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# Harmonising measures of childhood environment and adult mental wellbeing across three British birth cohorts

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**CLOSER workshop on cross-study research**

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# Background: childhood environment

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- Association between adverse childhood environment and poorer physical and mental health in adulthood (Birnie et al 2011; Haas 2008; Kuh 2002; Amato 1991; Rodgers 1990)
- Childhood environment:
  - Childhood socio-economic position (SEP)
  - Parenting
  - Maternal emotional health
  - Family structure



# Background: childhood circumstances and adult mental wellbeing

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- Few studies have investigated associations between childhood environment and adult mental wellbeing
- Even fewer looked at multiple aspects of the childhood environment:
  - On NSHD childrearing, parenting, good parental health and fewer childhood illnesses = good adult mental wellbeing (Stafford et al. 2015)
  - On BCS70 better childhood emotional health, good cognition and higher childhood SEP = better adult mental wellbeing (Layard et al. 2014)
  - On NCDS higher birthweight, good childhood mental health and more sociable personality = better adult mental wellbeing (Frijters et al. 2014).

# Aims

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1. To collate (prospective) data on childhood domains relevant for adult mental wellbeing across 3 British birth cohorts:
  - Family socio-economic circumstances
  - Child rearing and parenting
  - Family instability
  - Parental health
  - Child health and behaviour
2. Where possible to create comparable measures across the cohorts
3. Using a coordinated approach to the analysis to identify predictors of adult mental wellbeing from across these domains

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# METHODOLOGY

# Data: birth years of the cohorts

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National Survey of Health and Development  
b.1946



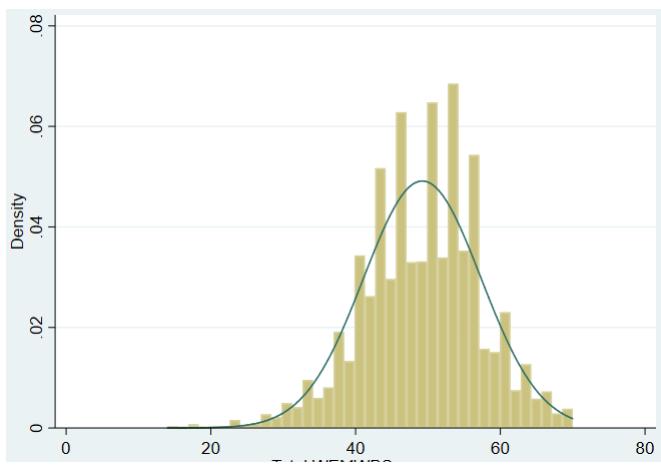
National Child Development Study  
b.1958



British Cohort Study 1970  
b.1970

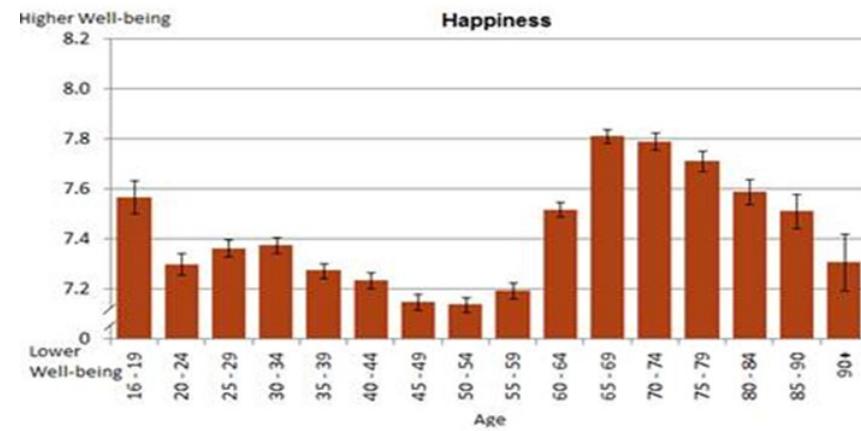
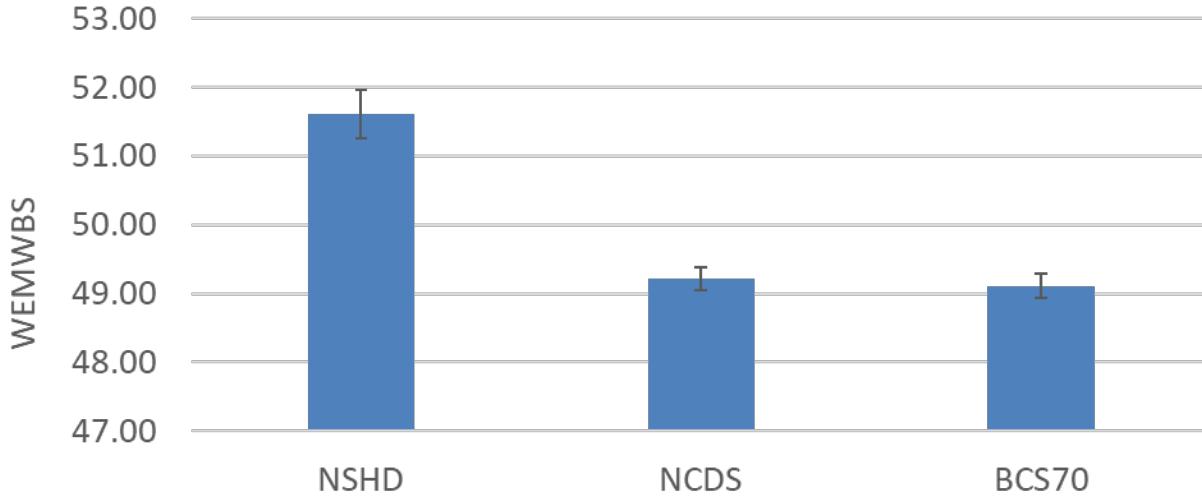
# Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

- 14 item scale
- Totaled score 14 – 70
- Measured at age:
  - 63 years - NSHD
  - 50 years - NCDS
  - 42 years - BCS70



STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

# Wellbeing



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# **DERIVING MEASURES OF CHILDHOOD ENVIRONMENT ACROSS 3 COHORTS**

# Approach to creating measures of childhood environment

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- Recognised the limits of retrospective harmonisation across all these childhood environment domains
- Approach was to try to identify variables that capture similar constructs for each of these domains in each of the cohorts
- Recategorised existing variables to be comparable across the cohorts
- Derive average/cumulative exposure across childhood where repeat measures allow
- Use same ages in each cohort where possible

# Family socio-economic measures (1)

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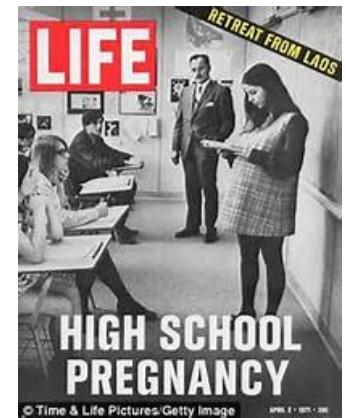
- Father's social class – harmonised in CLOSER WP2
- Parental education: age left full time continuous education - harmonised in CLOSER WP2
- Mean overcrowding in childhood at multiple time points (persons per room)
  - NSHD: 2, 4, 6, 8 and 11 years
  - NCDS: 7, 11 and 16 years
  - BCS70: 5 years



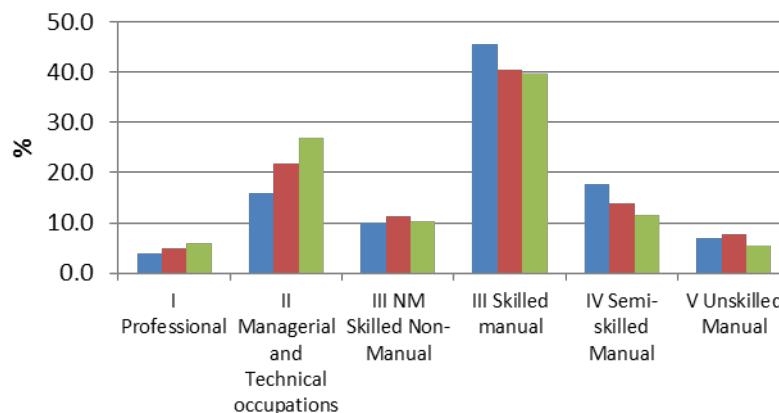
# Family socio-economic measures (2)

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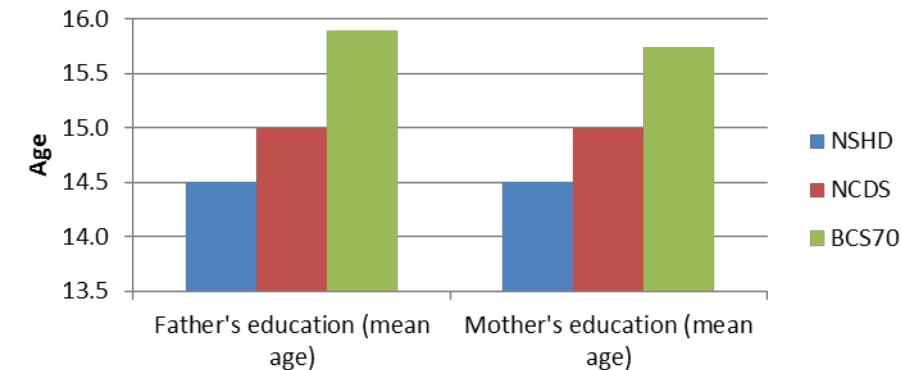
- Lacking any household amenities in childhood at multiple time points: bathroom, or kitchen, or hot water
  - NSHD: 2 and 11 years
  - NCDS: 7 and 11 years
  - BCS70: 5 and 10 years (age 10 only bathroom or kitchen)
- Tenure at two time points in childhood
  - NSHD: 2 and 11 years
  - NCDS: 7 and 11 years
  - BCS70: 5 and 10 years
- Teen parents



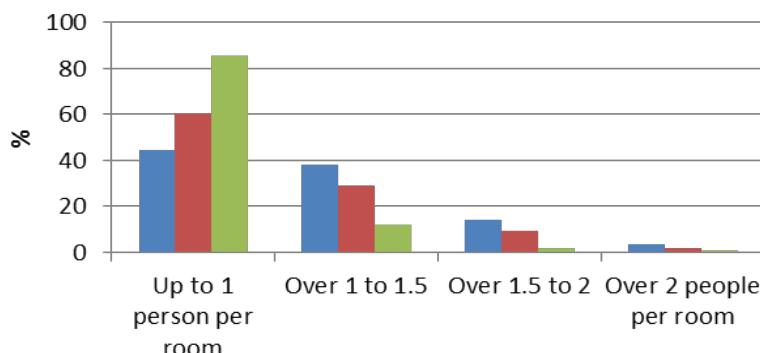
## Father's social class



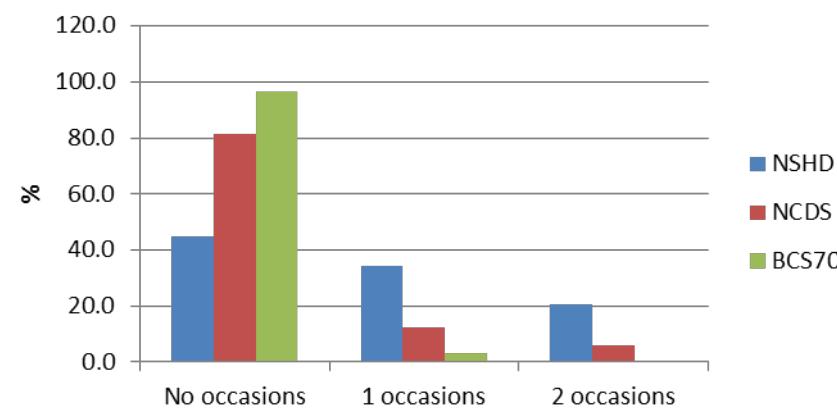
## Parental education



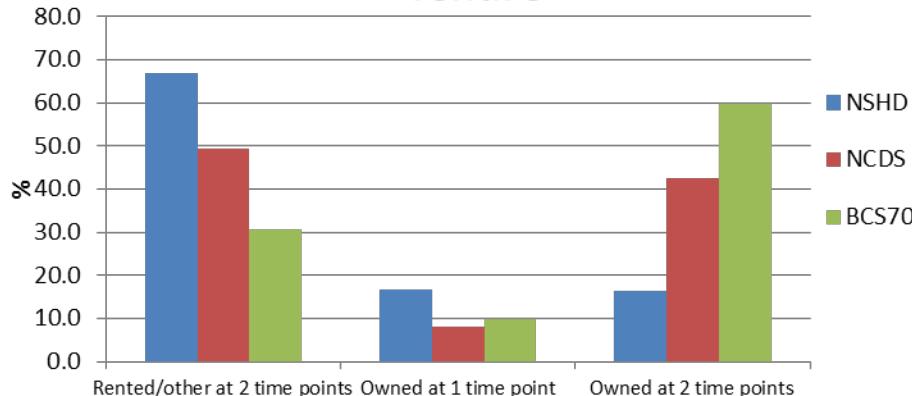
## Overcrowding



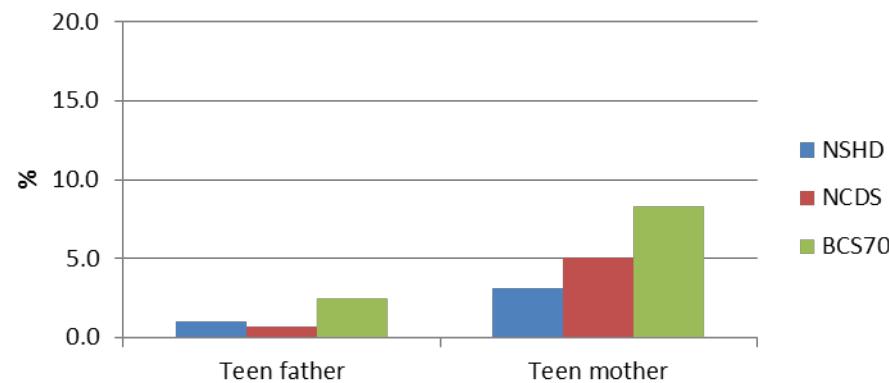
## Lack of household amenities



## Tenure



## Teen parents



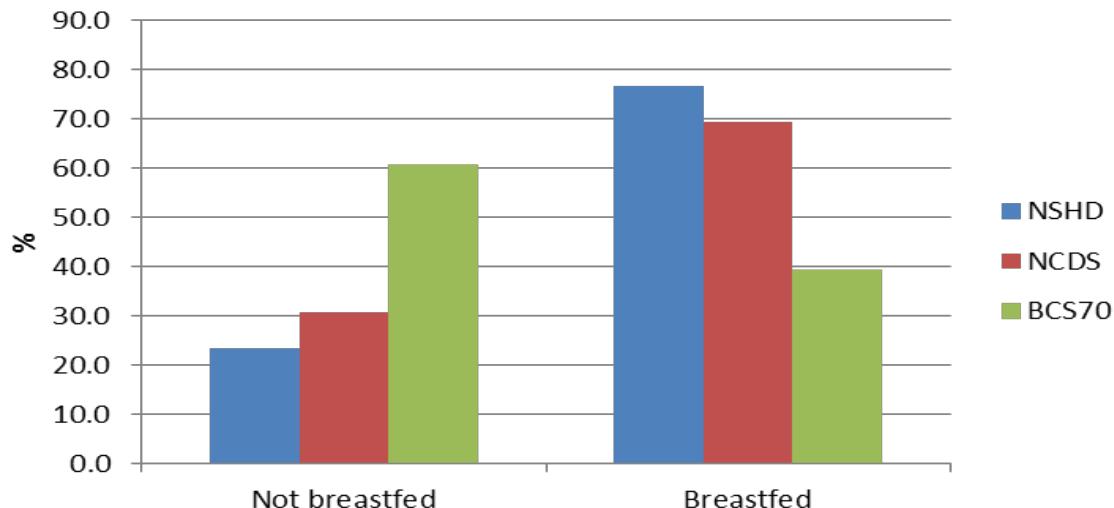
# Parenting and child-rearing

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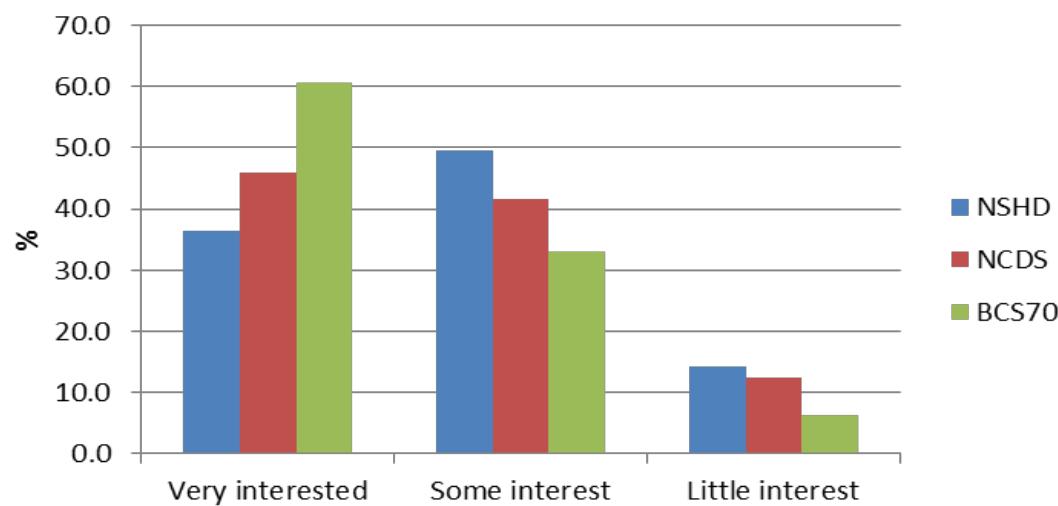
- Whether breastfed or not
- Parent's interest in child's education:
  - NSHD: 11 years (teacher and parent reported)
  - NCDS: 7 years (teacher reported)
  - BCS70: 10 years (teacher reported)



## Breastfed



## Parental interest in education

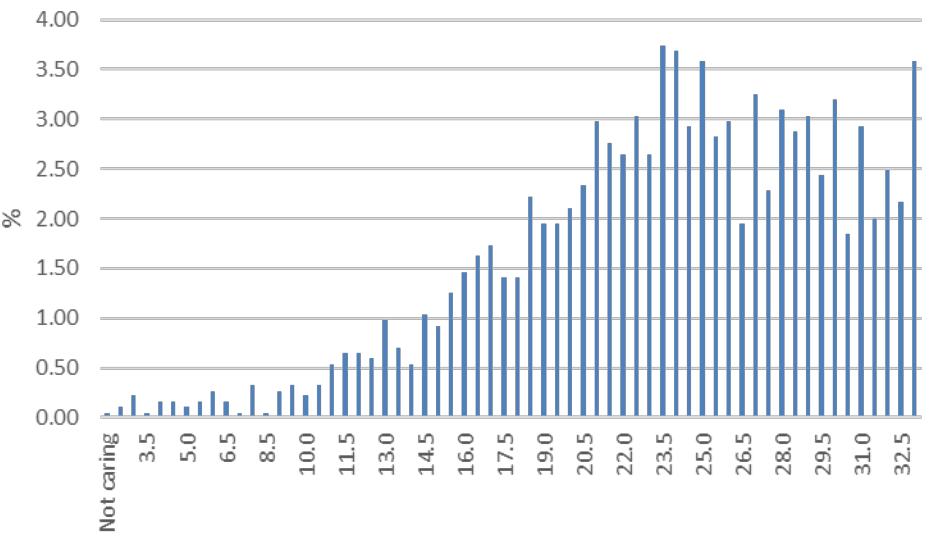


# Parenting and child-rearing – parental bonding

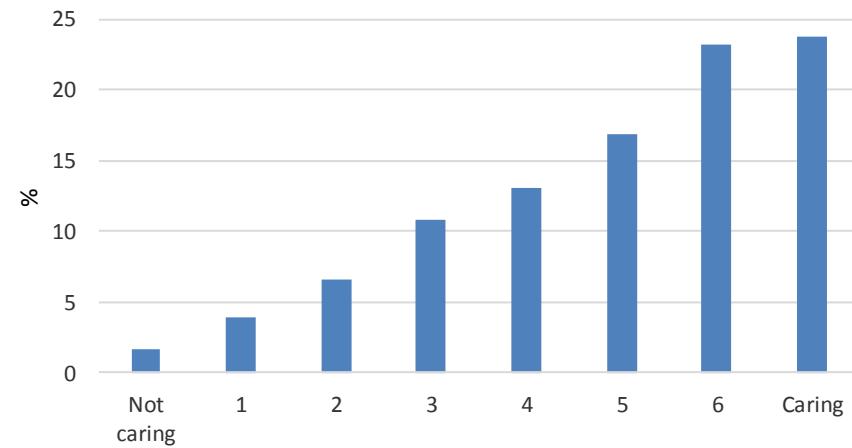
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- Parental bonding:
  - Parental care and overprotection – different versions of the parental bonding instrument in NSHD and BCS70 only.
    - NSHD retrospective (age 43), BCS70 prospective (age 16)
    - BCS70 shortened version – 11 items compared to 24 in NSHD
    - NSHD each parent separately, BCS70 both parents
- Gets on well with parents – NCDS only (age 16)

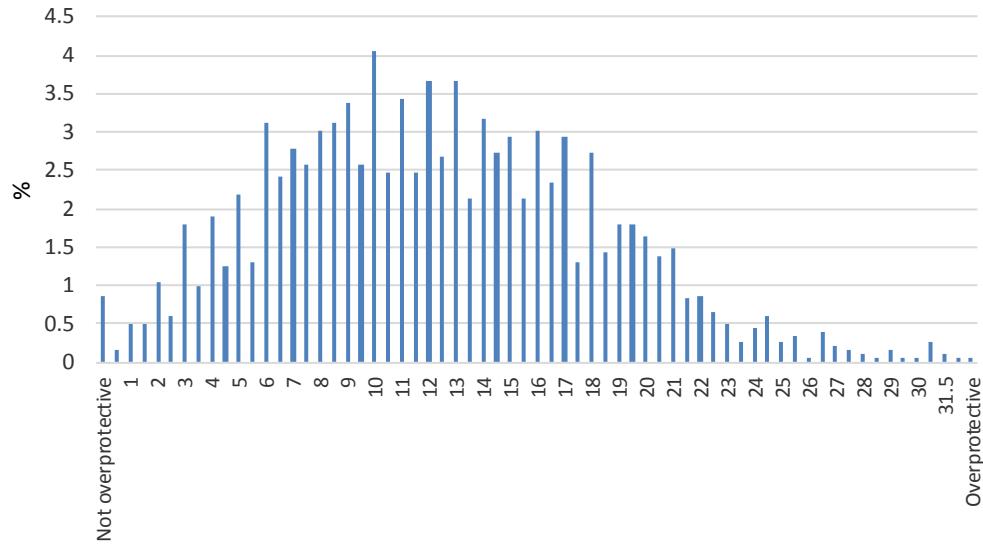
### NSHD - caring



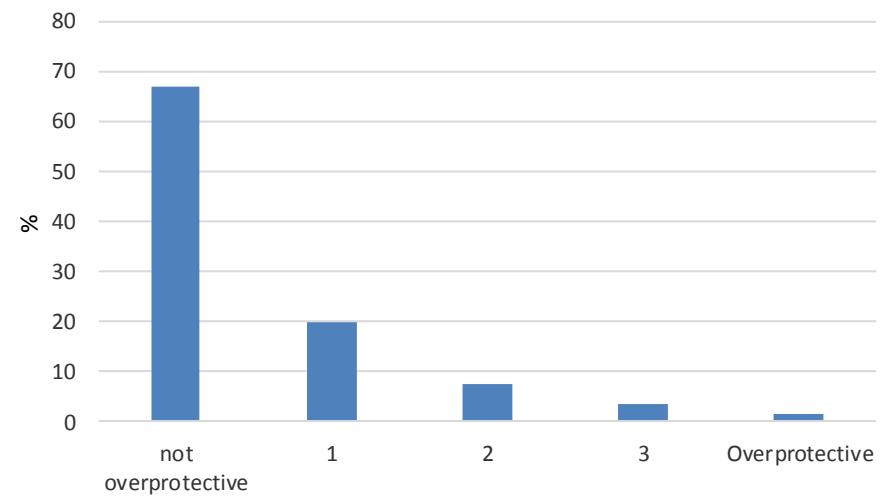
### BCS70: caring



### NSHD: overprotection



### BCS70: overprotection



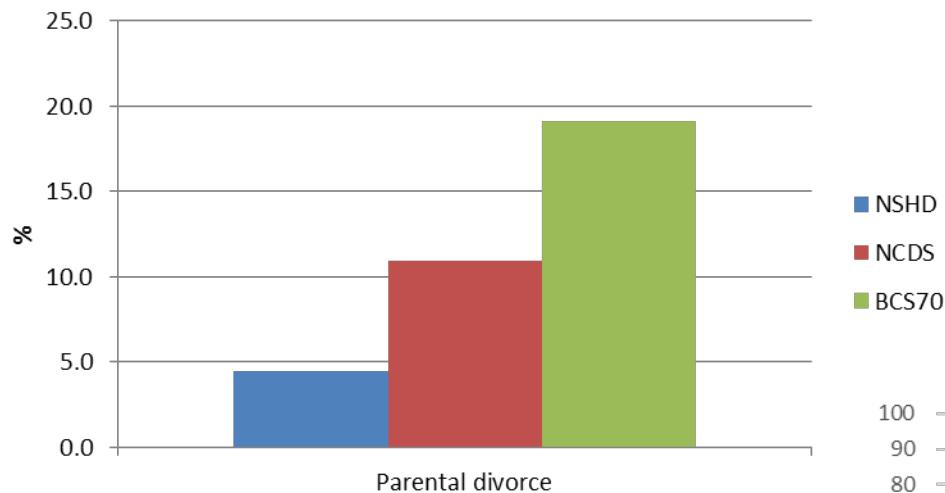
# Family instability

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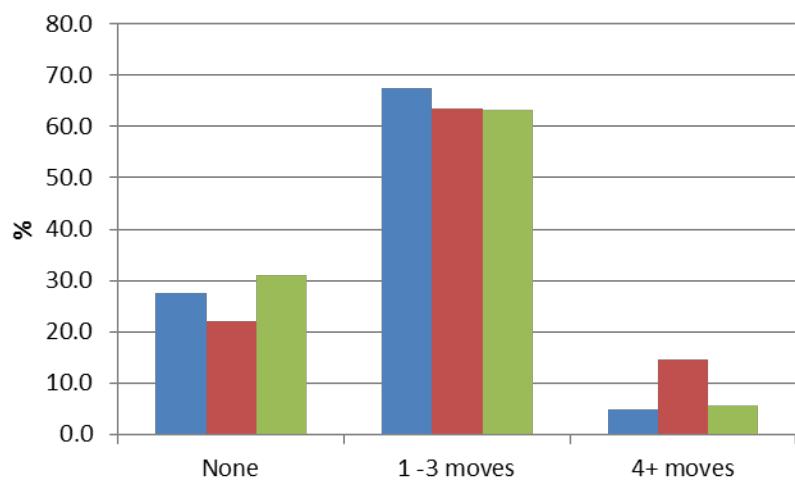
- Parental divorce – whether experienced divorce up to age of 16 years
- Whether ever separated from mother
  - NSHD – at age 4 – short-term i.e. overnight
  - NCDS – at age 7 – short-term i.e. overnight
  - BCS70 – 0–10 years – long-term separation
- Residential moves – number of moves 0/1-3/4+
  - NSHD – age 15
  - NCDS – age 16
  - BCS70 – age 10



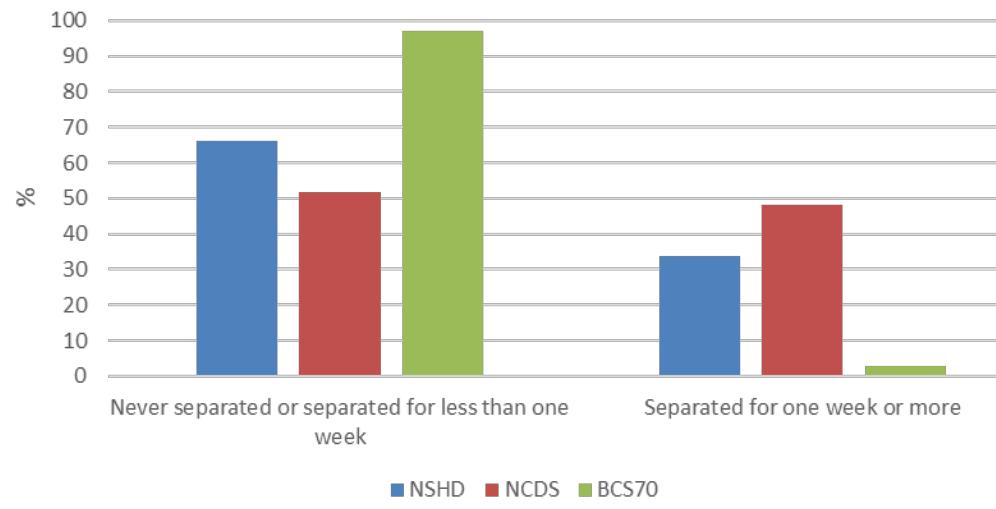
## Parental divorce



## Residential moves



## Separation from mother



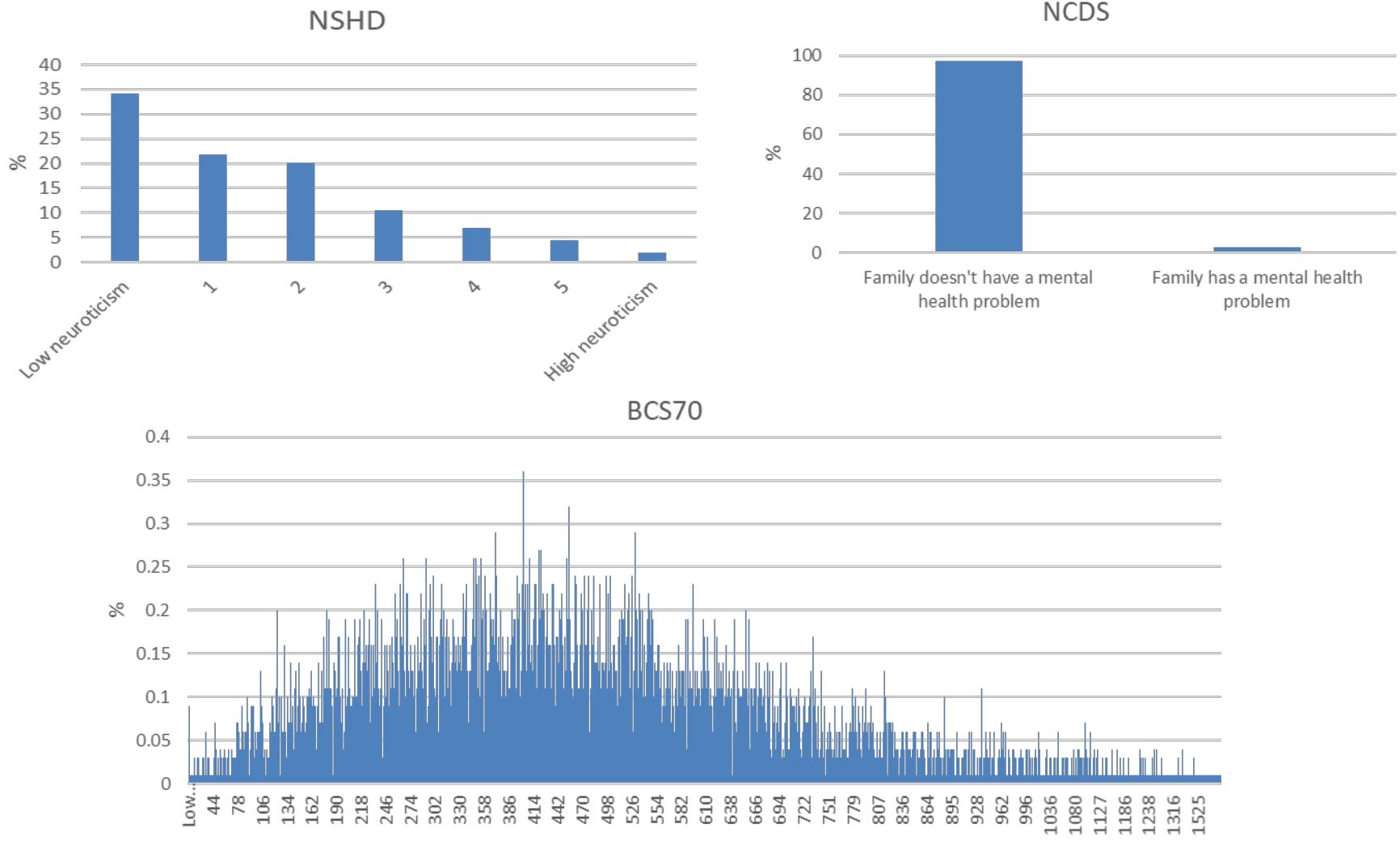
■ NSHD  
■ NCDS  
■ BCS70

# Parental health

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- Parent's chronic health conditions:
  - NSHD (age 15) and NCDS (age 11) – list of health conditions
    - NSHD: asthma, eczema or hay fever, chronic cough, rheumatism in joints, anaemia, nervous / psychological, heart trouble, kidney trouble, other
    - NCDS: respiratory, psychiatric, subnormal-ESN, urogenital, alimentary, locomotor, neurological, infectious, special senses, cardiovascular, dermatological, other
  - BCS70 (age 10) – whether mother or father had an illness
- Mother's / family mental health
  - NSHD – Maudseley Personality Inventory (neuroticism), age 15
  - NCDS – family difficulties with mental health, age 7
  - BCS70- mother's malaise score (Rutter scale), age 10

# Maternal / family mental health



# Child health

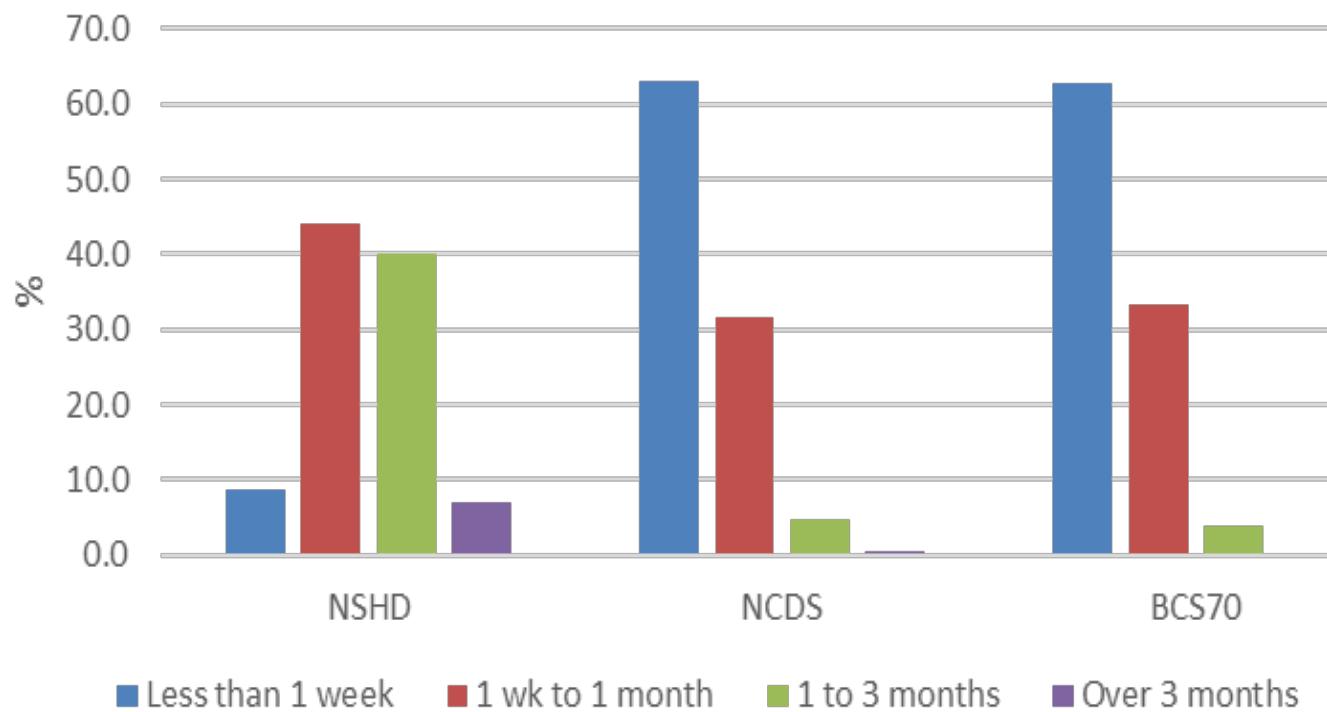
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- Birthweight
- Absence from school due to ill health
  - NSHD: age 6 to 10
  - NCDS: age 11
  - BCS70: age 10
- Child internalising and externalising disorders
  - NSHD: precursor to Rutter scale (teacher rated at age 13 and 15)
  - NCDS: Rutter behaviour scale (teacher rated at age 16)
  - BCS70: Rutter behaviour scale (parent rated at age 16)

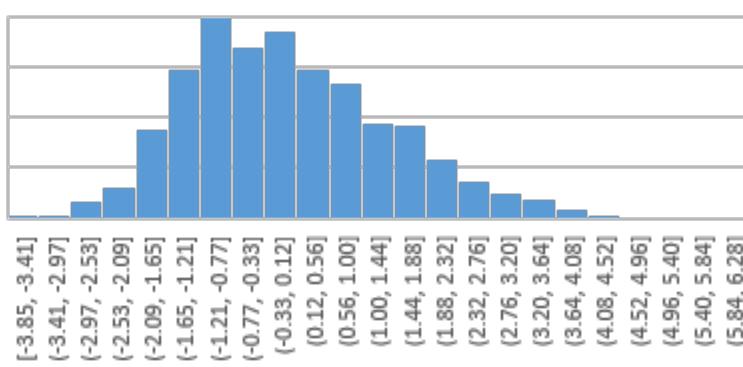


# Absence from school due to ill health

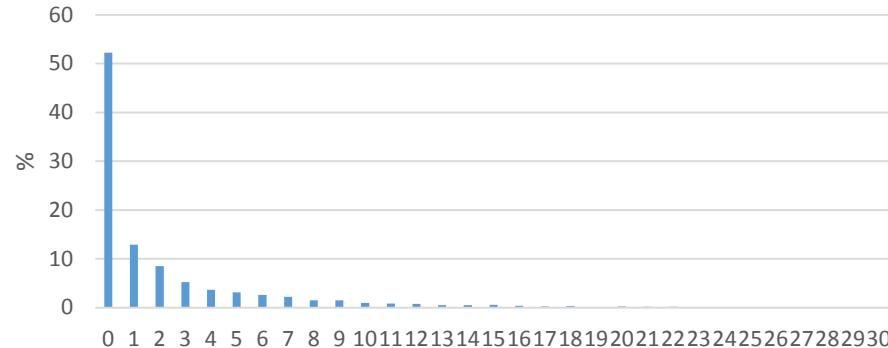
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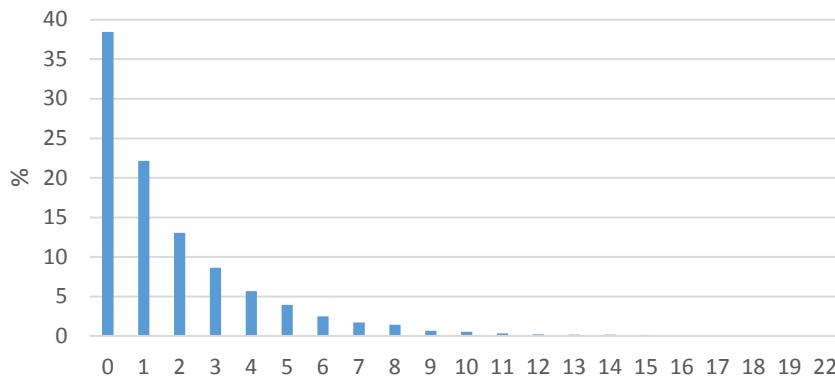
### NSHD - externalising



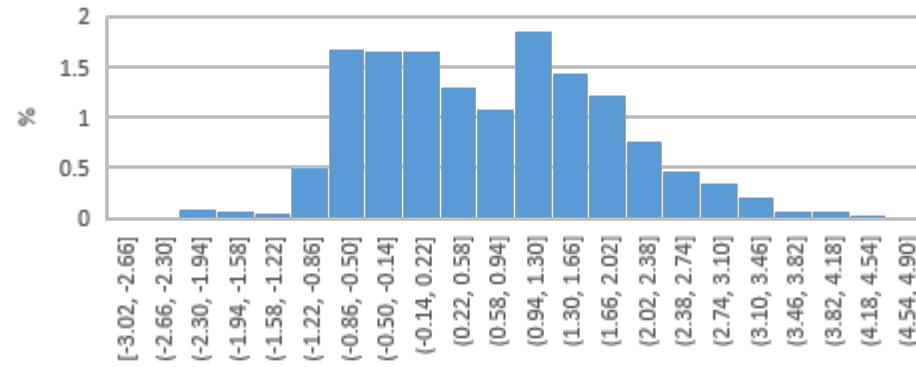
### NCDS - externalising



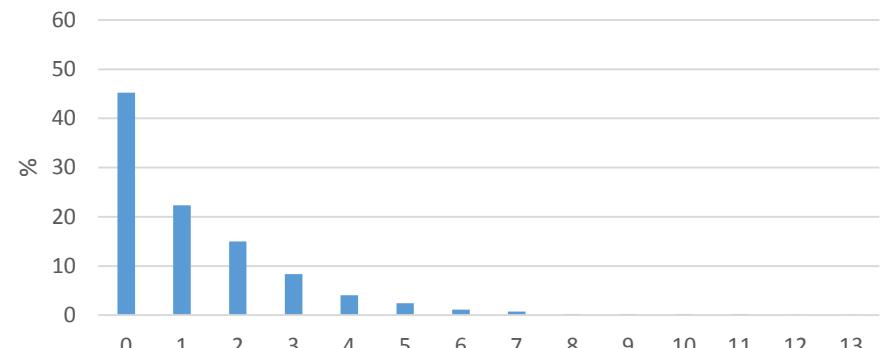
### BCS70 - externalising



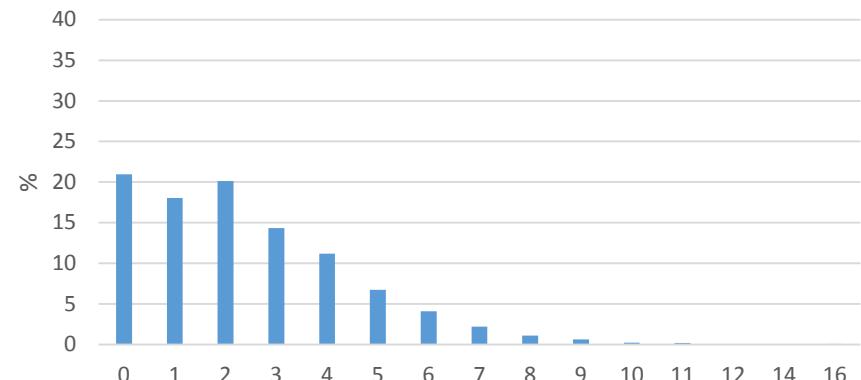
### NSHD - Internalising



### NCDS - internalising



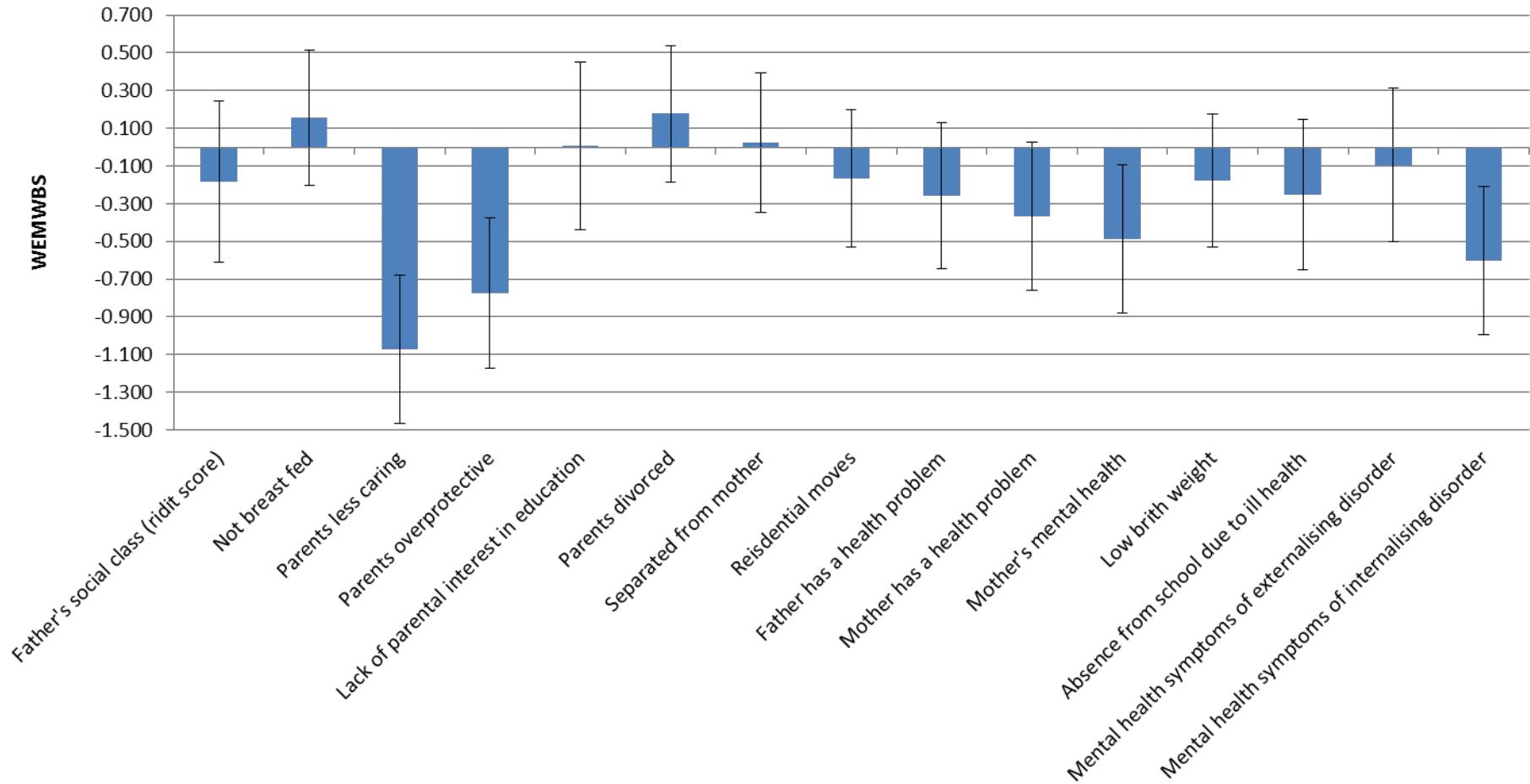
### BCS70 - internalising



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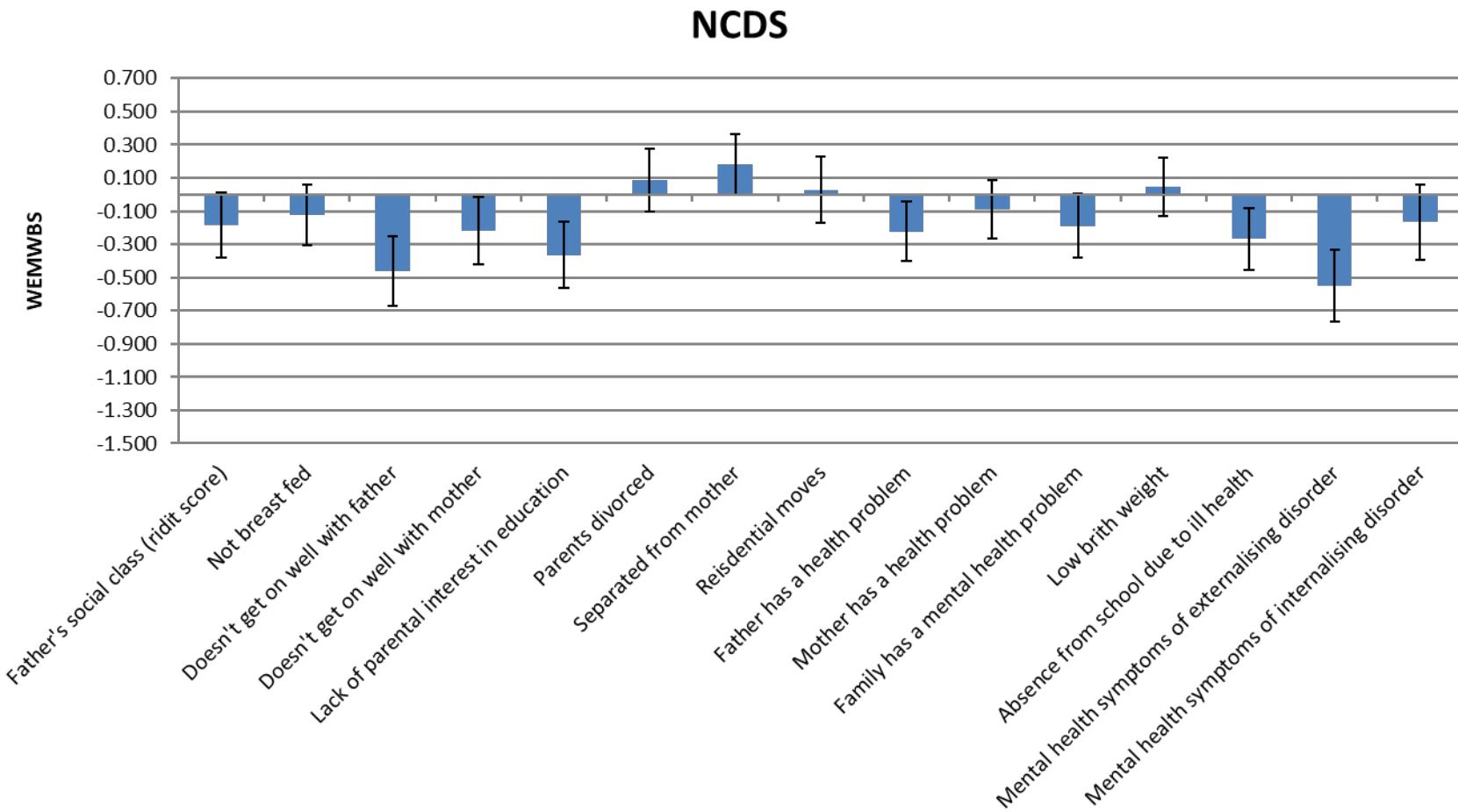
# Findings

# Childhood environment and adult mental wellbeing: NSHD



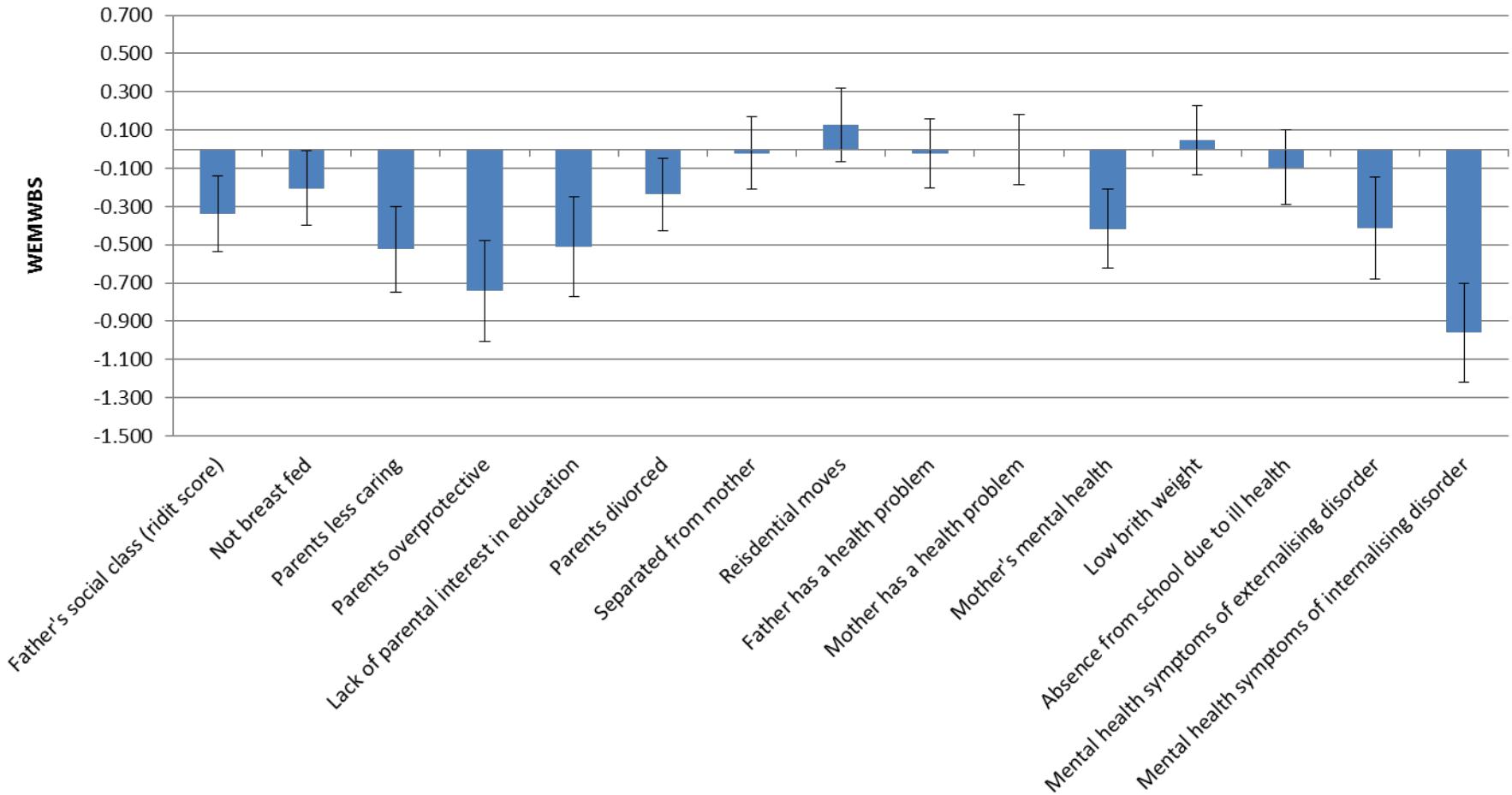
*Mutually adjusted across all childhood domains*

# Childhood environment and adult mental wellbeing: NCDS



*Mutually adjusted across all childhood domains*

# Childhood environment and adult mental wellbeing: BCS70



*Mutually adjusted across all childhood domains*

# Summary

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- Different measures across the three cohorts unable to harmonise
- Underlying concepts comparable
- Socioeconomic measures – changes in the social context
  - E.g. changes in home ownership between NSHD and BCS70
- Despite differences in measures there were similar associations with wellbeing across the cohorts

# Acknowledgements

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- Mai Stafford [The Health Foundation](#)
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- David Bann [Centre for Longitudinal Studies, Institute of Education at UCL](#)
- Catharine Gale [Southampton University](#)
- CLOSER

