gender differences during three developmental stages. We examined the relationship between the timing and extent of childhood economic hardship and the following four subsequent adolescence and early adulthood outcomes: the cohort members' criminal convictions, early school leaving, psychiatric diagnoses, and social assistance (SA) recipiency in adulthood. We found a strong association between heavy receipt of SA during secondary school and the cohort members' early adulthood receipt of SA. Furthermore, early childhood economic hardship seemed to be especially detrimental for girls.

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Introduction

The relationship between childhood economic hardship and adult outcomes has interested social scientists over the years, and knowledge regarding the connections between childhood poverty and adult outcomes is vast. There is also vast literature demonstrating that poor socioeconomic living conditions during childhood have a long-lasting effect on different aspects of individual life trajectories and outcomes.

Previous research investigating the relationship between economic crises and health has been widely performed. The most prominent work within this field of research is Glen Elder's (1974) *Children of the Great Depression*. Elder (1974) studied the long-term effects of the Great Depression in 167 individuals born in 1920–1921 until the 1960s. In his follow-up studies, Elder was able to show that in many cases, the effects of the crisis could only be observed many years after the crisis. Long-term studies comparing two different age groups showed that the younger group experienced more severe psychological damage as the highest level of the depression occurred while these children were in a critical period of development and in the most need of attention from their parents. These children experienced not only economic but also emotional

deprivation when their parents left them alone and while attempting to cope with the stress of diminishing income, made destructive choices involving increased alcohol consumption and disputes at home.

However, while knowledge regarding the relationship between childhood economic hardship and long-term negative outcomes is vast, our knowledge of the significance of the timing of poverty is limited (Duncan, Magnuson, & Votruba-Drzal, 2017; Kalil, Duncan, & Ziol-Guest, 2016). Elder's study described the long-term consequences of growing up during a depression in a small cohort of children, who were born in the 1920s in Oakland, California. The empirical material of the observations reported by Elder included observations and recurrent interviews with the participants. The recent literature addressing the effects of the timing of economic hardship is scarce, although increased access to administrative registries allows for sophisticated analyses addressing the timing and extent of economic hardship.

Since economic crises tend to appear in cycles, the proportion of individuals experiencing economic hardship during specific developmental stages differs among cohorts. Nevertheless, as the analyses in this study reveal, there are also very different patterns of economic hardship within this cohort. The children

of this cohort were born in booming Finland. The economy had been growing for several years and the employment rates were high. However, a dramatic change occurred when the economic crisis hit at the beginning of the 1990s. Finland was exceptionally impacted and the unemployment rate increased from 3.5 to 18.9% within a short period. The children in the 1987 Finnish Birth Cohort were approximately 4 years old when the Finnish economy started to fall. Thus, the experience of economic hardship during childhood is likely more common in this cohort than that among children who were a few years older or born several years later.

Along these lines, we explored the patterns of economic hardship in the form of social assistance (SA) reciprocity within the families in this cohort. SA is a relevant indicator of economic hardship, even when the rate of non-uptake of SA is likely to be significant. Since our interest was in the timing and extent of economic hardship, we explored the role of economic hardship during different developmental periods and the extent of SA reciprocity in relation to outcomes in early adulthood. Therefore, our aim was to observe the association between economic hardship during early childhood, the elementary school years, and the lower secondary school years and early adulthood obstacles, with a special emphasis on the gender differences in these associations. Gender is an important aspect to consider since previous research has shown that the stress that accompanies economic hardship has different effects on boys and girls (e.g., Wadsworth, Raviv, DeCarlo Santiago, & Etter, 2011). The outcomes under scrutiny include criminal convictions, early school leaving, psychiatric diagnoses, and the cohort members' adulthood SA reciprocity.

The remainder of this article is organised as follows. In the second section, we present previous research related to experiences of economic hardship during childhood and adolescence. The third section presents the possible mechanisms explaining why childhood economic hardship leads to negative outcomes subsequently in life. The fourth section presents the material and methods utilised in this study. The analysis and results are presented in the fifth section, and a concluding discussion is provided in the sixth and last section.

Prior research and theoretical considerations

Significant literature reveals how individuals' socioeconomic background affects adult health and well-being outcomes (Ristikari, Merikukka, & Hakovirta, 2018). Economic hardship increases the stress that people experience and, therefore, may increase drug and alcohol consumption, which, in turn, may lead to mental health problems (Roberts et al., 2010). Evans and Cassells (2014) showed that extended periods of

poverty at age 9 are related to worse mental health at age 17. Childhood poverty is also a crucial component in the cumulative exposure to negative effects leading to mental health problems in adulthood (e.g., Costello, Erkanli, Copeland, & Angold, 2010; Najman et al., 2010; Paananen, Ristikari, Merikukka, & Gissler, 2013). In a study investigating the relationship between neighbourhood poverty and obesity, Alvarado (2016b) showed that neighbourhood poverty is more harmful for girls than boys. A neighbourhood disadvantage was also shown to reduce cognitive development in children (Alvarado, 2016a). Even though the literature concerning the consequences of economic hardship during childhood is extensive, the recent literature emphasises the fact that knowledge regarding the significance of the timing of poverty is very limited (Kalil et al., 2016). Recent developments in behavioural economics have shown that, through its psychological and nutritional consequences, poverty diminishes the opportunity set available for an individual's decision-making. The term *bandwidth* was introduced to denote this capacity for making well-informed choices (see Schilbach, Schofield and Mullainathan, 2016, for a more thorough discussion of bandwidth).

Effects of childhood economic hardship

Social assistance The intergenerational transmission of economic hardship is well established in previous research. Children of parents who receive SA are more likely to become welfare recipients themselves (e.g., Beaulieu, Duclos, Fortin, & Rouleau, 2005; Stenberg, 2000). In addition to biologically inherited factors, values and expectations are passed from one generation to the next. Recent studies using Norwegian data indicate a certain social inheritance of welfare programme participation. The likelihood of becoming dependent on welfare programmes is higher among individuals whose parents have been welfare recipients. For example, the norms and values related to disability pension are transmitted from parents to their children, and the probability of receiving disability pension partially depends on parental behaviour regarding disability pension (Bratberg, Nilsen, & Vaage, 2015; see also Dahl, Kostøl, & Mogstad, 2014).

Mental health Childhood economic hardship has long-term consequences in several areas of life. The mechanisms linking childhood poverty to health are numerous. In a situation in which parents have difficulties making ends meet, both the economic and nonmonetary resources the parents could offer to their children are scarce. In addition to prenatal factors, emotional, cognitive, social, environmental, behavioural and biological mechanisms link parental socioeconomic status (SES) to their

children's health (Chen, Matthews, & Boyce, 2002). Childhood poverty is a significant risk factor related to mental health problems (Dearing, 2008; Yoshikawa, Aber, & Beardslee, 2012). Economic hardship may also have different effects on different types of mental health problems. For instance, a quasi-experimental study showed that escaping poverty notably decreased conduct and oppositional disorders in children aged 9 to 13 years, while the same treatment had no effect on anxiety and depression (Costello, Compton, Keeler, & Angold, 2003).

Criminal behaviour Economic hardship and low SES also influence physical and psychosocial living conditions. In addition to the stress caused by economic problems, parents with fewer resources often have disadvantageous living conditions, such as living in more dangerous and segregated neighbourhoods, and their children are exposed to these conditions (Cohen, Janicki-Deverts, Chen, & Matthews, 2010). The relationship between criminal behaviour and childhood poverty has been demonstrated in previous research. Although older studies show somewhat mixed results, more comprehensive studies show that children who grow up under economic hardship are at a greater risk of becoming offenders (Bjerk, 2007; Sariaslan, Larsson, D'Onofrio, Långström, & Lichtenstein, 2014). Furthermore, using the 1987 Finnish Birth Cohort, Savolainen, Paananen, Merikukka, Aaltonen and Gissler (2013) showed that educational disadvantage is an important factor connecting SES to the risk of criminality during early adulthood.

Early school leaving Economic hardship has been shown to be related to educational underachievement (e.g., Duncan, Morris, & Rodrigues, 2011; Gibb, Fergusson, & Horwood, 2012). Educational underachievement is also related to a lower income subsequently in life and, therefore, is an important link in the cumulative disadvantage process throughout the life course. Many mechanisms likely explain the relationship between economic hardship and early school leaving. For example, according to Elder (1974), economic stress leads parents to make bad choices. Furthermore, parental SES influences the expectations that parents have for their children and, in turn, these expectations influence children's educational outcomes (Bask, Ferrer-Wreder, Salmela-Aro, & Bergman, 2014).

Relevance of the timing of economic hardship

Critical period models emphasise the timing of an experience, indicating that exposure to a certain experience during a particular period in an individual's

development may have long-term consequences on the physiological functions of the individual. For example, poverty may be particularly harmful to children during important life course transitions, such as the beginning of school (Ben-Shlomo & Kuh, 2002). While analysing the relationship between neighbourhood poverty and obesity, Alvarado (2016b) found that neighbourhood poverty is more harmful for adolescents than for younger children. Furthermore, a neighbourhood disadvantage reduces cognitive development in children and is especially harmful for adolescents (Alvarado, 2016a).

Several studies (e.g., Goosby, 2007; Power, Manor, & Matthews, 1999) have shown that the long-term consequences of shorter periods of poverty are not as detrimental as those of persistent poverty. For example, in a longitudinal study, Najman et al. (2009) found that growing up in poverty explains anxiety and depression in adolescence and early adulthood and that an increase in the number of poverty spells during children's early life course is related to an increase in mental health problems. This finding was also supported by a Finnish report utilising data from the 1987 birth cohort (Paananen, Ristikari, Merikukka, Rämö, & Gissler, 2012).

Mechanisms underlying the association between childhood economic hardship and subsequent outcomes

Duncan et al. (2017) presented three theoretical frameworks designed to explain the mechanisms through which childhood poverty might affect development to adulthood. These models include the *Family and Environmental Stress Model*, which was originally developed by Elder (1974; Elder, Nguyen, & Caspi, 1985), the *Resource and Investment Perspective*, which was developed by Becker (1991), and the *Cultural Perspective*, which was developed by Lewis (1966).

The family and environmental stress model suggests that economic hardship creates psychological stress that could involve harmful parenting strategies and worse relationships between parents. Children growing up in poor families also often live in crowded and lower-quality housing. At a more structural level, children growing up in poverty experience neighbourhoods that are less safe and attend lower-quality schools. Higher levels of stress involve increases in stress hormones, which may result in decreased cognitive functioning. The family and environmental stress model has rapidly developed over the past decades and is expected to further develop in the wake of neuroscientific findings related to social phenomena (Duncan et al., 2017). In summary, the family and environmental stress model suggests that the stress that both parents and children experience when faced with poverty has biological,

neurological and social consequences that affect the children's development.

The resource and investment perspective originated from ideas stemming from economic theory in which child development is perceived as a product of endowments and parental investments. Opting for high quality child-care and education and safe neighbourhoods are examples of investments that parents might make to improve the development of their children. According to the household production theory (Becker, 1991), parents who struggle to make the ends meet have fewer resources to spend on their children. In addition to purely material resources, parents with low-income work often have less time to invest in their children. According to this perspective, economic hardship influences child development because economic resources allow parents to invest in their children, enhancing their children's development (Duncan et al., 2017).

The cultural perspective is based on Lewis's (1966) theory of the culture of poverty. This perspective illustrates how economic hardship leads to a culture of poverty involving behaviours, such as a low level of self-control and the need for instant gratification. According to Lewis (1966), chronic poverty produces a culture of poverty involving attitudes, values and behaviours that transmit from one generation to another, causing the deprivation to persist over generations even if societal changes lead to the transformation of the structural conditions that initially caused these individuals to land on a poverty trajectory (Duncan et al., 2017). Although Lewis's (1966) perspective has been criticised, the importance of culture in the study of poverty has received recent attention, and the more nuanced, contemporary perspectives of the culture of poverty are sometimes called the *new culture of poverty* (e.g., Harding, 2010; Small, Harding, & Lamont, 2010).

Aims

Accordingly, extensive literature concerning this topic exists. However, the literature considering the timing of hardship is scarce. Therefore, this study aims to investigate the effects of economic hardship as measured as welfare reciprocity in a cohort of children who grew up during a period characterised by economic turmoil. More specifically, we investigated the patterns of SA reciprocity during the childhood of this cohort and utilised a regression analysis to investigate the relationship between the timing and extent of childhood SA reciprocity and the obstacles these children experienced during their early adulthood. Special emphasis was placed on gender differences in these associations.

Materials and methods

Study population

This study used the 1987 Finnish Birth Cohort (Paananen et al., 2013). The sample comprises all children born in Finland in 1987 ($N = 59,476$) and their parents. These children were followed throughout their life courses using official registers up to the age of 29. This study was approved by the Ethical Committee of the National Institute for Health and Welfare (§28/2009) and appropriate permissions to use the confidential register data for scientific research were received from all register-keeping organisations. Children who died before the end of 2015, resided abroad before June 2015 or were diagnosed with intellectual disability were excluded from this study ($N = 4,062$), yielding a final sample of 55,414.

Study variables

Parental social assistance SA recipients are registered by the National Institute for Health and Welfare (THL). SA is last-resort financial assistance provided by social services to a household from municipal funds when other sources of income are insufficient to ensure that the basic needs of a person or family are met. Parental SA was registered for the biological mother, biological father or both parents during the 1987–2003 follow-up period. To measure the timing of SA reciprocity, the years of SA reciprocity were calculated for the following three distinct periods: early childhood (1987–1993), elementary school (1994–1999) and secondary school (2000–2003). To allow comparisons among individuals with no SA reciprocity and those with different categories of SA reciprocity, the years of reciprocity in each period were further classified into the following five levels: no reciprocity and quartiles 1 to 4 for the population that received SA. Consequently, we had one group with no SA and four groups with different extents of SA reciprocity. In the case children whose parents were separated or divorced and therefore had two households, the SA reciprocity periods were summed.

Parental education Data regarding the highest educational level of the cohort members' parents during the time when the cohort member was younger than 16 years were obtained from Statistics Finland. Parental education was classified as 'higher academic' (bachelor degree or above, boys 26.1%/girls 25.8%), 'lower academic' (community/junior college level, 11 years, 23.9%/24.3%), 'upper secondary' (general upper-secondary-level or vocational education, 10–11 years, 43.1%/43.0%) or 'comprehensive' (compulsory education only, 6.9%/6.9%).

Criminal conviction Criminal records are registered by the Finnish Legal Register. The criminal records register was sampled up to the year 2012 to obtain any criminal conviction by a member of the Finnish Birth Cohort using the cohort members' personal identification numbers. Altogether, 18.4% of the boys and 4.5% of the girls had been convicted at least once.

Early school leaving Data regarding education were obtained from Statistics Finland's register for educational degrees up to the year 2015. The personal identification numbers that were *not* found in the sample formed the early school leavers group. This group included individuals with no completed compulsory education and individuals with only compulsory education but no degree from secondary education. Of the cohort members, 11.9% of the boys and 7.4% of the girls did not receive any secondary educational degree by 2015.

Psychiatric diagnosis The Finnish Hospital Discharge Register, which is maintained by the THL, includes all inpatient care episodes from all Finnish hospitals since 1969 and all specialised level outpatient visits in public hospitals since 1998. Hospital visits were sampled up to the year 2016. Of the cohort members, 12.8% of the boys and 19.2% of the girls received a psychiatric primary diagnosis at least once.

Social assistance reciprocity SA recipients are registered by the THL. SA is last-resort financial assistance provided by social services to a household from municipal funds when other sources of income are insufficient to ensure that the basic needs of a person or family are met. Reciprocity was sampled up to the year 2016. Reciprocities that were shorter than 12 months in total were ignored. In total, 13.4% of the boys and 14.8% of the girls in this cohort received SA at least once.

All register data were merged using the unique personal identification numbers (IDs) and the data were anonymised. First, we present some descriptive results to describe SA reciprocity during the childhood of this cohort. Then, we extend the analysis using binary logistic regression to examine how the timing and extent of SA are associated with early adulthood outcomes, such as criminal convictions, early school leaving, psychiatric in/outpatient diagnosis, and early adulthood SA. We used four logistic regression models, one for each outcome, in which all three SA periods (early childhood, primary school and secondary school) were used as independent variables. We used parental

education as a control variable. For all outcomes, we placed interaction terms between all individual SA variables and gender in order to examine gender differences in the outcome. The results are presented as predictions for each gender and SA period, and parental education was set to the most common value, that is, 'upper secondary'. The probability between each SA period and the dependent variable was predicted by setting the other two SA periods to 'no reciprocity' (e.g., when predicting criminal convictions according to early childhood SA reciprocity, subsequent reciprocities are set to zero) to keep the number of predictions to a minimum.

The interaction effects were interpreted as follows: a significant negative interaction indicates that the probability of the outcome is lower than expected based on the difference between the boys' and girls' reference groups. In contrast, significant positive interactions indicate that the probability of the outcome is higher than expected based on the difference between the boys' and girls' reference groups.

Analysis and results

Economic hardship during early life

Figure 1 shows the shares of cohort members who received SA at least once a year via at least one household during different developmental stages. The share of SA recipients is the smallest during the early life course; approximately 10% of the cohort members' parents in the study were living in a household receiving SA. This means that approximately 6,000 children in the cohort lived in families that received SA in their early childhood years. However, when the economic crisis hit Finland, the share of SA recipients began to increase beginning in 1991. This increase continued towards the early years of elementary school and 1996 was the year with the largest share of cohort members living in households with SA. The share of SA recipients in the cohort started to decrease in 1996, but by the end of the observation period, this share remained higher than that at the beginning of the observation period.

In summary, we conclude that although a large majority of the cohort grew up in families without SA, a significant number of individuals experienced economic hardship during early childhood, elementary school or secondary school. Therefore, to deepen our understanding of the association between childhood economic hardship and early adulthood outcomes, we constructed several logistic regression models. The aim of these models was to explore the association between childhood economic hardship and the cohort members' criminal convictions, early school leaving, psychiatric diagnosis and adulthood SA reciprocity by paying special attention to the timing and extent of economic hardship.

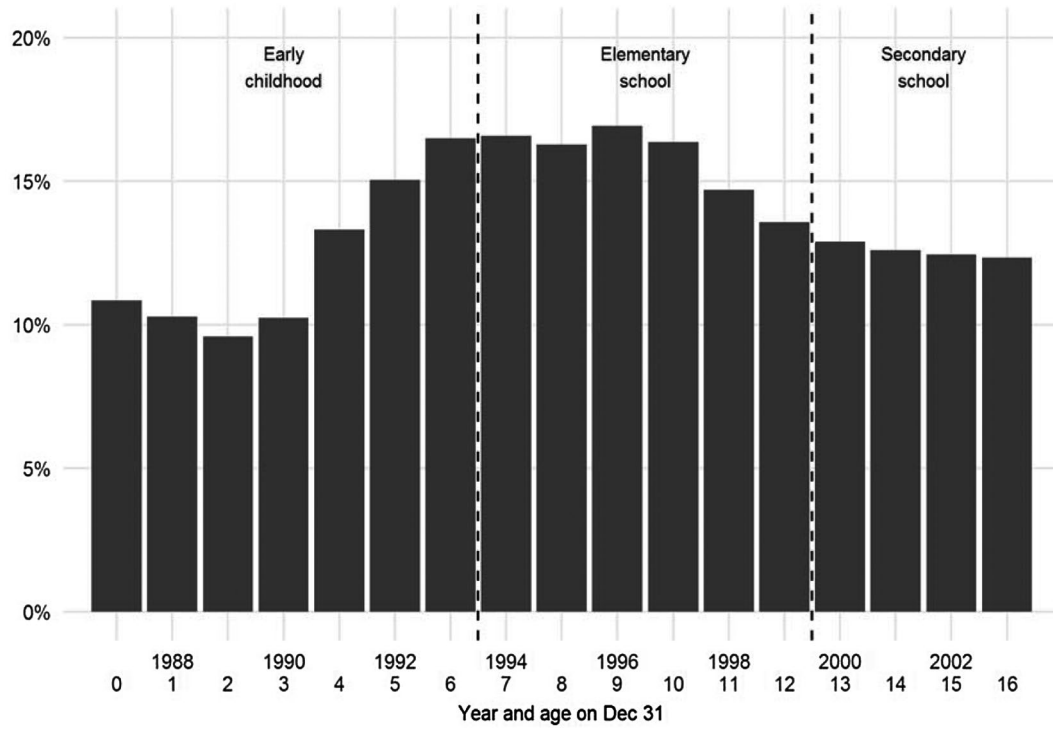


Figure 1. Percentage of cohort members with SA.

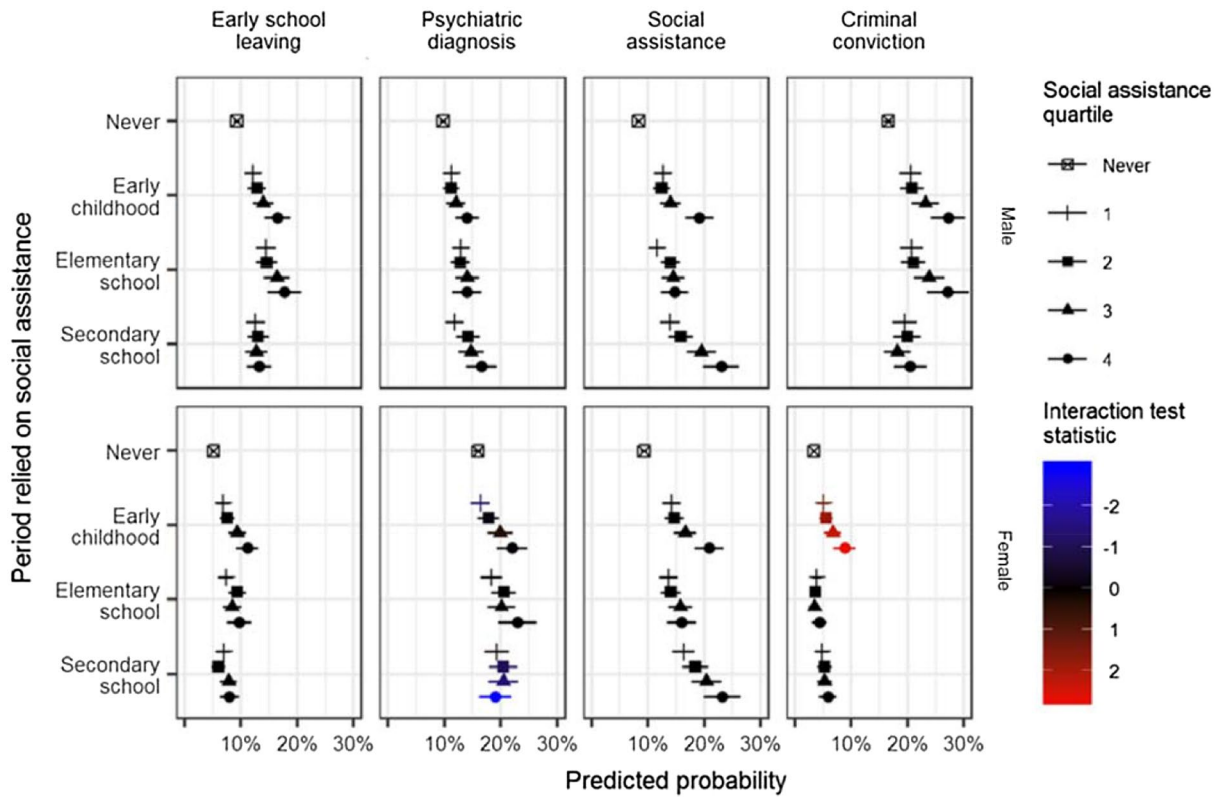


Figure 2. SA reciprocity patterns in relation to early adulthood outcomes.

Economic hardship in childhood and early adulthood outcomes

To investigate the effect of the timing and extent of SA on outcomes during early adulthood, we constructed regression models of the selected outcome variables. The highest parental education level was included as a control variable in all models. The predictions of the outcome probabilities and their 95% confidence intervals are shown in Figure 2.

Boys who grew up in families with extensive SA reciprocity during their early childhood and elementary school years had a greater than 15% predicted probability of early school leaving. The corresponding figure for boys without any SA reciprocity during their childhood was below 10%. Girls with extensive early childhood SA reciprocity had a predicted probability of early school leaving slightly over 10%. The corresponding figure for girls who grew up in families with no SA reciprocity was approximately 5%.

The predicted probability of a psychiatric diagnosis among the boys with no SA reciprocity during childhood was approximately 10%, while the corresponding figure for those with extensive SA reciprocity during secondary school was over 15%. Among the girls with no SA reciprocity during their childhood, the predicted probability of a psychiatric diagnosis was over 15%. Extensive SA reciprocity during elementary school or early childhood yielded a predicted probability of a psychiatric diagnosis that was closer to 25%. By comparing the reference groups (individuals with no SA experience) of boys and girls, we found that the girls in the study had an approximately 10 percentage points higher probability of a psychiatric diagnosis than did the boys. The estimates for some SA during early childhood and heavier SA during secondary school are marked in blue to indicate significant interactions. The significant negative interaction indicates that for those who received SA during early childhood and secondary school, the probability of a psychiatric diagnosis was lower than expected based on the difference between the boys' and girls' reference groups. Although they were significant, the interaction statistics estimates for early childhood were not very large. The estimates were larger for SA reciprocity during secondary school: -2.9 for the fourth SA quartile.

Boys who grew up in families with extensive SA during their secondary school years had almost a 25% predicted probability of receiving SA in adulthood. The predicted probability for those with the heaviest SA reciprocity during early childhood or moderately heavy (third quartile) SA reciprocity during secondary school was almost 20%. The predicted probability of SA in the reference groups of both genders was below 10%. The patterns for the girls and boys appeared to be very similar; for girls with heavy SA reciprocity during the secondary

school years, the predicted probability was almost 25%, while for those with heavy SA reciprocity during early childhood, the predicted probability was over 20%.

The boys in the study with extensive SA during early childhood and elementary school had a predicted probability of criminal convictions of over 25%. The predicted probability of criminal convictions among the boys with no SA reciprocity was over 15%; this figure was clearly lower among girls (below 5%). The estimates for early childhood are marked in red to indicate the positive interaction. Considering the reference group (individual with no SA experience), the girls had a probability of criminal convictions that was more than 10 percentage points lower than that of the boys. The significant positive interaction indicates that among the girls whose families received SA during their early childhood, the probability of criminal convictions was higher than expected based on the difference between the boys' and girls' reference groups. The interaction statistics estimates for early childhood were largest for the third and fourth SA quartile (2.3 and 2.7, respectively).

In summary, the study shows that heavy SA reciprocity, especially during secondary school and early childhood, is associated with a heightened probability of SA reciprocity in adulthood for both genders. Considering the other outcomes, among the girls, the difference between those who receive some SA and those who receive extensive SA seems to be somewhat smaller than the corresponding figure among the boys. For instance, for all SA quartiles during elementary and secondary school, the estimated probabilities of early school leaving, having a psychiatric diagnosis and having criminal convictions were very similar in size. Thus, among the girls, it seems that extensive SA reciprocity during early childhood has more negative effects than later SA experiences. Adulthood SA reciprocity was the only outcome for which secondary school SA reciprocity seemed to be more important than early childhood SA in explaining SA reciprocity during adulthood. Among the boys, the difference in the predicted probabilities of early school leaving and having criminal convictions between those with extensive SA reciprocity and some SA reciprocity was larger during the early childhood and elementary school years than during the secondary school years.

Discussion

Previous research has shown that childhood poverty experiences have long-term effects on the life courses of children. However, few studies have investigated the effects of the timing of hardship. In this study, we analysed the patterns of SA reciprocity in the families of the entire 1987 birth cohort in Finland. The children in this cohort were born in booming Finland. The economy

had been growing consecutively for several years and the employment rates were high. However, a dramatic change occurred with the severe economic crisis in the beginning of the 1990s, when the children in this cohort were approximately 4 years old. This economic crisis led the unemployment rates to skyrocket, affecting many families.

We were initially interested in performing a descriptive examination of the patterns of economic hardship in the children born in this cohort who were affected by the economic crisis quite early during their life course. This examination was achieved with descriptive statistics in the form of figures showing that the share of SA recipients is the smallest during the early life course, that is, approximately 10% of the cohort members' parents were living in a household receiving SA. The share of SA recipients began to increase beginning in 1991 as the economic crisis developed. This increase continued towards the early years of elementary school and 1996 was the year with the largest share of the cohort members living in households with SA. Although the share of SA recipients in the cohort began to decrease, it remained higher at the end of the observation period than at the beginning of the same period.

As previously mentioned, the literature regarding the consequences of childhood economic hardship is vast. However, the recent literature has pointed out that knowledge regarding the significance of the timing of poverty is limited (Kalil et al., 2016). To investigate the effect of the timing and extent of economic hardship, we examined the relationship between childhood economic hardship patterns and the following four different subsequent adolescence and early adulthood outcomes: criminal convictions, early school leaving, psychiatric in/outpatient diagnosis, and adulthood SA reciprocity. Specific attention was paid to gender differences.

In general, we found that the children who experienced economic hardship during their childhood were more susceptible to all four studied outcomes. According to the resource and investment perspective (Becker, 1991; Duncan et al., 2017), economic resources facilitate parents' investments in their children, which can include time, high-quality child-care and safe neighbourhoods. These investments improve the development of the children. Parents who struggle to make ends meet have fewer resources to invest in their children.

Considering the timing of the economic hardship, we learned from the descriptive statistics that SA was most common during the elementary school years, suggesting that a larger proportion of the cohort was experiencing economic hardship. One could assume that experiences with relative hardship are more difficult in times when few peers struggle financially.

Therefore, economic hardship during elementary school was not as important in relation to the early adulthood obstacles as economic hardship experienced during the other two developmental periods, especially during early childhood, probably because the relative deprivation was greater during early childhood and secondary school, when a smaller proportion of individuals in this cohort experienced prolonged economic hardship. Therefore, a task for future research will be to distinguish between developmental explanations and experiences with relative hardship in explaining subsequent outcomes.

We found that economic hardship had an especially strong association with some early adulthood obstacles under scrutiny. For example, heavy SA usage during early childhood was correlated with all outcomes among girls. Extensive SA during secondary school yielded a nearly 25% probability of SA in adulthood among both genders. Substantial SA during elementary school seemed to be more decisive for the boys, especially regarding criminal convictions and early school leaving. This study is unable to explain this finding, but based on other studies, it is known that girls generally develop faster than boys during childhood and early adolescence (Maccoby & Jacklin, 1974). One hypothesis is that economic hardship is particularly damaging during specific developmental stages and that these stages occur at somewhat different ages in boys and girls. This hypothesis should also be addressed in future research.

Criminal convictions can be considered a result of externalising behaviour. Externalising behaviour has historically been more common among boys, but some research indicates that the gender difference in criminal behaviour is diminishing (e.g., Bask, 2015; Estrada, Bäckman, & Nilsson, 2016; Snyder & Sickmund, 2006). The finding that there is a significant positive interaction between gender and early childhood SA suggests that among girls with early childhood SA, the probability of criminal convictions will be higher than expected based on the difference between the reference groups. This finding indicates that early childhood economic hardship is especially detrimental for the development of externalising behaviour among girls.

Reflecting on the strong association between extensive SA during secondary school and SA during early adulthood, we should consider previous Norwegian studies (Bratberg et al., 2015; Dahl et al., 2014) indicating a certain social inheritance in welfare programme participation. To some extent, behavioural norms and values related to SA reciprocity may be transmitted from parents to their children. Secondary school children are probably well aware of their family's financial situation, which might not be so obvious to younger children. This type of reasoning corresponds to the

culture of poverty perspective, in which chronic poverty is assumed to produce a culture of poverty involving attitudes, values and behaviours that are transmitted from one generation to another, causing deprivation to persist over generations (Duncan et al., 2017; Lewis, 1966).

However, it has been shown that poverty reduces the ability to make well-informed choices with a longer-term perspective (Schilbach et al., 2016). Therefore, it is possible that individuals who have experienced economic hardship do not necessarily take all the measures that seem reasonable from an outsider perspective to improve their future earnings. Measures such as attaining a higher education or moving from their hometown for a job could initially be demanding but rewarding in the long-term. This finding is consistent with the family and environmental stress model, which suggests that economic hardship generates psychological stress involving harmful parenting strategies and conflicts at home. Higher levels of stress are associated with decreased cognitive functioning.

The culture of poverty and family and environmental stress models should not necessarily be considered as competing explanatory models. Instead, it is reasonable to assume that to some extent, behaviours are socially inherited or learned and that economic stress affects an individual in many ways, including neurological and biological effects, limiting the ability to make well-informed choices.

This study as well as the vast previous literature indicate that childhood economic hardship has long-lasting effects for the life courses of children. The results presented in this article are limited to analyses of data from one cohort whose childhood in Finland was characterised by economic turmoil. Although our findings indicate that early childhood economic hardship seems to be more critical than subsequent experiences with economic hardship, especially among girls, we wish to highlight the need to compare these findings to findings in other cohorts who grew up during a period characterised by economic stability.

We operationalised economic hardship as SA reciprocity. It is reasonable to believe that there is significant non-uptake of SA. Additional measures of economic hardship should, therefore, be considered in future research. Moreover, it would be interesting to examine the significance of other aspects of childhood environment, for example, the quality of the parent–child relationship or bullying in school. However, due to the nature of the data, we are not able to control for aspects that are not found in official registries.

Economic crises beget changes in labour markets and in the welfare services provided by the state. This also means that individuals in different cohorts face different challenges as a result of economic crises. For example, it is reasonable to expect that cohorts entering

the labour market at the time of an economic crisis suffer more than those who already are established in the labour market. Moreover, the likelihoods of owning property and the accumulation of wealth related to doing so are reduced for those generations.

As very recent developments have revealed, economic crises seem to be a recurring phenomenon. A global economic crisis is currently taking place in the aftermath of the COVID-19 pandemic. The decisions that policymakers make today will have long-lasting consequences for younger generations and it is important to consider the consequences of growing up in economic hardship.

Data availability statement

Research data are not shared.

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