

## **Project 3: Gendered Pathways to Adulthood**

### **Gender (In)equalities Network**

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### **Overview**

In this Project, we will use a gender sensitive, life course perspective to analyse the trajectories, turning points, and life chances of two British birth cohorts. We use a life course perspective as our organising framework because this theoretical orientation draws attention to the implications for individuals (and families) of not just present circumstances but also historical experiences (Bronfenbrenner, 1986; Elder, 1974; Moen and Smith, 1986). In addition, the life course perspective shifts our emphasis from the static to the dynamic; from the occurrence to the timing, sequencing, duration and interpretation of transitions (Elder 1978). An emphasis on agency and social embeddedness makes this orientation extremely well suited for a gender sensitive approach. To the extent that age structuring and interpretations of experience are socially constructed in ways that differ for women and men, gender may interact with life course trajectories in important ways. But in times of rapid social change, it is likely that these gendered interactions may change as well. By examining two cohorts we can examine both changes over the life course and stability and instability in gendered life course patterns over time. In particular we will focus on transitions made in adolescence and young adulthood. This represents an important stage in the life course because individuals make a relatively large number of transitions, some of which, like parenthood, are difficult to reverse. When confronted with multiple events and transitions, timing is especially important because individuals are more vulnerable to disorder and its potential consequences.

The need to identify patterns of continuity and points of transition underscores the importance of using longitudinal data which provides information on the same individual throughout the life course rather than simply focusing on information provided at a single point in time. Using data from the 1958 National Child Development Study (NCDS) and the 1970 British Cohort Study (BCS70), we will be able to identify gender differentiated, inter-cohort similarities and differences on childhood markers of adult social disadvantage. Although only born 12 years apart, social, demographic, and economic conditions in Britain affecting children growing up in the 1960s and 1970s, as opposed to the 1970s and 1980s, were different for the two cohorts. As a consequence the two cohorts made transitions to adulthood under extremely different social and economic circumstances. The rise and spread of second wave feminism began while the older cohort were children and was well entrenched by the time the second cohort was born. As a consequence, experiences of the gender order were likely to have been very different for the two cohorts. In addition, relative to the 1958 cohort, material conditions for the 1970 cohort were better on average, but income inequality was high (Dearden, Goodman, and Saunders 2003). Indeed, Schoon, Sacker and Bartley (2003) suggest that despite average improvements links between economic deprivation and subsequent disadvantage

actually strengthened over time. Members of the 1958 cohort came of age during the 1970s just as many local authority houses were being sold at well under market value. One result of this policy was an extremely favourable housing market facilitating home leaving and family formation (Kleinman 1996; Smith and Ferri 2003). In contrast, the 1970 cohort reached adulthood when housing costs were prohibitively high. To make matters worse, the early policy of selling off local authority housing meant that there was a limited stock of public accommodation available. Moreover, the available stock was “concentrated in the least salubrious areas and among the most economically and socially disadvantaged groups” (Smith and Ferri 2003: 206). These factors made the transition from the parental home to independent living more difficult for later cohorts. Change (or lack of change in response to new circumstances) in social and institutional factors can impinge on life course trajectories shaping the experiences of cohorts differently.

Exploiting the similar design of these two cohort studies and particularly the overlaps in content and similarities in timing of interviews through the life course, and building on previous work, we plan to:

- Describe the extent to which economic, mental and physical health, and socio-demographic outcomes in adulthood, both positive and negative, differ by gender, and whether differences by gender have altered over time;
- Document whether the intergenerational transmission of disadvantage operates in different ways for women and for men and examine whether these transmission mechanisms have remained stable or have changed across cohorts;
- Analyse the way in which “early” transitions, by which we mean the premature assumption of gendered, adult roles – including early parenthood, early partnership formation, and early school leaving – relates to longer term adult well-being;
- Compare and contrast the childhood precursors to adolescent and adult (dis)advantage as they differ by gender;
- Examine the intergenerational transmission of gender roles within the family as they relate to the distribution of paid and unpaid work, and analyse whether or not different patterns are associated with greater or lesser family stability;

Although Britain is unique in having a series of long-running prospective birth cohort studies, to date there has been little in the way of rigorous cross-cohort comparisons (though see Sigle-Rushton, Kiernan and Hobcraft 2004). In order to explore differences by gender and over time, it is inadequate to fit separate models for both cohorts and simply compare the results. We propose using a more rigorous approach, where we combine the information for both cohorts, fit a common model, and then explore whether there is clear statistical evidence that some of the relationships do indeed differ between cohorts (a cohort interaction term), by gender (a gender interaction term), and by gender and cohort (a cohort and gender interaction term) (see Hobcraft, Hango, and Sigle-Rushton 2004 for use of this approach). In addition to using more statistical rigor with standard forms of analysis, our Project will also explore the possibilities of using new methodologies to understand stability and change in the life course.

## **Background**

We know that both in Britain and internationally, there are some strong associations between child and adolescent experiences and adult outcomes. Experiences of poverty, family disruption, neighbourhood disadvantage, and poor parenting have all been shown to be associated with a range long-term consequences (Amato and Keith 1991; Kiernan, 1992; Amato, 1993; Kiernan, 1997a; Hobcraft, 1998). Marital disruption can act to substantially change children's behaviour because of loss of resources, and parental time and supervision, as well as an increased level of stress (Amato 2000; Morrison and Coiro 1999). Children who experience longer episodes of living in a single parent home are more likely to reproduce that situation in their own adult lives (McLanahan 1985; McLanahan and Sandefur 1994), or to become a young parent (McLanahan and Bumpass 1988, Kiernan, 1992, 2004). Whether the disruption is acute or more long-lasting, there is evidence of a longer-term association with lower educational attainment (Ely, Richards, Wadsworth and Elliott 1999; Kiernan 1997b) and poor mental health in adulthood (Chase-Lansdale, Cherlin and Kiernan, 1995).

Young children with poor academic test scores and behavioural problems are more likely to be socially excluded as adults, suggesting that pathways of resilience or disadvantage begin early on for many children. Childhood behavioural trajectories, no doubt related to contextual variables and childhood stressors, may affect well-being in late adolescence and early adulthood (Moffitt 1993; Hobcraft, 1998; Schoon, Sacker and Bartley 2003; Sigle-Rushton, 2004a), but it is not clear to what extent the associations represent direct or indirect effects on subsequent outcomes. Another related childhood attribute that is very strongly associated with socio-economic success in adulthood is academic ability. Higher test scores in childhood have been found to increase final grade level attained (Bynner and Joshi 2002), level of social class (Bynner and Parsons 2001), the level of adult earnings (McKnight 2002), as well as lessening the chance of young parenthood (Kiernan, 1997a) or ending up in poverty (Hobcraft 1998; Sigle-Rushton 2004a). Moreover, higher test scores have been shown to be among the most persistent predictors of adult disadvantage across a wide range of outcomes, net of a wide range of other childhood antecedents, even after control for subsequent level of attained qualifications (Hobcraft 2000) or for a wide range of late adolescent or very early adult experiences (Hobcraft 2002 and 2004). A related, but often overlooked, factor is parental interest in education – a childhood background factor associated with a range of longer-term outcomes (Chavkin 1989; Hobcraft, 1998; Sigle-Rushton 2004a). A life course perspective brings to the forefront, these kinds of continuities and discontinuities in the life course and links between previous experiences and subsequent well-being.

Acknowledging that “Life patterns are structured by variations in timing, duration and order of events; and by the interlocking careers (in family, work) that vary in synchronization” (Elder, p. 3 in Rindfuss, Swicegood and Rosenfeld, 1987), our project we will focus on variations in two different types of timing – biological age and social age – both of which may have different effects according to gender. When analysing the consequences of childhood disadvantage, key questions arise in relation to the biological timing and the duration of experience (Ermisch and Francesconi, 2001). For example, developmental theories have posited that income poverty has the most deleterious consequences when it is experienced by younger children (Duncan, Yeung, Brooks-Gunn, and Smith, 1998). Other research has suggested that it is persistent poverty as opposed to transitory poverty that creates greater risks. Similarly, developmental and socialisation theories suggest that the loss of a father should have a stronger effect if it occurs at younger ages and be

particularly detrimental to male children who are, as a consequence, deprived of a male role model (Amato, 1993). In other words, experience matters but we may have to take into account not just *if* but *when* and *for how long* events occur (see O'Connor 2003 for an excellent discussion of competing theories in this field of early development).

Taking a more gendered perspective, there are likely to be differential responses to the same stressor by gender. For example, deficits in mother's psychological adjustment may have a stronger impact on girls, who rely on their mother to teach gender behaviour, than on boys who are likely to model their behaviour after a male figure (Weissman, Warner, Wickramaratne, Moreau, and Olfson, 1997). Similarly, father absence may have a stronger impact on boys who lack role models to teach them gendered behaviour and appropriate methods of conflict resolution. Researchers have found that externalising problems are more common among male children while internalising problems are more prevalent among girl children (Jekielek, 1998). This type of gendered behaviour raises the possibility that the gendered responses to childhood stressors might lead to gendered outcomes in adulthood. But, with the massive changes in gender roles and norms that have occurred in recent decades, it is unclear whether gendered associations have remained stable or become more similar as women have taken on more traditionally male roles and responsibilities.

In addition to early childhood experiences, evidence suggests that early parenthood and poor educational outcomes form an important transitional link between childhood disadvantage and future social exclusion (Hobcraft, 2000; Hobcraft and Kiernan, 2001). The concept of early parenthood highlights the importance of not just chronological age but social age -- the age-graded roles and behaviours normative to a particular society. Age norms are socially constructed and vary across historical time and across societies. They also vary by gender, ethnicity and social class at a particular point in time in a given society (Kertzer, 1989; Settersten and Mayer, 1997). Transitions into or out of particular statuses and roles may be "on-time" or "off-time" relative to social norms or shared expectations. "Off-time" transitions can create disorder in the life course and may disrupt or impede other important transitions. Examining data from the 1958 cohort, Hobcraft (2000) finds that low or no educational qualifications are strongly linked to a variety of measures of social exclusion both at age 23 and much further on at age 33. Changes to the educational system and to the structure of qualifications led to fewer members of the 1970 cohort being unqualified and to higher qualification levels. These changes were especially marked among females. As a consequence Bynner and Parsons (2001), found that for the more recent cohort the risk of unemployment was even higher for those without qualifications than for the earlier cohort. The social clock and the implications of early "off-time" school leaving have likely shifted to take into account these changes.

Norms are not only age-related, but also order related. Social norms sometimes dictate whether and in what order transitions should occur. For example, one might expect that school leaving should take place before partnering and partnering should take place before parenthood. These expectations, if reflected in institutions and policies, could work to disadvantage individuals whose life paths do not follow the prescribed pattern. When transitions are characterised by disorder relative to shared expectations of the "normal" order, there is some evidence that later life transitions and outcomes will be affected (Hogan, 1978; Featherman and Carter, 1976). While research using the 1958 cohort showed that for this cohort first

transitions out of school, into work, out of the parental home, and into marriage were broadly well ordered (Kiernan, 1991), research on an American cohort of a similar age shows that, over an eight year period, reversals of transitions (from work back to school, for example) result in an extremely high percentage of individuals whose life paths can be characterised as disordered (Rindfuss, Swicegood and Rosenfeld 1987). Like social time, socially expected orderings are also likely to vary by context and by gender (as well as other personal characteristics like religion, ethnicity, disability etc.). Our research will ask whether or not disorder in the life course has become more common and whether the consequences have changed in nature over time both because of changes in circumstances and changes in what disorder means. It is possible that with changing gender norms, the meaning and implications of disorder are likely to be gendered but not necessarily in a way that has been stable over time. Given increases in education and (perhaps as a consequence) in the age at marriage and childbearing in British society (Kiernan, 1995), for recent cohorts, school-leaving and parenthood may be considered “off-time” at much older ages than previously. This is because expectations about expected ordering of (at least some) events has not changed substantially and because the social clock has adjusted accordingly.

In view of the differing experiences and social and institutional settings in which the cohorts lived, we might anticipate gender-cohort interactions, perhaps as a result of the closing of the gender gaps in educational achievement but also as a consequence of the wider moves towards gender equality through the lives of the two cohorts. We might anticipate, too, that there would be changes in responsiveness between the cohorts to growing up in social housing or to experiencing parental divorce, given the residualization of the first and the likely reduced stigmatization as divorce became more prevalent. Finally, we might find that the extent to which teenage parenthood is linked to subsequent disadvantage has strengthened over time as changing expectations about education has made such an event increasingly “off-time”.

Life course theory predicts and research provides good evidence that changes in the timing and order of events is important for understanding both current and future well-being. By examining the life course as a whole and acknowledging the possibilities of change over time, we can begin to assess some of these complex relationships and better understand the ways in which lives unfold.

## **Key Questions**

Building on previous and related work (and there are some obvious links here with other projects in the Network, particularly Project 2), this Project will seek to answer the following key research questions:

- 1. How do women and men differ in their adult economic, psychological, and socio-demographic characteristics?*
- 2. Have gender differentials in adult well-being changed over time?*
- 3. Are there gender differences in the precursors of adult disadvantage and have these changed with changes in the social construction of feminine and masculine roles?*

4. *Does the early assumption of adult roles impair success and operate as an important gateway to subsequent disadvantage and do these gateways differ for women and men?*
5. *Have the consequences of early life transitions become more severe, for men particularly, as a consequence of shortages in low skill jobs?*
6. *Can differences in the intra-family distribution of paid and unpaid work explain differences in the risk of partnership dissolution and poverty?*

We have already begun to answer some of these questions in our research. We have, with a good deal of work and input from Darcy Hango, constructed a database with common measures for both cohorts at different stages in the life course. The frequency of some adult outcomes (measured in the early 30s) differs by gender and there is also some evidence of change over time. For example, in both cohorts, more women than men have a high malaise score (an indicator of elevated risk for depression), but high malaise scores are more common for members of the younger cohort (see Hobcraft and Sigle-Rushton 2003).

Although the percentage of individuals living in social housing has remained relatively stable, in both cohorts females are more likely to be living in social housing in adulthood. Similarly, a greater percentage of women in both cohorts are in receipt of non-universal benefits. But, a higher percentage of the BCS70 cohort receives non-universal benefits. Despite a higher proportion of single mothers in the BCS70, the gender gap in household income is slightly more pronounced for members of the 1958 cohort. This is due to a higher percentage of men with low household income in the 1970 cohort, perhaps as a result of declines in well-paid unskilled jobs. Relatedly, the percentage recorded as working (or having worked) in a low social class occupation has declined over time. This trend is particularly strong in the case of women and may be due to rapid increases in their educational attainment. Several of these issues have been partially explored by Hobcraft, Hango and Sigle-Rushton (2004).

As we begin using the database to answer our key questions, we will build on research already conducted using the 1958 and 1970 cohort data (for example, Hobcraft, 2002, Hobcraft and Kiernan, 2001, Kiernan 2004, Hobcraft 2004) and work we have already begun that makes explicit inter-cohort comparisons (Hobcraft et al, 2004). For example, in work related to question 3, we estimated, for both the 1958 and the 1970 cohort, the effects of parental divorce on several measures of disadvantage in late childhood and adulthood (Sigle-Rushton et al 2004). These include early behavioural and academic problems, early school leaving, receipt of means-tested benefits, and poor mental health. In addition to measures of family structure, we include a wide range of family and childhood antecedents as controls. Contrary to what might be expected, we find that there is no evidence of a correlation between parental divorce and short-term pre-adolescent outcomes in the NCDS models, but significant associations remain for two behavioural outcomes in the BCS sample, even after the inclusion of pre-disruption control variables. Hence, we find little evidence for the hypothesis that divorce has become less selective over time and found few gender differences. Parameter estimates across cohorts are surprisingly similar and not significantly different in any of the models we estimate. Although there are many other antecedents we would like to have included in our models, it is

noteworthy that the significant parameter estimates are often little changed once pre-disruption characteristics are introduced.

In addition, an important contribution from our project will be the use of new methodologies to help further our understanding of the life course and the legacies of disadvantage. Other work on young fatherhood using the 1970 cohort, related to question 4 and complementing previous work on the 1958 cohort done by other members of the Project team, uses propensity scores and finds a good deal of selection into young fatherhood (defined as fatherhood before the age of 22). But there is also some suggestive evidence that the premature assumption of adult roles resulting from the early transition to fatherhood may impinge on economic security later in life (Sigle-Rushton, 2004b). We plan to expand this analysis to take into account other transitions and to compare these results with both mothers and older cohorts.

## **Methods**

This Project seeks to further our understanding of the childhood and adolescent risk factors that are associated with subsequent disadvantage (or success) by focusing on gendered differences in childhood risk factors – what we term “gendered pathways”. Using data from the National Child Development Study and the British Cohort Study, we will be able to use a life course approach to explore a wide range of adult outcomes including employment, poverty, psychological adjustment, health, and social integration. By comparing data from two cohorts, one born in 1958 and the other in 1970, we can test rigorously whether there are gendered pathways, and if there are, whether they have remained persistent over time. We are particularly interested in whether or not, along with the sweeping demographic and social changes, gendered patterns have converged, or differentially evolved, over time.

Constructing comparable measures of the timing of family transitions and family experiences, we will be able to examine whether and to what extent associations differ by gender. In addition, we hope to construct measures that allow us to pay close attention to the timing of events during childhood and late adolescence, so that we can test whether theoretical predictions derived from theories of socialization and development are supported by the data. Although the longitudinal data are well-suited for a life course analysis that takes into account the timing and duration of events, there are some potential issues that require careful attention. Missing information and attrition are two issues that we want to explore in more depth. At this point, we have, in much of our work, constructed variables that summarise childhood experiences. These variables allow for some missing information, and only those cohort members with no information at all have been coded missing. The summary variables have performed well and revealed some strong and persistent relationships between childhood experiences and subsequent well-being. For example, work by Hobcraft (1998; 2002; 2004) using the NCDS data suggests that associations of family experiences with adult outcomes differ by gender, but this work does not take into account the timing of the transitions, an important additional component if theory and empirical evidence are to be linked. In order to pay closer attention to the relevance of timing, summary variables, like the family experience one, must be disaggregated, and, consequently, missing information is going to become more of a problem. This is especially true for the 1970 cohort where at age 16, the percentage of cases with missing information is extremely high for

many of the items. Moreover, attrition in data that cover such a long time period is inevitable. Although overall response rates in adulthood are good in both surveys, there is some evidence that attrition is selective of cohort members with more disadvantaged backgrounds. In all of our work, we are interested in developing and using methods that deal with these issues.

To analyse the link between childhood precursors and the timing of important transitions, we will rely on survival methods that explicitly model whether and when an event occurred. Because we are interested in a life stage where individuals make multiple transitions, each of which might have implications for the timing of others, we are considering whether or not it will be fruitful to estimate simultaneous hazards models in order to model explicitly the ways in which different processes are related and how having made one transition affects others (Lillard 1993). For example we can model partnership, employment, and parenthood together in a single model with an error structure that is correlated across processes (eg Aasve et al 2004). The correlated error structure takes into account and test for the existence of unobserved factors that may influence the patterns of transition. For instance, individuals who for unobserved reasons are more likely to stay in education longer may also be more less likely to partner early. If that were the case, the correlation between the error terms in these two processes would be negative. Moreover, the simultaneous hazards model can be constructed to allow for a transition in one process (parenthood, for example) to affect another (employment, for example) – ie a dummy variable for parenthood turns on in the employment function when a child is born. Rather than look at processes in isolation, this methodology allows us to look at a particular stage in the life course holistically and to take into account important connections between sphere of life that are often explored only in isolation.

In addition, we are exploring the possibilities of using a non-parametric, propensity score technique to explore potentially endogenous transitions during adolescence such as early parenthood or leaving home (see Sigle-Rushton 2004b). Compared to the more traditional multivariate regression analysis, propensity score matching offers few advantages when the data are well balanced across treatment and control groups and the standard assumptions underlying regression analysis are met. Matching is particularly advantageous when the treatment is relatively rare and where predetermined variables differ substantially across the treatment and control groups (Smith, 1997). Under these circumstances, treatment bias – bias introduced when there is an imbalance in the covariates between treatment and control groups – is mitigated substantially (Heckman, Ichimura, Smith, and Todd, 1998). When treatment bias is reduced, the standard errors for treatment effects are lower (Rosenbaum and Rubin, 1983). Hence, even when matched samples result in reduced sample sizes, the gains in efficiency from reduced treatment bias are often substantial enough to entirely offset the decreased efficiency that results from the exclusion of irrelevant control cases (Smith, 1997). When we are concerned about “early” transitions, such events will certainly be rare in our data. This means that for many of the transitions we consider, matching is likely to be an appropriate method.

Propensity score (or treatment-control) techniques are well suited for life course analyses because their conceptualisation relies quite heavily on the timing and order of events. We first create treatment and control groups where treatment is an endogenous variable of interest such as early parenthood. Each member of the treatment group (those who experienced young parenthood, for instance) is matched with a control case did not experience treatment but is similar to the treatment case on a variety of pre-treatment factors. For our purposes, pre-treatment factors are

childhood experiences that may be selective of the treatment we consider. Matching is achieved using predicted probabilities of treatment, conditional on our set of pre-treatment antecedents. These matched groups are then compared to assess whether differences in later outcomes can be explained by selection into the treatment group as opposed to having experienced the treatment (Smith, 1997). This type of approach will provide information on whether early adult transitions are gateways to disadvantage, mediated by concurrent risk or protective factors, or another step in a path that began long before. We plan to explore ways in which we can look at multiple transitions using these techniques and include in our models not just pre-treatment information but post-treatment information as well (this latter possibility is discussed in Smith, 1997).

Finally, we will use recursive trees to inform and complement the other statistical techniques we employ. Researchers interested in identifying multiple, complex pathways, that contain a series of inter-related events can use this method to identify the structure of pathways without making the strong linearity assumptions necessary in regression techniques (Zhang and Singer, 1999). Recursive trees are a person centred statistical technique that stratifies the data into higher and lower risk groups by sequentially splitting the data into more homogeneous groups based on a specific outcome. In some recent exploratory work, we have begun to see that this method can help inform our modelling strategy by identifying interactions between explanatory variables or a set of experiences that have similar effects on our outcome of interest and may be usefully combined as one explanatory variable (see Hobcraft and Sigle-Rushton 2003).

## **Summary**

In this Project, we plan to build on past work linking childhood events to outcomes occurring later in the life course. We will explicitly test whether or not outcomes and associations differ by gender, and, by making inter-cohort comparisons, we will take into account changes in social context. By asking whether and in what way pathways to disadvantage are gendered, whether they appear to have altered or changed over time, and finally, whether or not any temporal changes themselves were gendered, we hope to understand continuity and change in our understanding of the life course. Our primary contributions will be the use of rigorous statistical tests and innovative methodologies.

At this early stage, we can see some important similarities in our conceptualisation and approach with Project 2 and other work carried out by Ingrid Schoon and colleagues, but look forward to fruitful discussions with other Project members about the social and political context (Projects 1, 8, and 9), the data we use (Projects 1 and 2), and the private implications of (publicly observed) differences in gendered pathways to adulthood (Projects 4, 5, and 7).

## References

- Aasve, A., S. Burgess, C. Propper and M Dickson. 2004. "Employment, Family Union, and Childbearing Decisions in Great Britain." CASEpaper 84, London School of Economics, Centre for the Analysis of Social Exclusion.
- Amato, Paul R. 1993. "Children's Adjustment to Divorce: Theories, Hypotheses, and Empirical Support." *Journal of Marriage and the Family* 55:23-38.
- Amato, Paul R. 2000. "The consequences of divorce for adults and children," *Journal of Marriage and the Family* 62: 1269-1287.
- Amato, Paul R. and Keith, Bruce. 1991. "Parental Divorce and Adult Well-being: A Meta-Analysis." *Journal of Marriage and the Family* 53: 43-58.
- Bronfenbrenner, Uri. 1986. "Ecology of the family as a context for human development: Research perspectives," *Developmental Psychology* 22: 723-742.
- Bynner, John and Joshi, Heather. 2002. "Equality and opportunity in education: Evidence from the 1958 and 1970 birth cohort studies," *Oxford Review of Education* 28: 405-425.
- Bynner, John and Parsons, Samantha. (2001). "Qualifications, basic skills and accelerating social exclusion," *Journal of Education and Work* 14: 279-291.
- P. L. Chase-Lansdale, A. Cherlin and K.E. Kiernan 1995 The long-term effects of parental divorce on the mental health of young adults: a developmental perspective. *Journal of Child Development*. Vol, 66, 1614-1634.
- Chavkin, N. F. 1989. "A multicultural perspective on parent involvement: Implications for policy and practice," *Education* 109: 276-285.
- Dearden, Lorraine, Goodman, Alissa, and Saunders, Phillippa. 2003. "Income and living standards". In Ferri, Elsa, Bynner, John and Wadsworth, Michael (eds): *Changing Britain, Changing Lives: Three Generations at the end of the Century*, pp. 148-193. London: Institute of Education University of London.
- Duncan, G.J., Yeung, W.J., Brooks-Gunn, J., and Smith, J.R. 1998. "How Much Does Childhood Poverty Affect the Life Chances of Children?" *American Sociological Review*, 63:406-423.
- Elder, Glen H. Jr. 1974. *Children of the Great Depression: Social Change in Live Experience*. Chicago: University of Chicago Press.
- Elder, Glen Jr. 1978. Family history and the life course. In T.K. Hareven (Ed.) *Transitions: The Family and Life Course in Historical Perspective*. New York: Academic Press.

Ely, M., Richards, M.P.M., Wadsworth, M.E.J. and Elliott, B.J. 1999. "Secular changes in the association of parental divorce and children's educational attainment – Evidence from three British birth cohorts," *Journal of Social Policy* 28: 437-455.

Ermisch, John F. and Francesconi, Marco. 2001. "Family Structure and Children's Achievements." *Journal of Population Economics* 14:249-270.

Featherman, D.L. and Carter, M.T. 1985. "Discontinuities in schooling and the socioeconomic life cycle." In W.H. Sewell, R.M. Hauser, & D.L. Featherman (Eds.): *Schooling and Achievement in American Society*, pp. 133-60. New York: Academic Press.

Heckman, J., Ichimura, H., Smith, J., and Todd, P. 1998. Characterizing selection bias using experimental data. *Econometrica*, 66: 1017 - 1098.

Hobcraft, John. 1998. "Intergenerational and Life-Course Transmission of Social Exclusion: Influences of Childhood Poverty, Family Disruption, and Contact with the Police." CASEpaper15, London School of Economics, Centre for the Analysis of Social Exclusion.

Hobcraft, John. 2000. "The Roles of Schooling and Educational Qualifications in the Emergence of Adult Social Exclusion." CASEpaper43, London School of Economics, Centre for the Analysis of Social Exclusion.

Hobcraft, John. 2002. "Continuity and Change in Pathways to Young Adult Disadvantage: Results from a British Birth Cohort" CASEpaper 66, London School of Economics, Centre for the Analysis of Social Exclusion.

Hobcraft, John. 2004. "Parental, childhood, and early adult legacies in the emergence of adult social exclusion: Evidence on what matters from a British cohort". In P.L.Chase-Lansdale, K.Kiernan and R.Friedman (eds) *Human Development across Lives and Generations: The Potential for Change* New York, Cambridge University

Hobcraft J. and Kiernan, K. 2001. Childhood Poverty, Early Motherhood and Adult Social Exclusion *British Journal of Sociology Vol 52 No 3 495-517*

Hobcraft, J., Hango, D. and Sigle-Rushton, W. 2004. "Family and Childhood Origins of Adult Socioeconomic Disadvantage: A Cross-Cohort Comparison". Paper presented at the 2004 annual meetings of the European Society for Population Economics, Bergen, Norway, June 2004.

Hobcraft, John and Wendy Sigle-Rushton (2003) An exploration of childhood antecedents of female adult malaise in two British birth cohorts: Combining Bayesian model averaging and recursive partitioning. Unpublished manuscript.

Hogan, D.P. 1978. "The variable order of life events in the life course." *American Sociological Review* 43: 573-586.

- Jekielek, Susan M. 1998. "Parental Conflict, Marital Disruption, and Children's Economic Well-Being." *Social Forces* 76:905-935.
- Kertzer, D.I. 1989. "Age structuring in comparative and historical perspective." In D.I. Kertzer, K.W. Schaie (Eds.): *Age Structuring in Comparative and Historical Perspective*, pp. 3-21. Hillsdale, NJ: Lawrence Erlbaum.
- Kiernan, K.E. 1991. "Transitions in young adulthood in Great Britain." In M. Murphy and J. Hobcraft (Eds.): *Population Studies Supplement*, Vol. 45, 95-114.
- Kiernan, K. E. 1992 The Impact of Family Disruption in Childhood on Transitions Made in Young Adult Life. *Population Studies*, Vol. 46, No 2. 213-234
- Kiernan, K.E. 1995. *Transitions to Parenthood: Young Mothers, Young Fathers – Associated Factors and Late Life Experiences*. Welfare State Working Paper 113. London: London School of Economics.
- Kiernan, K E. 1997a. "Becoming a Young Parent: A Longitudinal Study of Associated Factors." *British Journal of Sociology* 48: 406-428.
- K. Kiernan 1997b The legacy of parental divorce: social, economic and demographic experiences in adulthood. *STICERD-LSE-ESRC Centre for the Analysis of Social Exclusion* CASE Paper No 1
- Kiernan, K. (2004) Cohabitation and divorce across nations and generations. In P.L.Chase-Lansdale, K.Kiernan and R.Friedman (eds) *Human Development across Lives and Generations: The Potential for Change* New York, Cambridge University Press p139-170 Also available as CASEpaper, No 65 <http://sticerd.lse.ac.uk/Case>
- Kleinman, Marc P. 1996. *Housing, Welfare, and the State in Europe: A Comparative Analysis of Britain, France, and Germany*. Cheltenham: Edward Elgar.
- Lillard, L. 1993. "Simultaneous equations for hazards: Marriage duration and fertility timing", *Journal of Econometrics*, 56: 189-217.
- McKnight, Abigail. 2002. "From childhood poverty to labour market disadvantage," In Bynner, John, Elias, Peter, McKnight, Abigail, Pan, Huiqi, and Pierre, G elle (Eds.): *Young People's Changing Routes to Independence*, pp. 49-66. Joseph Rowntree Foundation.
- McLanahan, Sara. 1985. "Family structure and the reproduction of poverty," *American Journal of Sociology* 90: 873-901.
- McLanahan, Sara and Bumpass, Larry. 1988. "Intergenerational consequences of family disruption," *American Journal of Sociology* 90: 130-152.
- McLanahan, Sara and Sande ur, Gary. 1994. *Growing up with a Single Parent: What Hurts, What Helps* London: Harvard University Press.

- Moffitt, T. E. 1993. "Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy," *Psychological Review* 100: 674-701.
- Morrison, Donna Ruane and Coiro, Mary Jo. 1999. "Parental conflict and marital disruption: Do children benefit when high-conflict marriages are dissolved?" *Journal of Marriage and the Family* 61: 626-637.
- Moen, P. and Smith, K. 1986. "Women at work: Commitment and behavior over the life course." *Sociological Forum* 3:450-474.
- O'Connor, Thomas G. 2003. "Early experiences and psychological development: conceptual questions, empirical illustrations, and implications for intervention" *Development and Psychopathology* 15:671-690.
- Rinfuss, R., Swicegood, C.G., and Rosenfeld, R.A. 1986. "Disorder in the life course: How common and does it matter?" *American Sociological Review* 52(6): 785-801.
- Rosenbaum, P. R., and Rubin, D. B. 1983. "The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70: 41 - 55.
- Schoon, Ingrid, Sacker, Amanda, and Bartley, Mel. 2003. "Socio-economic adversity and psychosocial adjustment: A developmental-contextual perspective," *Social Science and Medicine* 57: 1001-1015.
- Settersten, R.A., Jr. & Mayer, K.U. 1997. "Measurement of age, age structuring and the life course." *Annual Review of Sociology* 23: 233-261.
- Sigle-Rushton, Wendy. 2004a. *Intergenerational and Life-Course Transmission of Social Exclusion in the 1970 British Cohort Study*. CASEpaper 78, London School of Economics: ESRC Centre for the Analysis of Social Exclusion.
- Sigle-Rushton, W. 2004b. "Young fatherhood and subsequent disadvantage." Mimeo.
- Sigle-Rushton, W., Hobcraft, J., and Kiernan, K. 2004. "Parental disruption and adult well-being: A cross cohort comparison." Paper presented at the 2004 meeting of the Population Association of America, Boston, 2004.
- Smith, H. L. 1997 "Matching with Multiple Controls to Estimate Treatment Effects in Observational Studies." *Sociological Methodology* 27: 325-353.
- Smith, Kate and Ferri, Elsa. 2003. "Housing," In Ferri, Elsa, Bynner, John, and Wadsworth, Michael (Eds.) *Changing Britain, Changing Lives: Three Generations at the Turn of the Century*, pp. 194-206. Institute of Education, University of London.
- Weissman MM, Warner V, Wickramaratne P, Moreau D, and Olfson, M. 1997. "Offspring of Depressed Parents: 10 Years Later." *Arch Gen Psychiatry* 54:932-940.
- Zhang, Heping and Singer, Burton. 1991. *Recursive Partitioning in the Health Sciences*. London: Springer.

