



Career transitions in times of social change. His and her story

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Abstract

Drawing on data collected from two longitudinal Cohort Studies following the lives of over 20,000 individuals born in the United Kingdom 12 years apart in 1958 and 1970, respectively, this paper examines antecedents and outcomes of educational and occupational aspirations of young men and women, covering the transition from dependent childhood into independent adulthood. Two analytical models, a Social Reproduction Model and a Developmental-Contextual Model are tested to assess the processes by which family background and the wider socio-historical context influence work and family related careers. The findings demonstrate the persistent role of gender, social origin and individual agency processes as well as the influence of a changing socio-historical context on career development. Results are interpreted with regard to biographical agency processes linking individual lives with social contexts across the life course.

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1. Introduction

Relatively little is known about the processes by which families and the larger societal context influence individual commitment to and pursuit of a career. Moreover, most of the literature on career development tends to reflect the experiences of men, and there has been

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a noted lack of research on women's issues in the workforce (Levinson, 1996; Osipow & Fitzgerald, 1996; Philips & Imhoff, 1997). Although women make up almost half of the labour force, proportionately fewer women than men rise to the top of their professions (Farmer, 1997). Women's career development remains more complex than men's because of their multiple family and work related roles (Vondracek, Lerner, & Schulenberg, 1986). Adopting a longitudinal perspective this study will broaden existing theories by investigating antecedents of career development for both men and women. We shall place particular emphasis on links between timing of family formation and adult occupational attainment.

A basic proposition made here is that career development is shaped by the interplay between a changing individual and a changing environment. The adopted approach is guided by assumptions formulated within the Developmental-Contextual Model of career development (Vondracek et al., 1986), which draws on ecological perspectives of life-course theory (Bronfenbrenner, 1979; Elder, 1974/1999). The life course perspective emphasises multiple levels of influence on human development and their interrelatedness, and thus shifts our attention from the static to the dynamic, examining the timing, sequencing and duration of transitions. Moreover, the life course approach allows us to theorize agency as well as social embeddedness of human development; it is thus well suited for a gender sensitive approach.

1.1. A Developmental-Contextual Model of career development for men and women

The aim of this article is to investigate the processes linking socio-economic family background to work and family related careers among men and women in a changing socio-historical context. Two models are tested, the Social Reproduction Model and the Developmental-Contextual Model.

The Social Reproduction Model (see Fig. 1) assumes that the reproduction of social class position from the family of origin to the individual is partly mediated by the timing of the transition into parenthood. It assesses whether the association between parenthood histories and occupational attainment is spurious and can be accounted for by the fact that both are associated with social origin. The model postulates that family social origin is linked to both timing of first child and occupational attainment. It is assumed that young men and women from less privileged backgrounds make the step into parenthood earlier than their more privileged peers, and that the age at first birth effects own adult occupational status, i.e. early parenthood is associated with reduced occupational opportunities,

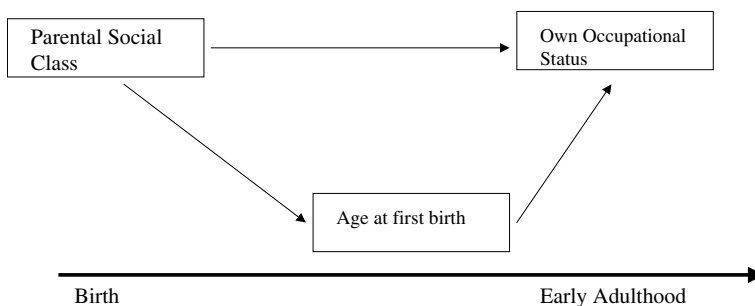


Fig. 1. The Social Reproduction Model.

especially among women. The direct path from parental social class to own adult occupational status represents the direct relationship between family social class and occupational attainment that is mediated by factors not made explicit in the model.

To examine the multiple pathways shaping career development in men and women a Developmental-Contextual Model is proposed (see Fig. 2) specifying the pathways linking family background, individual agency factors, the timing of parenthood, and adult occupational attainment. The model postulates that the influence of parental social background operates via the proximal family environment (Bronfenbrenner, 1979), here conceptualised by material conditions experienced in the family home, and the parental educational expectations for the teenager.

Socialization processes and different opportunities that exist across socio-economic status levels in families have been linked to differences in teenage aspirations, timing of transitions, and adult attainment (Bourdieu & Passeron, 1977; Vondracek et al., 1986). Individuals from more privileged homes have more educational opportunities, greater access to financial resources when they are needed (i.e. to pay for books, computers, or higher education), role models, occupational knowledge, and informal/kinship networks (Marshall, Swift, & Roberts, 1997; Schulenberg, Vondracek, & Crouter, 1984).

The Developmental-Contextual Model accounts for these potential mediating effects, and assesses whether family background factors are mediated via socialization experiences in the family. There are pathways in the diagram from parental social class to material conditions and parental expectations. It is hypothesised that parents from privileged social backgrounds have higher expectations for their child and provide good material conditions, including financial resources (Erikson & Jonsson, 1996; Vondracek et al., 1986). The relationship between the family environment and the individual are reflected in the pathways from material conditions and parental expectations to the occupational aspirations

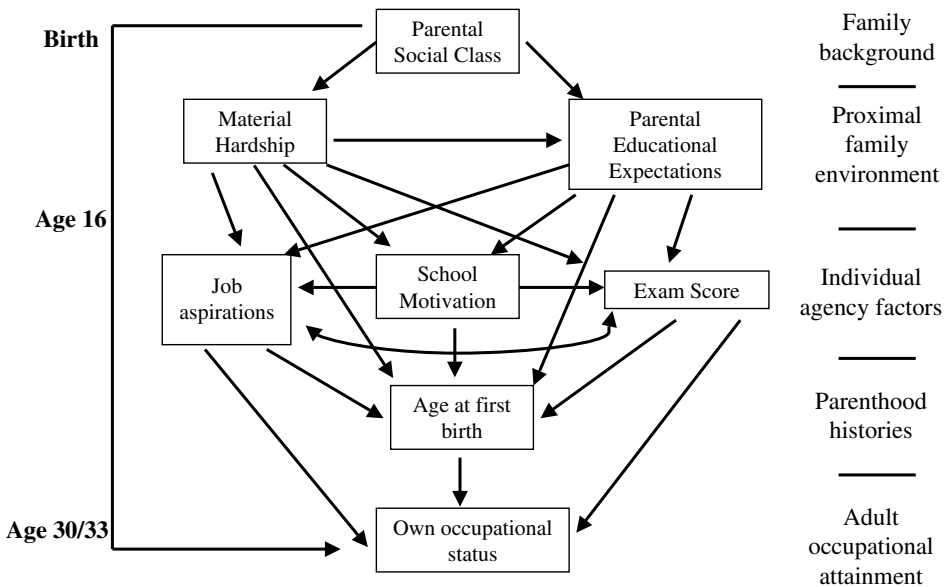


Fig. 2. The Developmental-Contextual Model of Career Development.

of the teenagers, their school motivation, and academic achievement. It is assumed that school motivation, aspirations, and academic achievement are associated, and that they increase with the material and aspirational encouragement from parents (Erikson & Jons-son, 1996). Furthermore the model postulates pathways linking family motivational and economic resources with individual agency factors to the timing of the birth of the first child. Individuals with fewer personal and family related resources are assumed to start their family formation earlier than others.

Interactions between family background and personality create interindividual differences in the timing and patterning of transitions (Reitzle, Vondracek, & Silbereisen, 1998). It has been argued that young people orient themselves to social class reference groups when developing their ideas about careers, and are guided by their parents' aspirations for them (Vondracek et al., 1986). Parental expectations for their children are often taken as markers of cultural influences operating at the family level (Roberts, 1980; Vondracek et al., 1986). Parental encouragement for young people to continue with education increases by both social class and ability level (Sewell & Shah, 1968). Yet, there is also research evidence to suggest that high levels of parental aspirations are positively associated with the child's aspirations and achievement, regardless of social class factors (Catsambis, 1998; Zellman & Waterman, 1998). A number of studies have confirmed that the family plays an important role in offering emotional support to adolescents and socialising them to do the best they can academically (Osborn, 1990; Scott, 2004; Steinberg, Elmen, & Mounds, 1989).

The timing and sequencing of transitions can also be understood as a person's means to match decisions, commitments, and career transitions to contextual opportunities and constraints, emphasising individual agency processes (Mortimer, 1994; Reitzle & Vondracek, 2000). The formulation of life plans during adolescence can help to direct and guide the transition from the present to the future, and are significant predictors of consequent educational and occupational attainment (Clausen, 1991; Elder, 1974/1999; Schneider & Stevenson, 1999). These orientations are linked to social structure, and may differ depending on stratification factors such as gender or socio-economic status (Heinz, 2002; Schoon & Parsons, 2002). The term bounded agency has been introduced to describe the influences of social origin, gender, and ethnicity on the range of options available to the individual (Elder, 1998; Heinz, 2002).

Here, we also consider the role of school motivation in shaping family and career transitions. There has been increasing concern about poor motivation to learn and progress and consequent under-achievement (DfEE, 1997; DfES, 2001, 2002). Students who have been described as 'disengaged from learning', who show low levels of school motivation, can be found across the spectrum of school achievement (Steedman & Stoney, 2004). While in the 1970s the underachievement of girls in the educational system was a major concern for social research, today it is male underachievement (Ofsted, 1996). By the early 1980s the situation had started to change and girls were more likely than boys to have obtained school-leaving qualifications, and were increasingly participating in higher education. During the 1990s these gains in educational attainment have consolidated. Girls are now more successful than boys in terms of achieving GCSE and A-level qualifications, while boys either gain very low or very high point scores more often than girls (Ofsted, 1996). In their transition into the labour market, women, however, continue to be disadvantaged and remain to congregate in occupations which offer inferior rewards and prospects.

1.2. *Transitions in context: The British cohort studies*

The models will be applied to data collected for men and women in two British Birth cohorts born 12 years apart in 1958 and 1970, respectively. During the lifetimes of the 1958 and 1970 birth cohorts, British society witnessed considerable changes in almost every aspect of its way of life. While the 1958 cohort grew up during a period of extraordinary economic growth and social transformation described by Hobsbawm (1995) the historian Eric Hobsbawm as a ‘Golden Age’, the 1970 cohort came of age in an era of increasing instability and insecurity—the ‘Crisis Decades’ (Hobsbawm, 1995). The recessions of the 1980s were the most serious since the past fifty years, and brought with them increasing levels of unemployment and poverty, accompanied by a decline in manufacturing jobs and a rapid growth in the service industries (Gallie, White, Cheng, & Tomlinson, 1998). During the same time there was a rapid and continuous rise of women entering the labour market (Gallie, 2000).

Being able to draw on two cohort studies allows us to gain a better understanding of career development in a changing socio-historical context, where the earlier born cohort entered the labour market just before the onset of the major recession, while the later born cohort completed their education just in the midst of a major recession. In a flourishing economy young people were more likely to enter the labour market early, to gain early financial independence, and to form an adult identity (Bynner, 2001; Bynner, Elias, McKnight, & Pan, 1999; Furlong & Cartmel, 1997). In recession economies and times of rapid structural change, on the other hand, young people were more likely to postpone the entry into adult roles (Reitzle et al., 1998). Assumptions regarding the pathways formulated above can thus be tested in a real-life context.

2. Method

The study used data collected for the 1958 National Child Development Study (NCDS) and the 1970 British Cohort Study (BCS70), two of Britain’s richest research resources for the study of human development. NCDS took as its subjects all persons living in Great Britain who were born between 3 and 9 March 1958. In five follow up studies data were collected on the physical, psycho-social and educational development of the cohort at age 7, 11, 16, 23, 33, and 42 years. The BCS70 has followed children born in the week 5–11 April 1970. Data collection sweeps have taken place when the cohort members were aged 5, 10, 16, 26, and 30 years.

The following analysis is based on data collected at birth, age 16, and in early adulthood, at ages 30 (BCS70) and 33 (NCDS), when most cohort members have completed their education, established their working careers, and have started a family. The samples comprise 10,900 cohort members in NCDS (51% females, 49% males), and 10,394 in BCS70 (52% females, 48% males), for whom complete data was collected at birth and the follow-ups at age 30 and 33, respectively. An analysis of response bias has shown that the achieved sample did not differ from the target sample across a number of critical variables (social class, parental education, and gender), despite a slight under-representation of males, and of the most disadvantaged groups (Plewis, Calderwood, Hawkes, & Nathan, 2004; Shepherd, 1993, 1995; Shepherd, 2004). Bias due to attrition of the sample during childhood has been shown to be minimal (Butler, Despotidou, & Shepherd, 1997; Davie, Butler, & Goldstein, 1972; Fogelman, 1983; Fogelman, 1976). Potential bias due to missing variable information is addressed in the section on estimating the model.

2.1. Measures

2.1.1. Family social origin (SOC0)

Parental social class at birth is measured by the Registrar General's measure of social class (RGSC). The RGSC is defined according to job status and the associated education, prestige (OPCS, 1980) or lifestyle (Marsh, 1986) and is assessed by the current or last held job. It is coded on a six-point scale: I professional; II managerial and technical; IIINM skilled non-manual; IIIM skilled manual; IV partly skilled; and V unskilled (Leete & Fox, 1977).¹ For ease of interpretation the scale has been reversed so that a high score represents higher social status. Where the father was absent, the social class (RGSC) of the mother was used in BCS70, and where there was no father at birth of NCDS cohort members, the mother's father's social class was used.

2.1.2. Material hardship (HARD16)

Material conditions in the family environment were assessed at age 16 in each cohort on the basis of a summative index, summing the presence or absence of the following seven indicator variables: *Overcrowding*. This is a dichotomous variable based on the ratio of people living in the household to the number of rooms in the household. One or more persons per room is coded (1), less than one person per room is coded (0). *Household amenities*. This is a dichotomous scale based on the cohort member's family having sole use of a bathroom, toilet and hot water. Sole access to all of these amenities is coded (0) shared use or no access to any of these amenities is coded (1). *Housing tenure*. The tenure of the home is defined as (0) owner-occupier or (1) other. *State benefits*. Receipt of state benefits is an indicator of financial hardship within the family environment (Fogelman, 1983). The assessed benefits include payment of unemployment benefit, income support, and housing benefit, but exclude payment of pensions or child benefit. Parents are either (0) not in receipt of benefits or (1) in receipt of benefits in last 12 months. *Financial difficulties*. This variable was coded (1) if the cohort member's parents indicated that the family had been "seriously troubled by financial hardship in the past 12 months", and (0) otherwise. *Car ownership*. If the family owned at least one car, this indicator was coded (0); lack of car ownership was coded (1). *Low Occupational Social Class*. This indicator was coded (1) if the father's last or current occupation (when the cohort member was 16) was classified as either IV or V on the RGSC scale (see above); in all other cases, this indicator was coded (0). The scale gives an overall score of material disadvantage ranging between 0 and 7.

2.1.3. Parental educational expectations (PASPI6)

At age 16 parents in both cohorts were asked about their expectations regarding the school leaving age of their child. Their answers were coded to differentiate between parents who expected their child (1) to leave school at age 16 years (minimum school leaving age), (2) to continue full-time education to 18 years, and (3) to continue full-time education after 18 years.

¹ The occupational categories used in the US census and other European countries are similarly based on the skills and status of different occupations (Krieger & Williams et al., 1997).

2.1.4. Age at first birth

The variable “age at first live birth” was derived retrospectively from the pregnancy histories collected at age 30 (BCS70) and age 33 (NCDS). The variable is censored at the 29th birthday for both cohorts. Thus, anybody who had not become a parent before completion of their 29th age year is coded as having had “no child”. In order to investigate both the impact of a delay of parenthood and the impact of the precise timing of parenthood, we have run the model twice for each sample. In the first model (the “KIDby29”-model) we enter “age at first child” as a dichotomous variable indicating whether somebody had become a parent before their 29th birthday or not. The second model (the “Parent”-model) was run on the sample of *parents* only, with “age at first child” entered as a continuous variable ranging from 12 to 28 years of age.

2.1.5. Individual agency factors (all assessed at age 16)

2.1.5.1. *Occupational aspirations (JOBAS16)*. In both cohorts we identified cohort members with high aspirations, i.e. those expecting to pursue professional or managerial occupations (1), and those with less ambitious occupational choices, making for skilled, semi-skilled, or unskilled jobs (0). The coding is described in more detail in Schoon and Parsons (2002). The use of a one-item measure of occupational aspirations is justified, since expressed interest in a profession has been shown to be equal or to exceed interest inventories in predicting the category of a person’s future occupation (Dolliver, 1969; Holland, Gottfredson, & Baker, 1990; McLaughlin & Tiedeman, 1974; Whitney, 1969).

2.1.5.2. *School motivation (MOT16)*. The cohort members completed an academic motivation scale consisting of 5 items. For the path estimation, we z-standardised “School motivation score” to ensure comparability of coefficients across cohorts. Internal consistency of the scale is high, with coefficient $\alpha = .77$ in NCDS and $.76$ in BCS70. Scores range from 0 to 10. A high score indicates positive school motivation and a low score school disengagement.

2.1.5.3. *Educational achievement (EXAM16)*. For both cohorts an overall ‘exam score’ has been calculated from the examination performance at age 16. The actual examination results of the NCDS cohort were collected from schools in 1978, whereas BCS70 cohort members self-reported their examination results in a follow-up study in 1986. The examination system was the same for both cohorts. The overall exam scores range from 0 to 106 in NCDS and from 0 to 97 in BCS70 (see Schoon & Parsons, 2002). For the path estimation these variables were z-standardised to ensure comparability of coefficients in the two cohorts.

2.1.6. Adult occupational status (SOC30/33)

Adult occupational status is defined by adult RGSC classification, which has already been described above. It was assessed at ages 30 (BCS70) and 33 (NCDS).

3. Statistical analysis

Path analysis was used to assess the linkages between family background factors, individual aspirations, timing of parenthood, and adult occupational attainment. Path analysis is an extension of multiple regression which assumes that relationships between observed

variables are linear, additive and asymmetric (Loehlin, 1998), although it is argued that the path analytic technique is relatively robust in relation to violation of these assumptions (Macdonald, 1976). Path analysis requires that each dependent variable is completely determined by variables within the system. A residual factor, assumed to be uncorrelated with the antecedent variables or with other residuals, must be introduced to account for the unexplained variance. The path analysis was carried out using the program Mplus 3.13 (Muthén & Muthén, 2004) which allows us to use variables on mixed measurement level (Muthén, 2002).

Missing values were filled in by multiple imputations using the multiple imputation by chained equations (ICE) program, implemented in Stata 8.2 (Royston, 2004). Five replicates of the data were created. We then used Mplus to estimate the path models on all five imputed datasets for each analysis sample. Model estimates are averages from these five analyses, with their standard errors calculated according to Rubin's rule (Rubin, 1987).

4. Results

Table 1 gives the sample characteristics for men and women in both cohorts. It appears that a similar proportion of men and women in both cohorts stems from semi-or unskilled family background. Men and women born in 1970 experienced less material hardship at age 16 than cohort members born in 1958. Parental expectations for further education are generally raised for the later born cohort, yet in both cohorts they are higher for daughters than for sons. Girls also score slightly higher on school motivation than boys in both cohorts. Aspirations for professional jobs are generally raised among the later born cohort, and in both cohorts 16-year-old girls are more ambitious than their male peers. Exam performance also appears to have increased, especially among women in the later born cohort. Women generally appear to have their children earlier than men, although men and women born in 1958 are more likely to have made the step into parenthood than cohort members born 12 years later. Regarding occupational status it appears that cohort members born in 1970 are less likely to work in semi- or unskilled jobs than those born in 1958. Especially the women in the later born cohort appear to have improved their occupational standing.

Table 1
Sample characteristics for men and women in both cohorts

Descriptive statistics	Women		Men	
	NCDS	BCS70	NCDS	BCS70
SOC0 (% in social class IV or V)	21.8	21.3	20.4	21.5
HARD16 [mean (SD)]	2.1 (1.5)	1.2 (1.5)	2.1 (1.5)	1.2 (1.5)
PASP16 (% parents expect child to continue education beyond 16 years of age)	64.5	75.3	59.7	65.0
MOT16 [mean (SD)]	6.4 (2.3)	6.4 (2.3)	6.1 (2.3)	5.9 (2.3)
JOBAS16 (% with professional job aspirations)	28.0	31.7	20.1	20.7
EXAM16 [mean (SD)]	18.6 (18.1)	20.5 (16.0)	17.2 (17.7)	17.8 (15.5)
KID29 (% who became parents before age 29)	62.5	50.2	47.0	35.9
SOC30/33 (own social class as adult: % in IV or V)	24.9	18.0	16.5	15.2
<i>N</i>	5548	5364	5352	5030

Note. All results include imputed values.

We shall now present our estimated path models. Each model was run for men and women separately in both cohorts to assess gender specific effects. For each of our four samples, we ran the models in two ways: The first, henceforth called the “KIDby29 model”, where “age at first birth” was entered as a dichotomous variable indicating whether a cohort member had become a parent before their 29th birthday or not. The second, the “Parents model”, analysing data of parents only, using “age at first birth” as a continuous variable (“AGE-C”) ranging from 10 to 28.

In interpreting a given path coefficient, one has to take into account the measurement level of the outcome variable. When the outcome is categorical, such as having a child or not at age 29 (KID29), the path is represented by a probit coefficient. When the outcome is continuous, such as age at first child (AGE-C), the path is represented by a linear regression coefficient.

4.1. The Social Reproduction Model

In the Social Reproduction Model (see Fig. 1) we tested whether family social origin is linked to both timing of first child and occupational attainment. Table 2 gives the estimated path coefficients for both the “KIDby29” and the “Parents”-models. All the paths are highly significant, and their signs are in the expected directions. In all four samples, and in both variants of the model, there is a positive direct effect linking social class background and adult occupational status (simple social reproduction). These direct effects are stronger for the men than for the women in both cohorts. The model is consistent with the assumption that social reproduction is mediated via the timing of the transition into parenthood: both the delay of parenthood beyond the age of 28 (KIDby29 model) and the timing of first child among those who are already parents by 29 (Parent model) can be partly predicted by social class background, and in turn predict own adult occupational status. Unsurprisingly, these mediating pathways tend to be stronger among the women than among the men. This is consistent with the expectation that family transitions make a bigger difference to women’s career achievements than to men’s.

Table 2
The Social Reproduction Model

Model	Path	Women		Men	
		NCDS	BCS70	NCDS	BCS70
Social Reproduction Model (KIDby29 Model)	SOC0 → KID29	-.20* (.01)	-.19 (.02)	-.15* (.01)	-.19 (.02)
	KID29 → SOC30/33	-.40* (.02)	-.37* (.02)	-.14* (.02)	-.16* (.02)
	SOC0 → SOC30/33	.15* (.01)	.18* (.01)	.25* (.01)	.25* (.01)
	N	5548	5364	5352	5030
Social Reproduction Model (Parents Model)	SOC0 → AGE-C	.51 [#] (.05)	.68* [#] (.07)	.44 (.05)	.46* (.07)
	AGE-C → SOC30/33	.07 (.01)	.07* (.01)	.07 [#] (.01)	.05* [#] (.01)
	SOC0 → SOC30/33	.15* (.02)	.17* (.02)	.24* (.02)	.24* (.02)
	N	3466	2691	2516	1806

Note. SOC0, Social Class of Parents at birth of cohort member; KID29: Has had a child before 29th birthday vs. no; AGE-C, Age at first child; SOC30/33, Social Class of cohort member in early 30s. The values represent unstandardized path coefficients and values in closed parentheses represent standard errors of the path coefficients.

* Denotes a significant gender difference ($p < .05$).

[#] Denotes a significant cohort difference ($p < .05$).

4.2. The Developmental-Contextual Model

What are the processes and mechanisms linking the developing individual to a changing socio-historical context? The Developmental-Contextual Model assesses if and to what extent social reproduction is mediated by family material hardship, parental expectations for the child, and by the teenagers' own aspiration, motivation, and achievement. Tables 3 and 4 give the path coefficients, indications of significant cohort and gender differences in coefficient sizes (assessed by *t*-tests), and model fit statistics.

CFI and RMSEA indicate good to moderate model fits for all four samples, although the models fit the NCDS samples slightly better than the BCS70 ones. Our Developmental-Contextual Model is thus broadly consistent with data collected from men and women in

Table 3
The Developmental-Contextual Model of career development with all participants

Path	Women				Men			
	NCDS		BCS70		NCDS		BCS70	
SOC0 → SOC30/33	.09	(.02)	.13	(.01)	.12	(.02)	.14	(.02)
SOC0 → HARD16	-.66 [#]	(.02)	-.75 [#]	(.02)	-.66	(.02)	-.71	(.02)
SOC0 → PASP16	.21	(.02)	.18	(.02)	.25	(.02)	.20	(.02)
HARD16 → PASP16	-.21 [#]	(.02)	-.08 [#]	(.02)	-.17 [#]	(.02)	-.09 [#]	(.02)
HARD16 → JOBAS16	-.04 [*]	(.02)	-.00 ^{ns,*}	(.02)	-.16 [*]	(.03)	-.16 [*]	(.04)
HARD16 → MOT16	-.04	(.01)	-.06	(.02)	-.02 ^{ns,#}	(.01)	-.09 [#]	(.03)
HARD16 → EXAM16	-.14 [#]	(.02)	-.23 [#]	(.01)	-.14 [#]	(.01)	-.21 [#]	(.02)
HARD16 → KID29	.07 [#]	(.02)	.13 [#]	(.02)	.06	(.01)	.09	(.02)
PASP16 → MOT16	.32 [#]	(.02)	.13 [#]	(.02)	.34 [#]	(.02)	.18 [#]	(.03)
PASP16 → JOBAS16	.47 [#]	(.03)	.29 ^{*,#}	(.02)	.53 [#]	(.04)	.41 ^{*,#}	(.03)
PASP16 → EXAM16	.30 [#]	(.02)	.22 ^{*,#}	(.01)	.30	(.02)	.31 [*]	(.02)
PASP16 → KID29	-.28 ^{*,#}	(.03)	-.13 [#]	(.03)	-.19 [*]	(.02)	-.14	(.04)
MOT16 → JOBAS16	.27	(.02)	.25	(.04)	.35	(.04)	.31	(.03)
MOT16 → EXAM16	.19 ^{*,#}	(.02)	.24 [#]	(.01)	.26 [*]	(.02)	.23	(.03)
MOT16 → KID29	-.07	(.02)	-.09	(.02)	-.04 ^{ns}	(.02)	-.10	(.04)
JOBAS16 ↔ EXAM16	.01 ^{ns,*,#}	(.02)	.16 [#]	(.02)	.08 ^{*,#}	(.02)	.20 [#]	(.03)
JOBAS16 → SOC30/33	.25 ^{*,#}	(.02)	.14 ^{*,#}	(.03)	.32 ^{*,#}	(.02)	.24 ^{*,#}	(.03)
EXAM16 → KID29	-.03 ^{ns,#}	(.02)	-.19 [#]	(.04)	-.06	(.03)	-.17	(.06)
EXAM16 → SOC30/33	.31 [#]	(.03)	.42 [#]	(.03)	.35 [#]	(.03)	.49 [#]	(.03)
KID29 → SOC30/33	-.38 ^{*,#}	(.02)	-.30 ^{*,#}	(.02)	-.07 [*]	(.02)	-.04 ^{ns,*}	(.03)
CFI	.985 (.002)		.975 (.001)		.982 (.004)		.972 (.003)	
RMSEA	.052 (.002)		.065 (.002)		.054 (.006)		.071 (.004)	
N	5548		5364		5352		5030	

Note. Age at first live birth is treated as a dichotomous variable ('KIDby29'-Model). HARD16: Material hardship in the family; PASP16: Parents' educational aspiration for the cohort member; MOT16: School Motivation; JOBAS16: Occupational Aspirations; EXAM16: Exam Score. For other abbreviations see Table 2. The values represent unstandardized path coefficients and values in closed parentheses represent standard errors of the path coefficients.

^{ns} Denotes a non-significant coefficient ($p > .05$).

^{*} Denotes a significant gender difference ($p < .05$).

[#] Denotes a significant cohort difference ($p < .05$).

Table 4
The Developmental-Contextual Model of career development with parents only

Path	Women		Men					
	NCDS	BCS70	NCDS	BCS70				
SOC0 → SOC30/33	.08	(.02)	.12	(.02)	.14	(.02)	.15	(.02)
SOC0 → HARD16	-.67 [#]	(.02)	-.80 [#]	(.03)	-.70	(.02)	-.75	(.03)
SOC0 → PASP16	.15	(.02)	.13	(.03)	.20	(.03)	.14	(.04)
HARD16 → PASP16	-.21 [*]	(.02)	-.07	(.02)	-.15 [*]	(.02)	-.07 ^{ns}	(.04)
HARD16 → JOBAS16	-.04 ^{ns,*}	(.03)	-.03 ^{ns,*}	(.02)	-.18 [*]	(.04)	-.15 [*]	(.04)
HARD16 → MOT16	-.04	(.02)	-.06	(.03)	-.04	(.02)	-.09	(.03)
HARD16 → EXAM16	-.13 [#]	(.01)	-.19 [#]	(.01)	-.14	(.01)	-.18	(.02)
HARD16 → AGE-C	-.37 [#]	(.05)	-.58 ^{*,#}	(.05)	-.27	(.05)	-.29 [*]	(.07)
PASP16 → MOT16	.33 [#]	(.03)	.12 [#]	(.03)	.34 [#]	(.03)	.14 [#]	(.04)
PASP16 → JOBAS16	.51 [#]	(.04)	.25 [#]	(.04)	.48	(.05)	.35	(.06)
PASP16 → EXAM16	.25 [#]	(.02)	.17 ^{*,#}	(.02)	.21	(.02)	.23 [*]	(.02)
PASP16 → AGE-C	.49 [#]	(.08)	.14 ^{ns,#}	(.10)	.41 [#]	(.07)	.02 ^{ns,#}	(.14)
MOT16 → JOBAS16	.27	(.03)	.21	(.05)	.36	(.06)	.28	(.05)
MOT16 → EXAM16	.18 [*]	(.02)	.20	(.02)	.26 ^{*,#}	(.02)	.17 [#]	(.02)
MOT16 → AGE-C	.36	(.08)	.52	(.15)	.20 [#]	(.08)	.59 [#]	(.12)
JOBAS16 ↔ EXAM16	.04 ^{ns,#}	(.02)	.14 [#]	(.04)	.11	(.03)	.14	(.05)
JOBAS16 → SOC30/33	.24 ^{*,#}	(.02)	.10 [#]	(.04)	.31 ^{*,#}	(.03)	.20 [#]	(.04)
EXAM16 → AGE-C	.46	(.08)	.41	(.13)	.22	(.09)	.26 ^{ns}	(.19)
EXAM16 → SOC30/33	.24 [#]	(.03)	.40 [#]	(.04)	.29 [#]	(.04)	.51 [#]	(.06)
AGE-C → SOC30/33	.05	(.01)	.06 [*]	(.01)	.05	(.01)	.03 [*]	(.01)
CFI	.987 (.002)		.975 (.003)		.984 (.004)		.955 (.011)	
RMSEA	.043 (.004)		.059 (.004)		.049 (.006)		.079 (.009)	
N	3466		2691		2516		1806	

Note. Age at first live birth is treated as a continuous variable. For abbreviations of variable names and explanation of symbols see Tables 2 and 3.

both cohorts. Comparing the direct effects sizes of Social Class of Origin (SOC0) on Occupational Status at 30/33 (SOC30/33) with those in the Social Reproduction Model, we see that our mediating pathways can account for a considerable portion of social reproduction. The direct effect remains significant, however, pointing to an unexplained residual covariance that the variables included in the model do not account for.

Given the measurement level of the data, the path coefficients reported in Tables 3 and 4 can, strictly speaking, only be compared where the outcome variable is the same. Categorical outcomes include parental aspirations (PASP16), job aspirations (JOB16), becoming a parent by age 29 (KID29), and adult social status (SOC30/33). Continuous outcomes include family hardship (HARD16), school motivation (MOT16), exam score (EXAM16), and age at first child among parents (AGE-C).² Coefficient estimates relating to paths other than the “Age at first child”-variables are mostly very similar across the “KIDby29”

² All continuous model variables, except for Age at first child (AGE-C), have been z-standardised. Thus, the path leading from, for example, MOT16 to EXAM16 is represented by a fully standardised coefficient. In contrast, the coefficient of the path from MOT16 to AGE-C indicates the expected change in years of AGE-C per standard deviation of MOT16.

and the “Parent”-models in each sample, although coefficients tend to be a little lower in the “Parent”-analyses. We shall discuss the results of both model variants together, but take particular note of the paths involving the variables “KID29” and “AGE-C”.

4.2.1. The influence of Socio-Economic Background

The findings suggest that parental social class is significantly associated with experiencing economic hardship at age 16. This effect is stronger for men and women in the BCS70 cohort, suggesting increasing polarization. The path linking parental social class to parental educational expectations is also significant and of similar size for men and women in both cohorts. This finding suggests that parents from privileged social backgrounds have higher aspirations for their child than less privileged parents.

The experience of economic hardship influences parental aspirations for further education, suggesting that parental aspirations increase with the economic resources available to the family. The effect seems to be stronger in NCDS than in BCS70—possibly indicating that aspirations among the later born cohort are generally raised, and less influenced by economic resources. The influence of hardship on teenage job aspirations appears to be higher among boys than among girls—the path is even non-significant among women in BCS70. This finding suggests that boy’s job aspirations are more strongly influenced by economic adversity than girl’s. The influence of economic hardship on school motivation of the teenagers appears to be stronger in BCS70 than in NCDS, especially for men born in 1970. For men born in 1958, in contrast, the path linking hardship to school motivation is not significant. This finding might suggest an increasing polarization in aspirations among the young people, especially among boys, if not among their parents. The influence of hardship on exam performance at age 16 is also higher in BCS70 than in NCDS, underlining again the assumption of increasing polarization based on economic resources available to the family. The influence of economic hardship on becoming a mother before age 29 is also greater in BCS70.

Parental education expectations are significantly associated with school motivation, job aspirations, exam performance and having a child before age 29 or not. The higher the parental educational aspirations for their child, the higher are the child’s school motivation and occupational aspirations, their exam performance, and they are less likely to have become a parent by age 29. The effect of parental aspirations appears to be higher among cohort members in NCDS, except for its influence on exam performance among men at age 16. This could mean that the influence of parental encouragement for further education played a more important role among the earlier born cohort, when generally fewer individuals pursued further education.

4.2.2. Individual agency processes

Regarding individual agency processes the findings suggest that the higher the school motivation, the higher are the job aspirations and the exam performance of the teenager. There are significant cohort and gender differences regarding the influence of school motivation on exam performance, and its effect is highest for men born in 1958 and women born in 1970. School motivation is also significantly associated with having a child before age 29, except for men born in 1958. Among women in both cohorts, as well as among men born in 1970, the findings suggest that the higher the school motivation, the less likely is the step into parenthood by age 29. Moreover, high school motivation also predicts a higher age at first child within the samples of parents. This finding suggests a link between dislike

of school and an increased risk of early pregnancy (see also Bonell et al., 2005). School motivation was however not significantly linked to adult occupational status, and this path was thus excluded from the final model.

Job aspirations of the teenagers themselves are significantly associated with exam performance at age 16, except for women born in 1958 where the path is non-significant. The association appears to be stronger among men than among women, suggesting that men's job aspirations are more closely linked to their actual academic performance. The path linking occupational aspirations of the teenagers to having a child by age 29 has also been tested. This path was only significant for women in NCDS. For women in BCS70 the path is almost significant (at 0.05). There are no effects at all for men. This path did not improve the overall fit of the model, and was thus excluded from the final model. Teenage job aspirations were however significantly associated with adult occupational status. This effect was stronger among men than among women, and was more important in NCDS than in BCS70.

Exam performance is clearly associated with the timing of parenthood as well as with occupational status at 30/33. A comparison of the coefficients suggest that the importance of exam performance for subsequent family formation and occupational attainment has risen for the younger cohort relative to the older: there are significant cohort differences in the coefficients indicating the effect of exam scores on the delay of motherhood beyond 29, as well as the effect on occupational status (for both genders).

4.2.3. *Timing of parenthood*

Early parenthood reduces the likelihood of attaining a high occupational status. This holds true in both the "KIDby29"-model and the "Parents"-model. Unsurprisingly, the timing of parenthood makes a greater difference for women than for men—but there is also an interesting and somewhat counterintuitive cohort effect: Delaying childbirth beyond the 29th birthday has a significantly stronger effect for NCDS than for BCS70 women. Conceivably, the fact that a delay in child bearing has become more common in BCS70 has reduced its relevance as a cut-off point for gauging the effect on occupational attainment.

5. Discussion

Teenage girls appear to have higher occupational aspirations than boys of the same age, they are more motivated at school and achieve better exam results. Parents expect that their daughters will participate longer in further education than their sons, thus supporting their career endeavours. Nonetheless women are less likely than men to achieve to the same occupational level. One explanation for this gap in women's strivings and their achievements appears to be associated with the step into parenthood, which occurs earlier in the lives of women than men.

In both cohorts the entry into motherhood before age 29 appears more important than the entry into fatherhood in predicting occupational status at 30/33—although the timing of family formation also influences the career attainment of men. Men and women making a relatively early transition to parenthood are at risk for adverse outcomes regarding education and employment (see also Hobcraft & Kiernan (2001). Although this applies to both men and women, for women the effects of early childbearing are more adverse than for men. As more women have entered the workforce and have taken on new roles, they

have retained their position as the person responsible for childcare (Blossfeld & Drobnic, 2001). For women the roles as mother and labour-force participant appear to be interdependent and in conflict, while for men their roles as father and worker are more independent and easier to combine, suggesting that institutional arrangements have failed to accommodate the realities of women and couples in the workforce (Altucher & Williams, 2003).

Moreover, our analysis demonstrates the persistent influence of social origin on occupational opportunities and life chances. The Social Reproduction Model established a direct effect of parental social class on timing of parenthood and adult occupational attainment. Young people from a socially disadvantaged family background are more likely to become a parent early in life and are less likely to climb the occupational ladder than their more privileged peers.

The direct link between parental social class and timing of first birth is mediated via socialization experiences in the family, in particular through the experience of economic hardship and the associated parental educational expectations for their child. The Developmental-Contextual Model of career development suggests that social position of the parents is linked with a variety of co-factors such as poor housing, overcrowding, and lack of amenities that pose risks for adaptive development (Conger et al., 1993; Duncan & Brooks-Gunn, 1997; Schoon et al., 2002). Furthermore parental educational expectations are also strongly influenced by social background, but are additionally shaped by material hardship experienced when the child is aged 16. Parents with only few economic resources are less likely to expect their child to continue in further education than parents in more privileged circumstances.

Parental educational expectations had a significant influence in shaping their children's academic motivation, their job aspirations and exam performance, as well as the timing of parenthood. High levels of parental aspirations were positively associated with the child's aspirations and achievement, net of social class factors, confirming previous findings (Catsambis, 1998; Zellman & Waterman, 1998). Young men and women living in relative poverty, with parents who show little support for educational advancement are more likely to be disengaged from education and to make the step into parenthood earlier than their peers with greater levels of social and economic support. This finding confirms the importance of parent-child relations in supporting occupational development of their children in addition and above the economic resources available to the family (Schoon & Parsons, 2002; Vondracek et al., 1986). Transition specific parent-child interactions can help young people to find a career direction and foster more adaptive outcomes.

The associations between parental expectations and young people's agency, however, are stronger for cohort members born in 1958 than for those born 12 years later, possibly suggesting a weakening of the bond between parental expectations and own strivings, which in turn might be more strongly influenced by other factors not included in the model, such as support from teachers or peers. The influence of economic hardship, on the other hand, has increased as a predictor of teenager's school motivation and academic performance for the later born cohort, suggesting increasing polarization of school engagement among young people.

Economic hardship also has a slightly stronger effect on the timing of parenting transitions in the later born cohort. These findings might suggest that access to economic resources has become more important in shaping the transitions into adult roles for the later born cohort. The findings furthermore indicate that the experience of economic hard-

ship has a stronger influence on the aspirations of young men than women, confirming previous studies showing a greater susceptibility to economic stressors among males (Rutter, 1970). Generally, the development and maintenance of motivation and aspirations is bound up with family circumstances, underlining the principle of linked lives, the embeddedness of individual choices with the lives of others (Elder, 1998). Being born into less privileged social backgrounds is a risk factor associated with lower levels of educational engagement and achievement, as well as occupational aspirations and attainment.

School motivation in particular plays a central role in influencing occupational aspirations, academic attainment as well as timing of parenthood. The influence of school motivation on exam performance appears to have increased for the later born cohort, highlighting the potentially increasing importance of school disengagement in the transmission of social disadvantage. This finding also suggests that career development starts early in life, and that school interventions aiming to increase participation and engagement of young people in education and learning can have long term beneficial consequences, especially for disadvantaged groups.

Adult occupational status is influenced by parenting histories, occupational aspirations, and academic attainment. The study has thus confirmed the vital role of teenage job aspirations and exam performance in predicting adult occupational status. Cohort members with high occupational aspirations who perform well in their examinations are more likely to delay the step into parenthood and pursue their occupational careers. The multiple paths determining adult occupational status suggest that career development takes place within a life planning framework, where plans regarding education and employment are linked with other life roles such as becoming a parent. While job aspirations showed a stronger influence on adult occupational status among cohort members born in 1958, especially among men, exam performance has become a more important predictor for cohort members born in 1970. The findings underline the increasing importance of educational performance for occupational attainment in the later born cohort. While cohort members born in 1958 entered the labour market during a period of economic growth, cohort members born in 1970 left school at the height of a major economic recession. For UK teenagers born in 1958 the predominant pattern was to leave school at the minimum age and to move directly into a job. As the demand for skilled workers increased, education has taken on a more important role in influencing transition patterns and adult attainments (Bynner, 2001; Bynner et al., 1999). The links between occupational aspirations and exam performance at age 16 and adult occupational status are generally stronger for men than for women, while for women parenthood histories play a more important role in influencing adult occupational status.

In interpreting the findings some limitations of the study have to be noted. The study offers a cross-cohort comparison of two large scale follow-ups of individuals born 12 years apart, covering a period of more than 40 years. As with all research using cohort studies, this work is constrained by having to make the best use of the available data, their measurement level and timing. Both cohorts provided similar data on family demographics, parenting histories, as well as individual agency factors and adult outcomes, although on mixed measurement levels. Using path analysis as implemented in the program Mplus 3.13 (Muthén & Muthén, 2004) allowed us to analyse data on mixed measurement levels, although in interpreting the path coefficients the measurement level of the variables has to be taken into consideration. Another issue to be addressed here is missing data, which might have affected the validity of the results. Response bias at the individual level would

tend to underestimate the magnitude of effects of social disadvantage, as sample attrition is greatest among cohort members in more deprived circumstances. The results might thus provide a conservative estimate of social inequalities in the sample. Missing data at the variable level may also be non-random. Here, we used multiple imputations by chained equations (ICE) as implemented in STATA 8.2 (Royston, 2004) as a ‘best effort’ technique for dealing with the problem of missingness. Despite these concerns the cohort data offer the unique opportunity to follow individual career development over time, enabling the assessment of interactions between a changing individual and a changing socio-historical context.

The findings suggest a close relationship between individual development and societal progress (Shanahan & Elder, *in press*; Silbereisen, 2005). Opportunities for career development are affected by economic fluctuations and discrete historical events over which the individual has no control (Elder, 1998). These social changes are reflected in the educational and occupational aspirations of young people and their parents, as well as in their parenting histories and occupational attainment. Taking into consideration changes in the timing and interrelatedness of transitions in the domain of work and family life can help to improve our understanding of career development in men and women. Early life transitions can have developmental consequences by affecting subsequent transitions, setting in motion a chain of cumulative advantages and disadvantages (Elder & Shanahan, 2006). The Social Reproduction Model has illustrated the links between family social origin, timing of parenthood, and adult occupational attainment. In both cohorts family social background plays a key role in shaping both family and career development.

The inter-linkages between family origin, socialization experiences, agency processes and career transitions in times of social change have been examined in the Developmental-Contextual Model which enabled us to account for the intervening structures or processes through which the family context affects individual development. The study has highlighted in particular the role of school motivation in shaping individual aspirations and the timing of transitions. Despite the changing socio-historical context some of the processes influencing individual career development have remained the same and apply to both men and women. Life chances and opportunities remain circumscribed by one’s social origin, and the social and economic resources inherent in the connections young people have to their families are central to navigating the transitions into adult roles.

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