Electronic Supplementary Material for Nettle, Coall & Dickins, *Early-life conditions and age at first pregnancy in British women*

This Supplementary Materials document gives some details of sample attrition in the NCDS between age 7 and age 33 (section 1), gives details of the sources, data manipulations performed, and descriptive statistics for the main study variables (section 2), and presents an additional analysis restricted to just the subset of girls who were first-borns (section 3).

Section 1: Sample attrition

Our early-life conditions variables were mainly gathered at age 7 (1965), but the outcome variable, age at first pregnancy, was measured in 1991, 26 years later. There was considerable attrition of the NCDS cohort in the intervening years. (There had also already been attrition of around one thousand women between birth and age 7, but we do not consider that here). Here, we examine the relationship between early-life conditions and the probability of attrition by comparing the proportion of women for whom data is available at age 7 but are missing at 33, across the different levels of our early-life adversities variable (table S1).

Early-life Adversities	Proportional attrition
0	0.43
1	0.44
2	0.44
3	0.48
4	0.43

Table S1. Proportional attrition between age 7 and age 33 by number of early-life adversities.

We can see that the proportional attrition is very similar across all levels of early-life adversities (χ^2 = 3.60, *d.f.*=4, *p*=0.46). Thus, there are no major issues of differential attrition by early-life conditions affecting our conclusions.

Section 2: Data sources, data manipulations and descriptive statistics

Table S2 gives the code of the original NCDS variable, details of any data manipulations performed, information on missing values, and descriptive statistics, for the main study variables.

Variable	NCDS source variable	Data manipulations	Missing values	Descriptives
Age at first pregnancy (AFP)	n502023	Year converted to chronological age	None, by sample selection	M 23.97, s.d. 4.31
Birthweight for gestational age (BGA)	n574, n497	(see Nettle et al. 2010)	775	M 0.01, s.d. 0.99
Breastfeeding (BFD)	n222	Recoded into more than one month=0, Less than one month=1	591	0 2056.0, 1 2497.0
Longest separation from mother (SFM)	n658	Recoded into less than one month=0, more than one month=1	657	0 4030.2, 1 522.8
Paternal involvement (PAT)	n183	Recoded into involved=0, uninvolved=1 (see Nettle 2008)	569	0 3680.4 1 872.6
Family residential moves (MOV)	n95	Recoded into fewer than two=0, two or more=1	607	0 3312.6, 1 1240.4
Paternal social class	n492	Recoded so 5 is highest; 'No husband' and 'dead or away' replaced with 3	236	1 393.0, 2 609.6, 3 2835.0, 4 536.6, 5 177.6
Mother's age leaving education	n2397	None	1195	M 15.96, s.d. 1.54
Proportion of fathers in school class with non-manual occupations	n46, n49	Values greater than 1 assumed to be errors and set to mean	1308	M 0.23, s.d. 0.24
Socioeconomic position (SEP)	-	Derived by Principal Components Analysis	None, derived after imputation	M 0.00, s.d. 1.00
Cohort member's mother's age at birth (MAG)	n553	None	233	M 27.23, s.d. 5.70
Emotional and Behavioural Maladjustment Score (EBM)	n1008	Square-root transformed	631	M 2.15, s.d. 1.50
Early-life adversities (ADV)	Derived	Sum of BFD, SFM, PAT, MOV	None, derived after imputation	0 1129.4 1 2046.8 2 1080.4 3 260.4 4 36.0

Table S2. Details of the NCDS source variables, any data manipulations performed, descriptive statistics, and number of missing values, for all variables used in the analyses reported in the paper. The descriptive statistics given are the result of pooling across the 5 imputations of the dataset (see Methods).

Section 3: Restricting the analysis to first-borns

We repeated the analysis of the main finding (i.e. that there is a relationship between early-life adversities, ADV, and age at first pregnancy, AFP, which is robust to control for childhood socioeconomic position and cohort member's mother's age at her birth) for just that subset of girls (n=1617) who were the result of their mother's first pregnancy. The rationale for this analysis is that for these girls, mother's age at their birth is also mother's age at first birth, and so they provide a stronger test of whether the relationship between ADV and AFP is an artefact of intergenerational transmission of life history. Table S3 presents results of a linear regression model with AFP as the dependent variable and SEP, MAG and ADV as continuous predictors, for the whole sample, and for the subset of first-borns. The effect of ADV remains significant in the sub-set, with its coefficient slightly attenuated. However, the effect of MAG is significantly stronger in the subset than in the sample as a whole (B=0.21 versus 0.06), suggesting than maternal age at first birth is indeed a better predictor of offspring reproductive schedule than maternal age at cohort member's birth.

Whole sample	B	95% CI	First-borns	B	95% CI
SEP	0.88*	0.75-1.01	SEP	0.61*	0.38-0.84
MAG	0.06*	0.04-0.08	MAG	0.21*	0.17-0.25
ADV	-0.44*	-0.60--0.29	ADV	-0.33*	-0.57--0.08

Table S3. Parameter estimates from a multiple regression analysis with AFP as the dependent variable and SEP, MAG and ADV as the predictors, for the whole sample, and the subset of first-borns. * $p<0.05$.

References

Nettle, D. 2008 Why do some dads get more involved than others? Evidence from a large British cohort. *Evolution and Human Behavior* **29**, 416-23.

Nettle, D., Coall, D. A. & Dickins, T. E. 2010 Birthweight and paternal involvement predict early reproduction in British women: Evidence from the National Child Development Study. *American Journal of Human Biology* **22**, 172-9.