Correlates of Lifetime Childlessness across two British Cohorts: A Biosocial Perspective

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Abstract

Childlessness has increased in the UK across successive birth cohorts and remains higher among men than women. While previous research has focused mainly on social or biological determinants, we adopt a biosocial approach to examine how early-life socioeconomic background, education, health, cognitive development and partnership trajectories to shape fertility outcomes. Using harmonised fertility histories from two nationally representative British birth cohort studies (born 1958 and 1970), we compare lifetime childlessness at age 50 for men and women. Preliminary results show that partnership history is the strongest predictor: over 80% of women and over 90% of men who never cohabited or married remained childless. For women, childlessness is also more common among those with higher education and stronger childhood cognition, while poor health and mental health difficulties increase risks for both sexes. Findings highlight how social advantage and health disadvantage combine across the life course, producing gendered and cohort-specific biosocial pathways into childlessness.

Introduction

Childlessness has become a salient demographic feature in the UK and other Western countries, with rates rising again for cohorts born after the mid-20th century (Berrington 2017; ONS 2024). While childlessness reflects diverse pathways—including voluntary, involuntary, and "drifting" forms—most existing research focuses either on social or on biological determinants. Less attention has been given to biosocial perspectives that jointly consider early-life socioeconomic background, education, health, and cognitive development preventing a comprehensive understanding of this emerging demographic behaviour.

This study leverages two nationally representative British birth cohort studies (1958 and 1970) to examine predictors of lifetime childlessness measured at age 50. By harmonising new fertility datasets, we can compare correlates across generations and between men and women, incorporating both social and health-related determinants. This allows us to assess whether the drivers of childlessness have shifted over time and whether they operate differently by gender.

Data and Methods

We draw on two longitudinal studies: the 1958 National Child Development Study (NCDS) and the 1970 British Cohort Study (BCS70). The cohorts follow individuals from birth into midlife, collecting rich biosocial information on family background, health, education, and later-life circumstances. The analyses are organized as follows:

Outcome: Childlessness at age 50, from newly harmonized fertility histories datasets (Villadsen et al., 2025)

Predictors: Early-life family SES (parental education, occupation, housing), family structure, sibling composition; cognitive skills in mid-childhood; physical and mental health indicators; adolescent behaviour and BMI; academic attainment; and early adulthood health. We also include partnership histories up to age 50.

Analytic approach: We use descriptive comparisons and confidence interval tests for men and women separately. To address attrition and item non-response, we apply multiple imputation with chained equations (20 datasets).

The biosocial nature of the data allows us to explore and integrate health and social determinants, highlighting how childhood conditions, education, and early health interact with later partnership trajectories to shape fertility outcomes.

Preliminary Results

The results highlight the multifaceted biosocial pathways into childlessness. Partnership history is by far the strongest predictor, with the vast majority of those who never partnered remaining childless by age 50. Socioeconomic background shows a gendered pattern: women from higher-status families are more likely to remain childless, while the association for men is weak or absent. Education and cognitive ability also play a role for women, with higher attainment and stronger childhood cognition linked to greater childlessness, but these patterns are not observed for men. Finally, poor health and mental health difficulties in adolescence and early adulthood are associated with elevated risks of childlessness for both sexes, underscoring the role of health-related as well as social determinants and how these can operate in opposite directions

Table 1: % Men/Women childless at age 50 by childhood SES characteristics

		Men		Women	
Characteristics	**Categories**	**NCDS**	**BCS70**	**NCDS**	**BCS70**
Childhood SES					
Marital status mother	Married [cohabiting]	19	21	15	**17**
	Single	18	16	12	12
Age mother at 1st birth	Age 20+	**20**	**22**	**16**	**18**
	Teenage parent	16	15	11	12
Education (mother)	Extended education	20	22	**18**	19
	Left education at min age	19	20	14	16
Education (father)	Extended education	20	21	19	19
	Left education at min age	19	20	16	16
Social class	RGSC I or II	21	21	**20**	19
	RGSC III non-manual	18	21	**18**	20
	RGSC III manual	19	20	14	16
	RGSC IV or V	18	20	12	15
Housing tenure	Own	20	22	16	**19**
	Rent / other	19	19	15	15
Overcrowded home	No	20	**22**	**17**	**19**
	Yes (>1 person per room)	18	18	14	14

Bold indicates differences are significant p<.05 [95% CIs not overlapping].

Table 2 % Men/Women childless early social and health characteristics in three British cohorts

		Men		Women	
Characteristics	**Categories**	**NCDS**	**BCS70**	**NCDS**	**BCS70**
Birth					
Parity	1st born child	19	21	16	18
	Older siblings	19	20	15	
Birthweight	Normal birthweight	19	20	15	17
	Low birthweight	22	24	16	20
Mid Childhood (10/11)					
Handicap / LSLI	No	19	20	15	17
	Yes	**24**	**24**	16	**19**
Reading skills	Bottom quintile	19	19	12	15
	Middle 60%	18	21	15	17
	Top quintile	**23**	22	**21**	**20**
Maths skills	Bottom quintile	19	19	12	15
	Middle 60%	18	20	15	17
	Top quintile	21	21	**20**	**20**
Adolescence (15/16)					

Handicap	No	18	n/a	15	n/a
	Yes	**27**	n/a	16	n/a
Behaviour problems	Bottom quintile	17	20	15	18
	Middle 60%	19	20	15	17
	Top quintile	**21**	21	15	16
Police contact	No	**20**	**22**	15	18
	yes	15	18	10	15
BMI	<18.5	20	20	15	17
	<25	18	20	15	17
	>25	**26**	23	18	18
GCSE Maths	Grade A-C	20	20	**19**	**20**
	Below grade C	19	21	14	16
GCSE English	Grade A-C	**22**	21	**19**	**19**
	Below grade C	18	20	14	15
5+ GCSEs	5+ Grade A-C	22	20	**20**	**20**
	0-4 Grade A-C	19	21	14	16
Early adulthood (23/26)					
General Health	Good – Excellent	18	20	15	16
	Fair – Poor	**26**	**28**	16	**22**
LSLI	No	19	19	15	16
	Yes	**30**	**26**	**24**	**21**
Malaise	0-7	19	20	15	17
	8+	24	23	16	18
Partnerships (50)					
	Lived with 1+ partners	17	18	14	16
	Never lived with a partner	**61**	**49**	**49**	**40**

Bold indicates differences are significant p<.05 [95% CIs not overlapping].

Discussion and Significance

This study will make three key contributions. First, it will provide a biosocial integration in our understanding of the determinants of childlessness: by leveraging rich cohort data, we jointly analyse health, cognitive, and social determinants, demonstrating that childlessness arises through multiple, interacting pathways. The biosocial perspective highlights how both social advantage (e.g., education, SES) and health disadvantage (e.g., poor adolescent health, mental health difficulties) contribute differently for men and women. Second, it provides a cohort comparison: using harmonised fertility data to age 50, we provide one of the first direct comparisons across two British generations, showing shifts in the correlates of childlessness over time. Third, we offer insights into gender differences: our analyses highlight enduring gender differences, particularly in how education and health interact with partnership to shape fertility outcomes.

References (selected)

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