Social Determinants of Mortality After Leaving Parental Home – Effects of Childhood and Current Sociodemographic Factors

Abstract

Most research on life course effects on health has concerned adult and older populations and life course trajectories have often relied on only few measurement points. From a life course perspective, early adulthood is an important transitional period as the taken paths in education, employment, and family formation seem to affect health differentials over the effects of preceding childhood living conditions. This study examines mortality differentials in late adolescence and early adulthood by both parental background (family structure in childhood, parental education, occupational class, and income) and current living arrangements, level of own education, and current main economic activity. Mortality is followed from the point of leaving parental home, an important threshold in the transition to adulthood that generally occurs early in Northern Europe. The study is based on longitudinal register data that include a representative 11% sample of the Finnish population with an over-sample of 80% of all deaths. We calculated mortality rates and estimated Cox proportional hazards models to study deaths between ages 17–29 from 1990 to 2007. Strong excess mortalities were found among young people with lower education, the non-employed, and those living without a partner. The effects of parental background on mortality in early adulthood were largely, but not entirely, mediated by the current sociodemographic factors, education in particular. Adjusting for both childhood and current factors, early age at leaving parental home remained an independent risk factor for premature death. The strength of the social determinants of mortality among the young was mainly driven by external causes of death, but to a lesser extent deaths due to diseases contributed to differentials as well.

Introduction

Parental background and differential exposures to risk and protective factors throughout the life course have profound effects on our health (Galobardes, Lynch, & Davey Smith, 2004; Kuh, Ben-Shlomo, Lynch, Hallqvist, & Power, 2003; Power & Matthews, 1997). Regarding social determinants of health, the importance of adulthood socioeconomic position, particularly education, as a mediator in the association between early social position and adult health is a consistent finding in the existing body of literature (Galobardes, Lynch, & Davey Smith, 2008). Encompassing pathways on education, employment, and family formation, adolescence and early adulthood are important transitional periods in the process of establishing one's position in a society. Parental background is known to affect health and mortality in adolescence and early adulthood, but less is known on the combined effects of parental background and factors reflecting the current social position during this transitional period (Pensola & Valkonen, 2000; Saarela & Finnäs, 2008; Weitoft, Hjern, Haglund, & Rosén, 2003; Kestilä et al., 2006).

During the last decades, the transition to adulthood in advanced economies has become more diversified and complex. The timing and order of transitional events such as completing education, entering the labour market, leaving the parental home, forming a partnership and becoming a parent show nowadays a considerable heterogeneity (Corijn & Klijzing, 2001; Fussell, Gauthier, & Evans,

2007). Shaped by different institutional settings and state policies, as well as different long-term cultural continuities and value orientations, cross-country differences in the timing and pattern of leaving parental home are notable. In Northern Europe, where the changing patterns of behaviour were first observed, leaving parental home generally occurs early, and living independently before entry into a union, unmarried cohabitation, and out-of-wedlock births have become normative life course events (Billari & Liefbroer, 2010).

The ties to the family of origin may continue to be tight, but leaving the parental home still means a concrete departure from the material and social resources that are shared in the parental home on a daily basis. In previous research, early leaving has been associated with increasing risk of health problems, financial difficulties, lower educational attainment, and early family formation (Aassve, Iacovou, & Mencarini, 2006; Bernhardt, Gähler, & Goldscheider, 2005; Wickrama, Wickrama, & Baltimore, 2010). For individuals, the decision to leave parental home is influenced by multiple factors, but it is known that young people from non-intact families tend to leave parental home earlier than those from intact families, particularly in the presence of a step-parent or family conflicts (Bernhardt et al., 2005). Own income is positively associated with leaving parental home, whereas parental resources are negatively associated with home leaving at youngest ages, but positively at older ages (Blaauboer & Mulder, 2009; Iacovou, 2010).

This study aims to find out how parental background, measured by family structure in childhood, parental education, occupational class, and income, and timing of leaving parental home is associated with mortality among young people who have left their parental home. A further aim is to assess the effects of current sociodemographic factors (living arrangements, level of own education, main activity) on the association.

Data and Methods

Study population

The study is based on individual-level register data produced by Statistics Finland. Using personal identification numbers, longitudinal population census and employment data were combined with data on mortality and causes of death. The study data include a representative 11% sample of the whole Finnish population during 1987–2007 with an 80% over-sample of the population that died during the period. Sampling weights were used in the analyses to account for the unequal sampling probability.

The participants were restricted to the native-born cohorts between 1972 and 1989 who were 17–29 years of age in the study period 1990–2007. To be able to measure the childhood factors consistently, we excluded those not living with either of their parents at age 15 (2%), and those for whom we had data from less than five measurement points before age 17 (0.5%).

For each individual, mortality follow-up started from the beginning of the calendar year that followed leaving parental home. Subjects became censored when reaching the age of 30, moving abroad, or at the end of 2007. Because of the study design, over 75% of the deaths took place in the latter half of the follow-up. The unweighted dataset included altogether 570 217 person-years, 96 440 subjects and 2795 deaths, of which 2081 were due to external causes.

Measurement of mortality

External causes of death accounted for a clear majority of all deaths in the study population. Due to constraints on space, results are presented in this paper only for external mortality. In addition, we conducted separate analyses also for suicidal deaths, external mortality excluding suicidal deaths, alcohol-related deaths, and deaths due to diseases (non-alcohol-related).

The death statistics cover the deaths in Finland or abroad of persons who were at the time of death residents in Finland. The determination of the cause of death is based on the medical or forensic evidence providing the grounds for the issuing of a death certificate by a physician(Statistics Finland, 2006). External causes of death (V01-X44, X46–Y89, of which suicides X60–X84, Y87.0) and deaths

due to diseases (A00–R99) were identified according to the ICD-10 classification. Furthermore, alcohol-related deaths were identified as deaths caused by alcohol attributable diseases, fatal alcohol poisonings, and external causes of death where the medico-legal autopsy stated alcohol intoxication as a contributing cause of death (Mäkelä, 1998; Lahti & Vuori, 2002).

Measurement of childhood sociodemographic characteristics

Children were linked to parents on a household basis, i.e. children were matched with the adult or adults they lived with, regardless of biological relationship. From 1987 onwards, the data on family characteristics have been produced annually, and before that data are available from the census years 1975, 1980, and 1985. For the birth cohorts 1972–1989, we had thus 5–17 measurement points for each individual before the age of 17.

Childhood family history was formed on the basis of changes in the child's living arrangements between ages 0 and 16. Family histories were classified into following groups: intact two-parent family, intact single-parent family, disrupted two-parent family, partnered single parent, multiple changes in family structure (two or more), and non-family or unknown living arrangements at least once before the age of 17. In the census years 1975 and 1980, there were an unusually large number of missing values on living arrangements (5.3% and 2.6%, respectively). These missing values were replaced with values from the following census.

Parental education is based on the highest completed degree or certificate: those with basic level qualifications have completed up to 9 years of education, those with secondary education 11–12 years, and those with higher education at least 13 years. The level of parental education was determined on the basis of the highest parental education in the household according to the dominance approach. Parental education was measured at the age of 15. For those with missing data on mother's (3%) or father's education (15%) at this age, we tried to retrieve the value from up to five preceding measurement points.

Parental occupational class refers to the simplified 6-class version of Statistics Finland's classification of socioeconomic position: upper non-manual, lower non-manual, manual, farmer, entrepreneur, and other or unknown (students, stay-at-home parents, non-employed). Mother's and father's occupational class were included in the models as separate variables. Data on occupational class were only available from the quinquennial census years, and the measure was taken from the year when the child was aged between 11 and 15 years.

Parental income is based on data drawn from the Tax Administration's database. Income subject to state taxation consists of wages and salaries, entrepreneurial income, and other income such as pensions, unemployment benefits and some of the other social security benefits. Parental income was measured as a two-year average from the years when the child was aged 14 and 15. The household income was divided by the weighted sum of its members according to the modified OECD equivalence scale (first adult aged 18 and over contributes 1.0, subsequent over 13-year-old persons 0.5, and children aged 0–13 years 0.3). For the analyses, parental income was divided into annual quintiles.

Age at leaving parental home was classified separately for men (17, 18, 19, 20, 21 or older) and women (17, 18, 19, 20 or older). Those who left parental home at median age or later were grouped together as after this point age at leaving showed no significant differences in mortality. The earliest possible age at leaving was set at 17. In other words, under 17-year-old children not living with their parents were not yet considered to have left their parental home. By the age of 17, nearly all children in Finland have completed the compulsory education.

Measurement of current sociodemographic characteristics

For all measures of current sociodemographic characteristics, data were updated at the end of each follow-up year and the variables were used in the analyses as time-varying covariates.

Living arrangements are based on individuals' permanent place of residence. Using information on marital status, family structure, and household size, living arrangements were classified into cohabiting couples, married couples, alone, single parent, with parents, with others, and institution/unknown. Two non-married people living together were defined as a cohabiting couple if they were of different sex and not siblings, over age 18, and their age difference was less than 16 years. Same-sex couples could not be identified and appear in the category living "with others".

Education is based on the highest completed educational degree or certificate, or engagement in educational track for a degree that is higher than an already completed one. Ongoing education was deduced from being registered as a student in an educational institute providing secondary or higher education and/or receiving a state study grant.

Main activity reflects the main economic activity during the preceding year. Main activity was classified into employed, unemployed, student, child home care, and other/unknown. Those in military/civil service (2% among men) were included among the employed. Many students also appear among the employed as working part-time is very common especially among students in higher education. Stay-at-home mothers were identified from having received either maternity allowance or child home care allowance from the Social Insurance Institution of Finland. Stay-at-home fathers were very few in numbers and appear in the category "other/unknown". Other/unknown main activity also include those on disability pension (0.7%).

Statistical methods

We estimated the associations between childhood and current sociodemographic factors and the risk of death by calculating mortality rates and hazard ratios of mortality. Attained age was used as the time scale in the Cox proportional hazards models. All statistical analyses were conducted separately for males and females, using Stata 11.1 (StataCorp, 2007). At first, we present crude mortality rates (table 1) and univariate Cox models (model 0 in tables 2 and 3) by each covariate. Next, model 1 (tables 2 and 3) shows all childhood sociodemographic factors included simultaneously in the model. Model 2 shows these results adjusted for age at leaving parental home, and lastly current living arrangements (model 3), own level of education (model 4), and main activity (model 5) are each added to the previous model to assess any changes in the associations.

Results

After leaving parental home, external mortality hazards were highest among young men and women with lower education, the non-employed and those living without a partner, either alone, with parents or with others. The effects of childhood factors were smaller – even non-existent for some of the socioeconomic factors among women – and influenced later mortality essentially by conditioning the pathways to the current life situation. Those with lower socioeconomic background and experiences of other than an intact two-parent family structure in childhood were more likely to leave parental home early, and less likely to continue to higher education and towards stable employment in early adulthood.

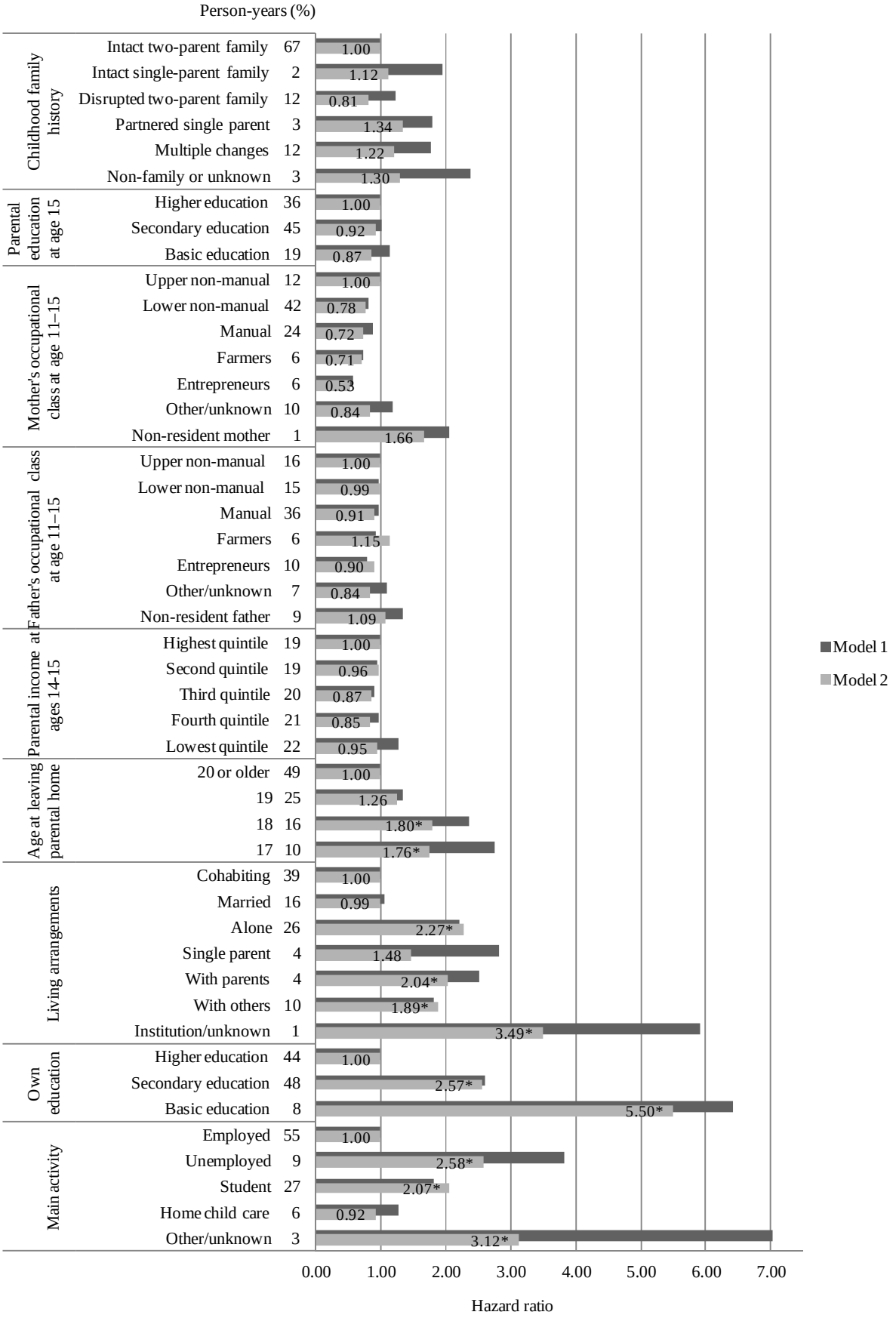

Figure 1 Hazard ratios of external mortality after leaving parental home, females aged 17–29 years, 1990–2007, Finland. Model 1 is a univariate model, model 2 includes all the covariates. *Statistically significant difference at the .05 level.

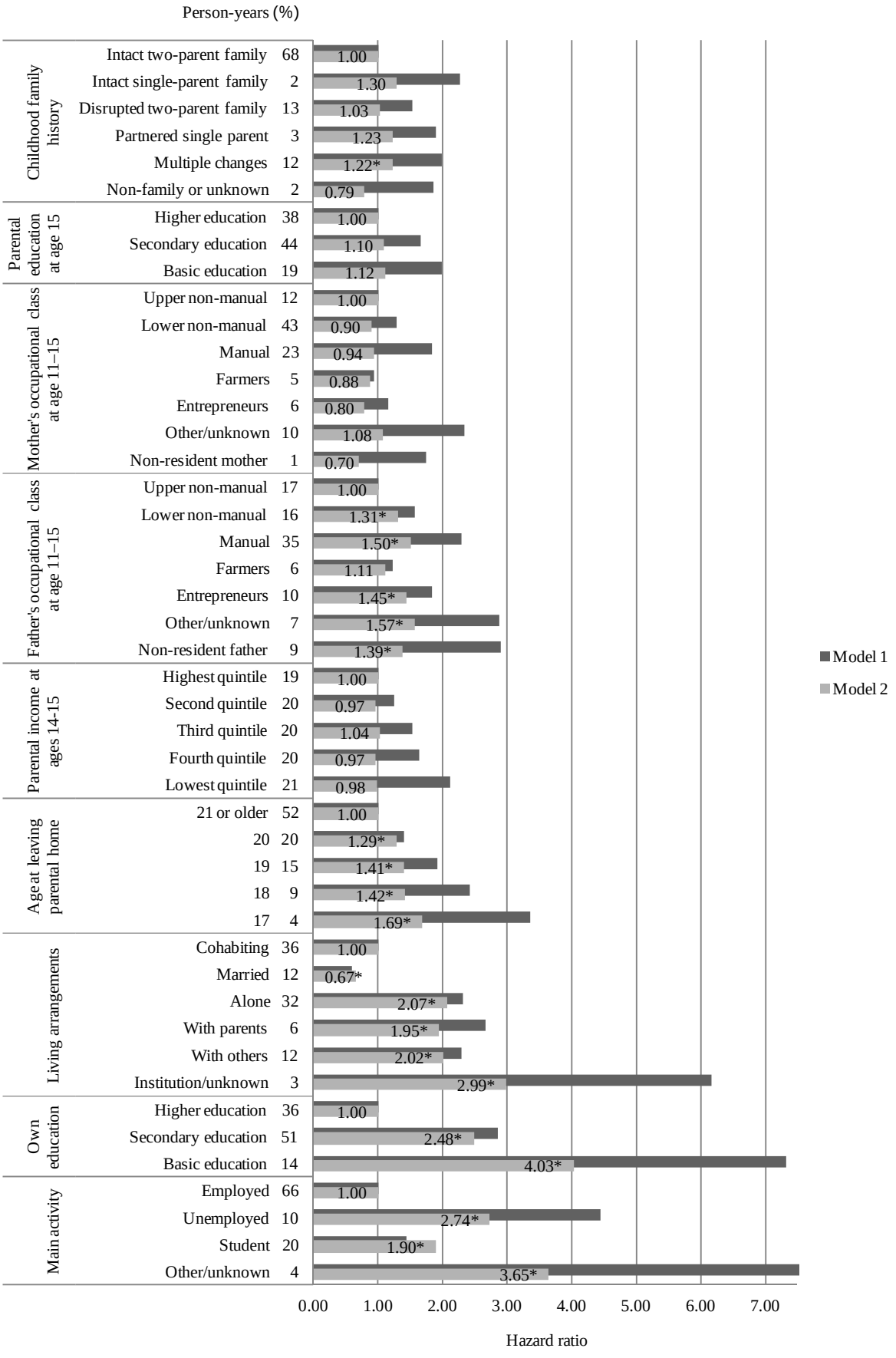

Figure 2 Hazard ratios of external mortality after leaving parental home, males aged 17–29 years, 1990–2007, Finland. Model 1 is a univariate model, model 2 includes all the covariates. *Statistically significant difference at the .05 level.

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