

Does breastfeeding cluster with other demographic traits to form distinct reproductive strategies?

Testing the fast versus slow life-history assumption with two UK cohort studies

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Laura J Brown

PhD Student (Supervisor: Dr Rebecca Sear)

Department of Population Health



@lolabear88

Laura.brown@lshtm.ac.uk

Outline

- Summary of previous studies
- Fast versus slow life histories
- Methods
- Findings
- Conclusions

Summary of previous papers

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Datasets

19,000 children born across the UK
between 2000 and 2002

- Wave 1 (9m)
- Wave 2 (3yrs)

13,500 children born at Bradford Royal
Infirmary between Mar 2007 and Dec 2010

- Main questionnaire (26-28wks gestation)
- Sub-cohort studies (6m, 1yr, 2yrs, 3yrs, 4yrs)
- Child health records
- Water chlorination records
- ESCAPE study (Pedersen et al., 2013)

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 *We are family*
BORN IN BRADFORD

Summary of previous papers – Paper 1



Local environmental quality positively predicts breastfeeding in the UK's Millennium Cohort Study

Laura J Brown* and Rebecca Sear

Volume 2017, Issue 1, 1 January 2017, Pages 120-35,
<https://doi.org/10.1093/emph/eox011>

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Subjective
environmental
quality



A collage of images illustrating objective environmental quality. It includes: a window with broken glass; a metal gate; a damaged silver car; a sidewalk covered in trash; a yellow dog silhouette with the text 'CLEAN IT UP'; a street scene with a fight; a wall covered in graffiti; a woman looking concerned; a person in a hoodie in a dark hallway; and a hand holding a clipboard and pen.

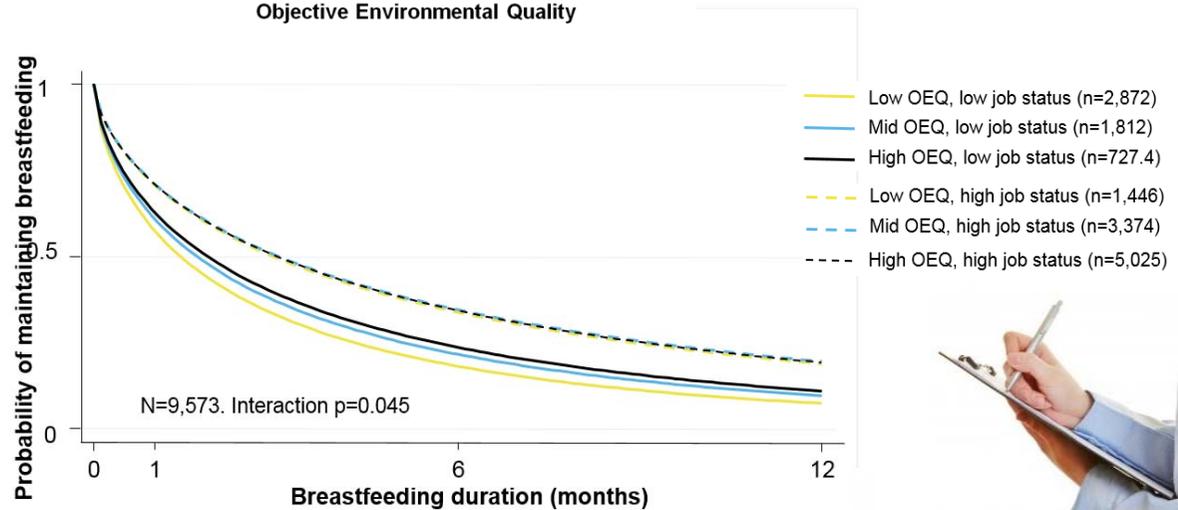
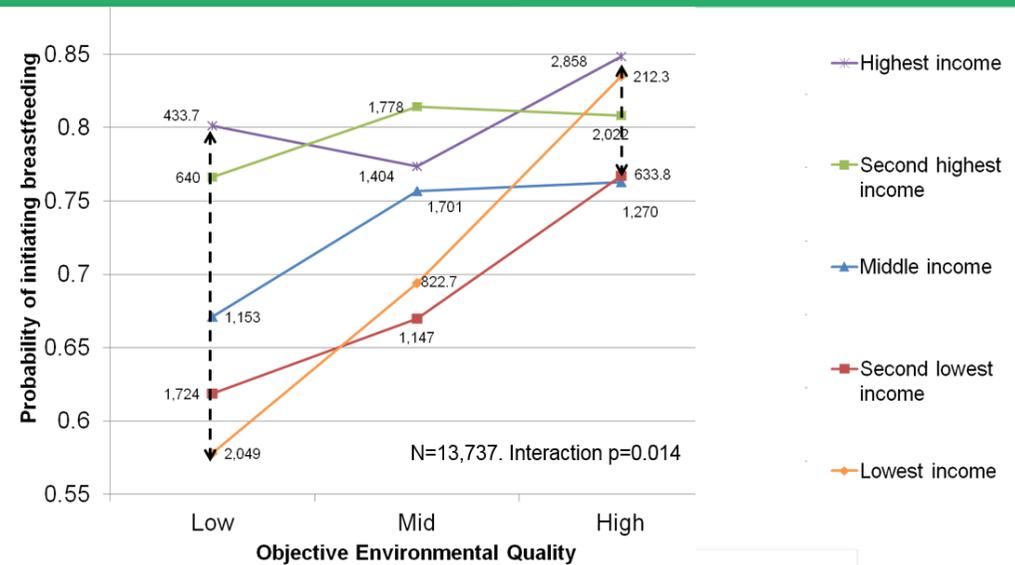


Key findings – Paper 1

Breastfeeding initiation



Breastfeeding termination

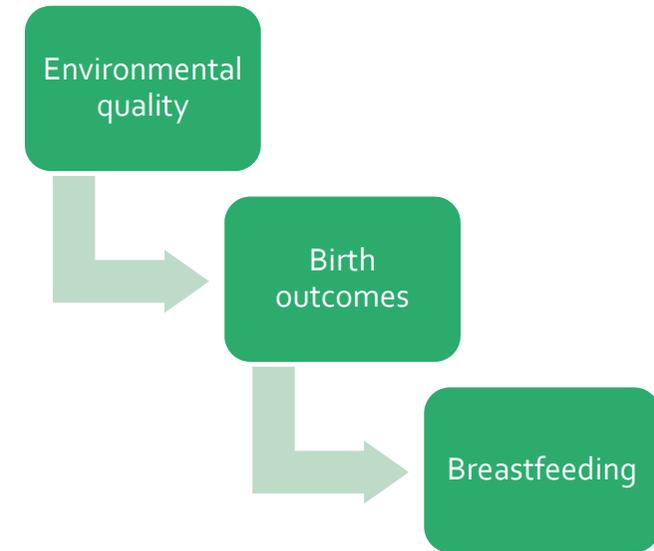
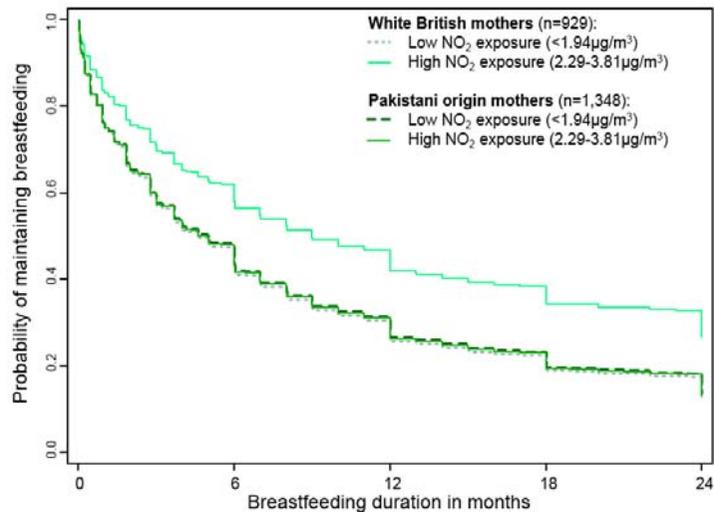
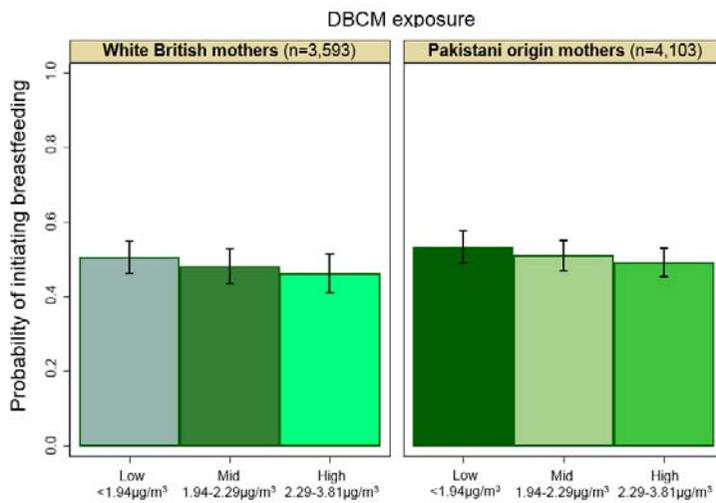
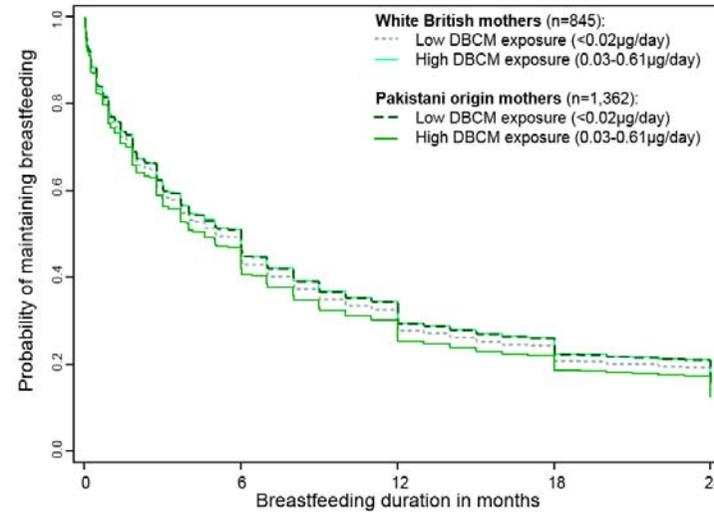
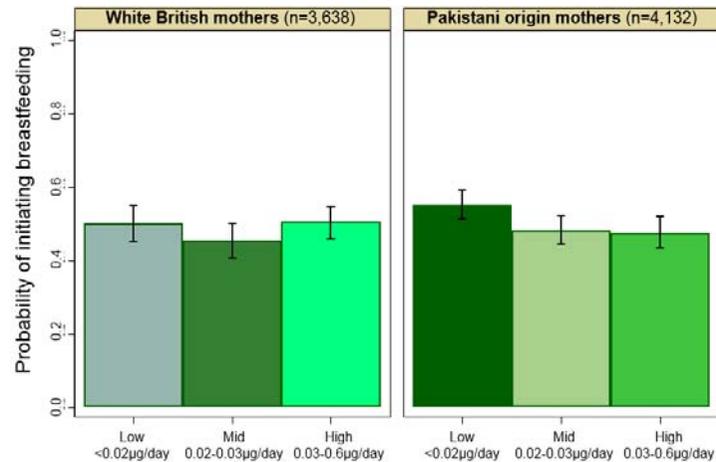


Summary of previous papers – Paper 2

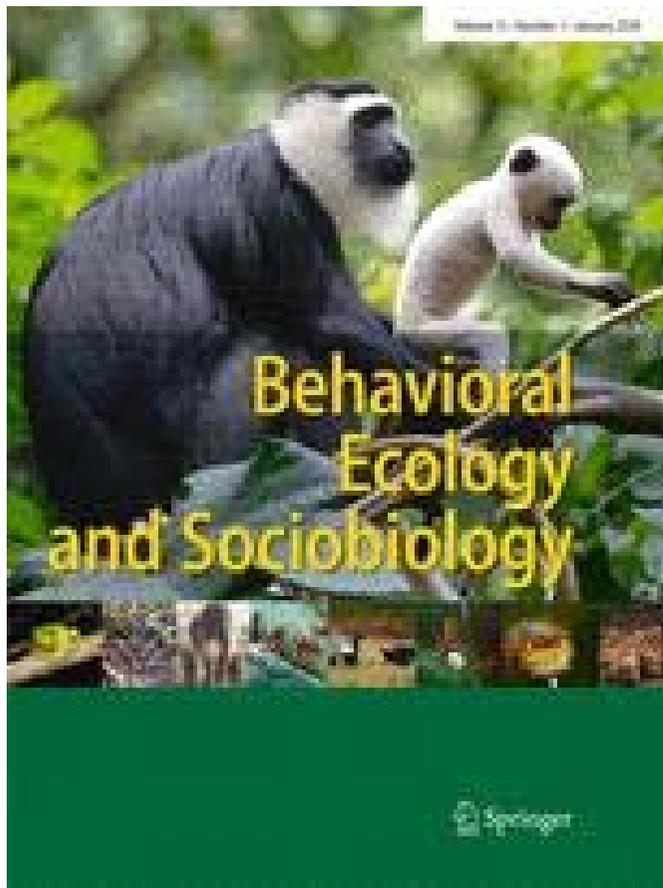
Are mothers less likely to breastfeed in harsh environments? Physical environmental quality and breastfeeding in a bi-ethnic UK population



Key findings – Paper 2

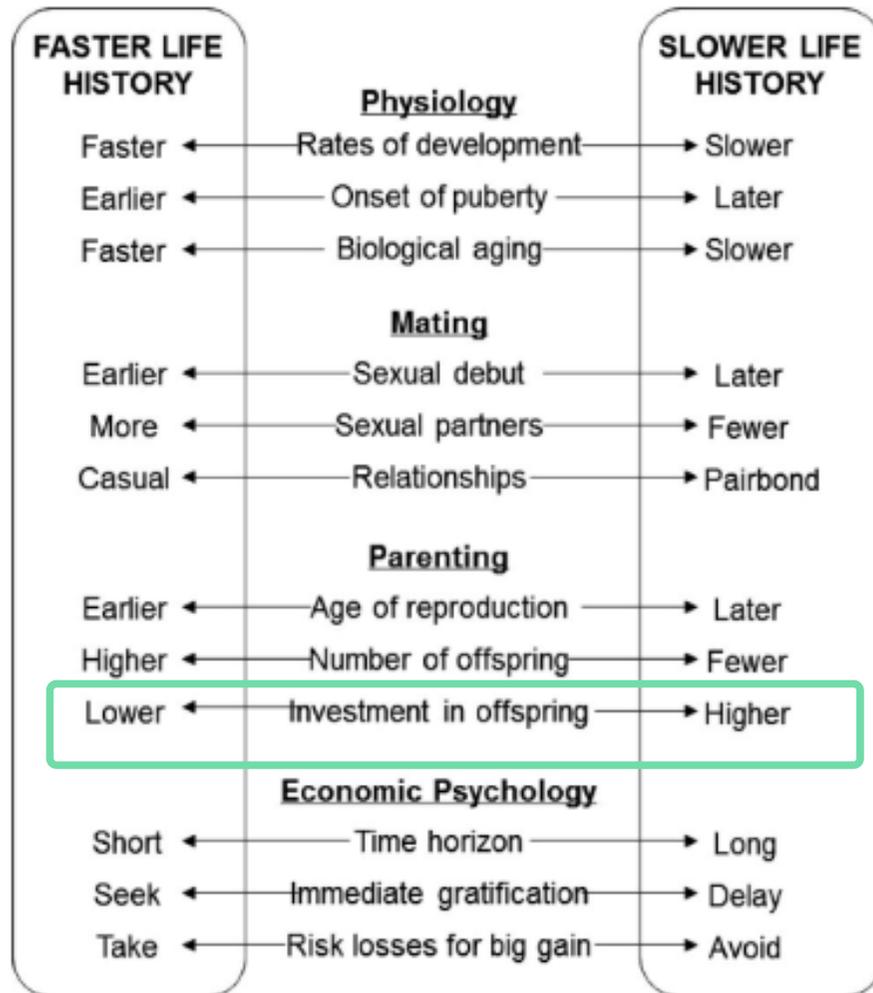


Pace-of-life syndrome



- Individual differences in behaviour should integrate with morphological, physiological, and life-history traits along a slow to fast pace-of-life continuum

Faster versus slower life history strategies



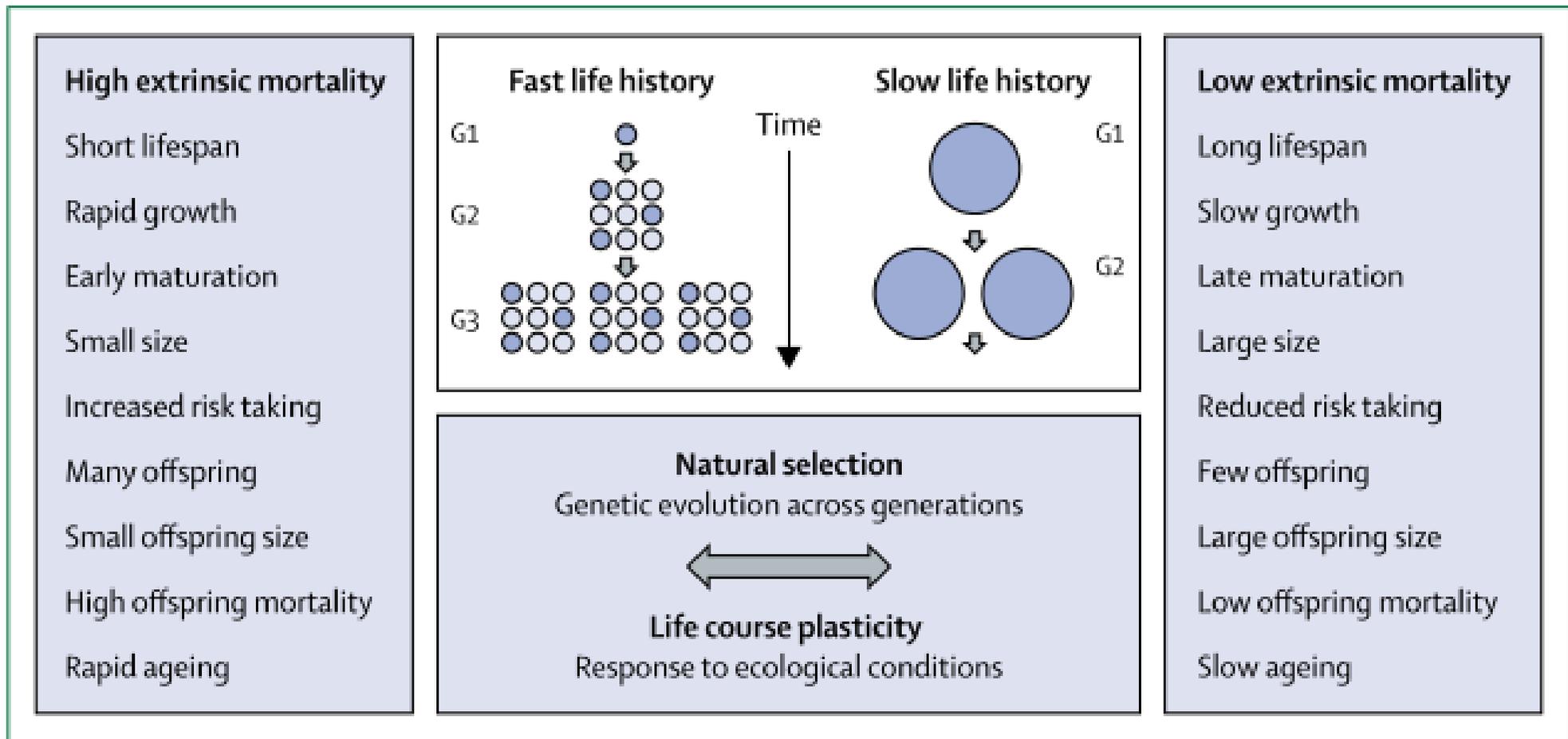


Figure 1: Life history contrasts across a fast-slow continuum

Fast life histories are favoured in environments with high mortality risk, whereas slow life histories can evolve when mortality risk reduces. These strategies might evolve under natural selection, but physiology can also respond to cues during the life course through plasticity. The size of the circles is proportional to adult body size, and filled circles indicate individuals that survive to reproduce. G1=first generation. G2=second generation. G3=third generation.

Aim:

To test whether demographic traits and parenting behaviours cluster together to form distinct “fast” or “slow” reproductive strategies consistent with life history theory predictions



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Methods

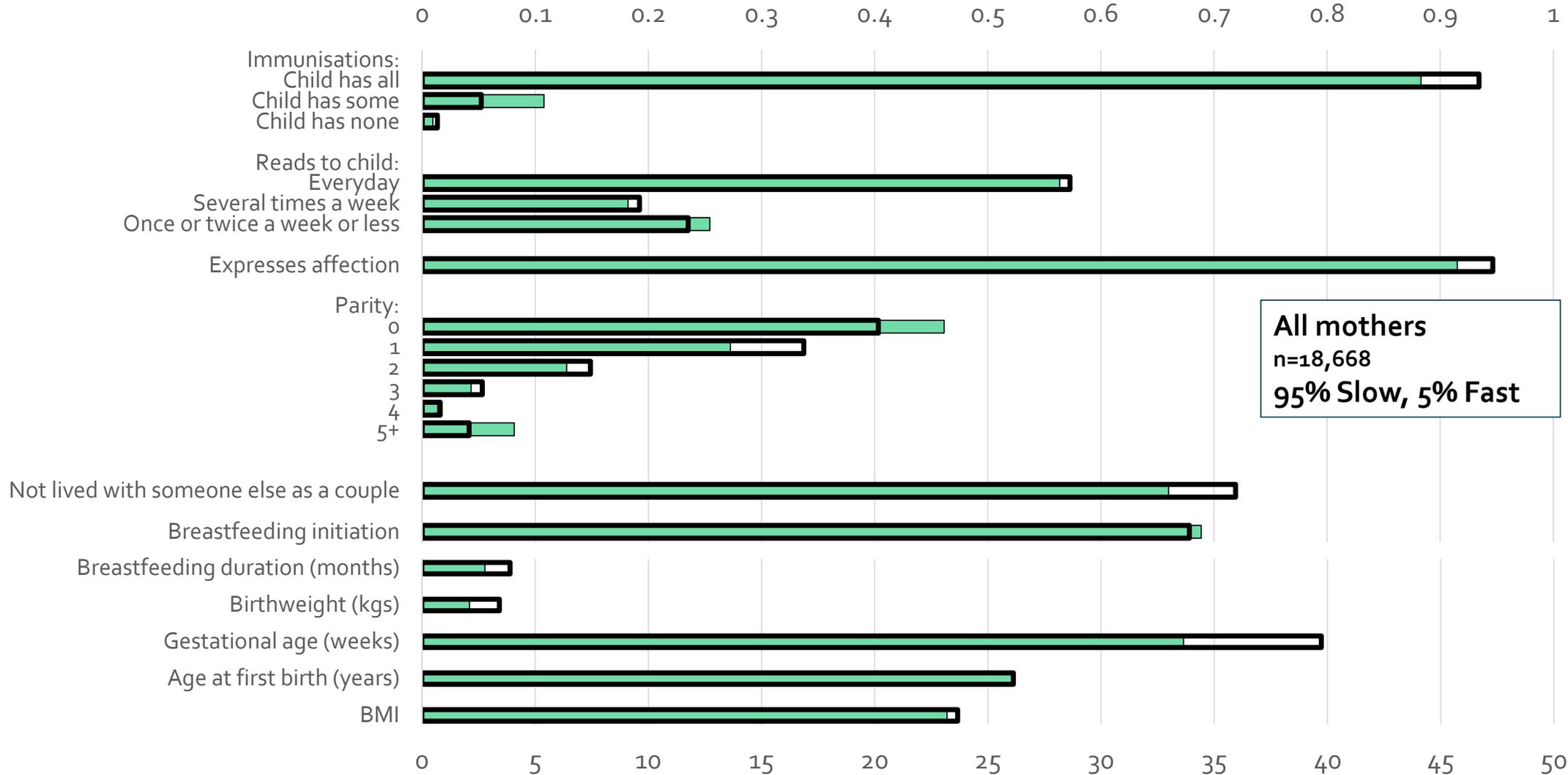
- Identified plausible **LH variables** in MCS and BiB
- **Latent class analysis (LCA)** using generalised structural equation modelling in Stata, specifying two classes
- **Compared estimated means and probabilities** for each item across the two classes
- Determined expected classifications for each individual based on predicted posterior class probabilities
- Regressed the predicted classes (0=Slow, 1=Fast) on socioeconomic position and environmental quality indicators

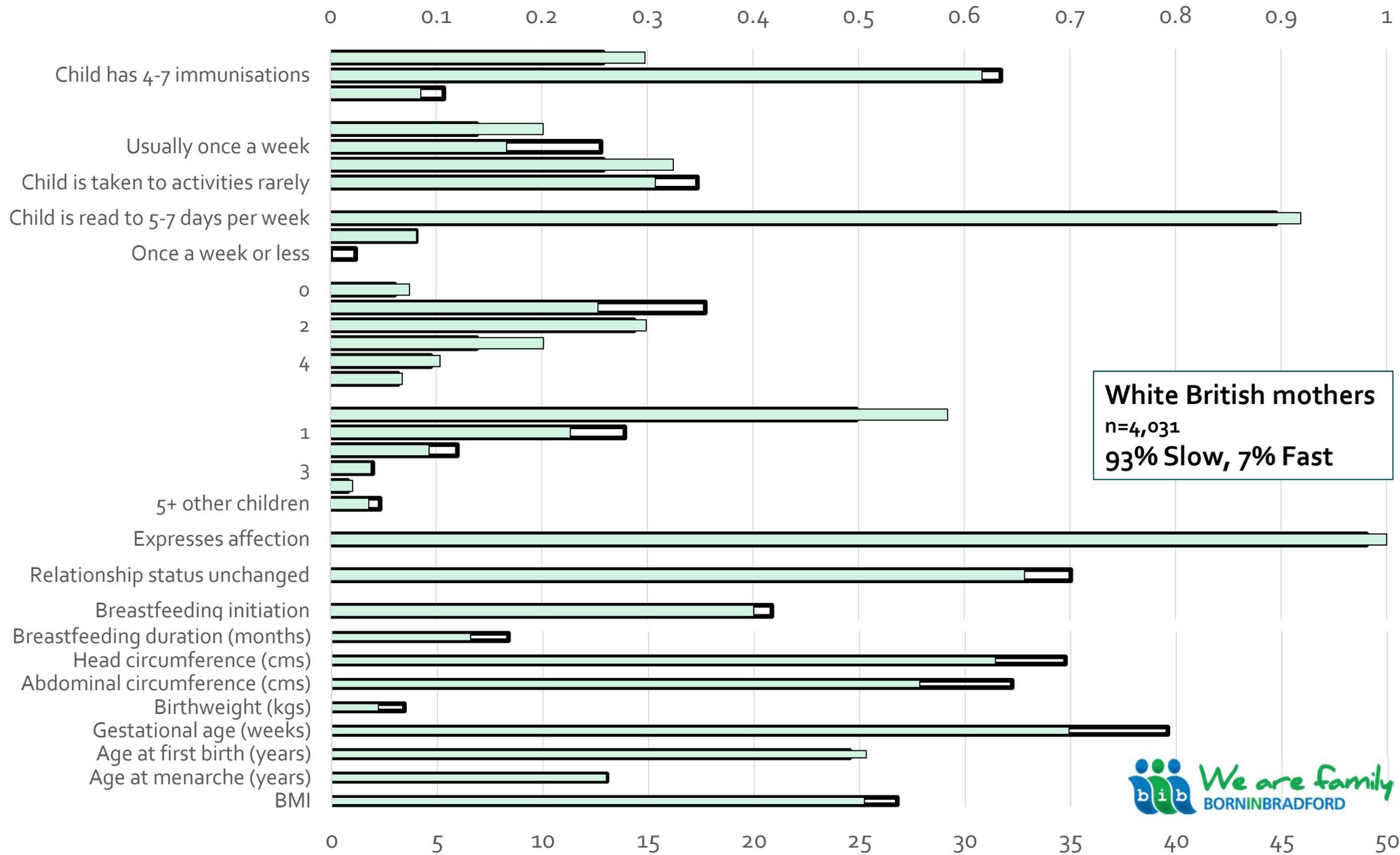


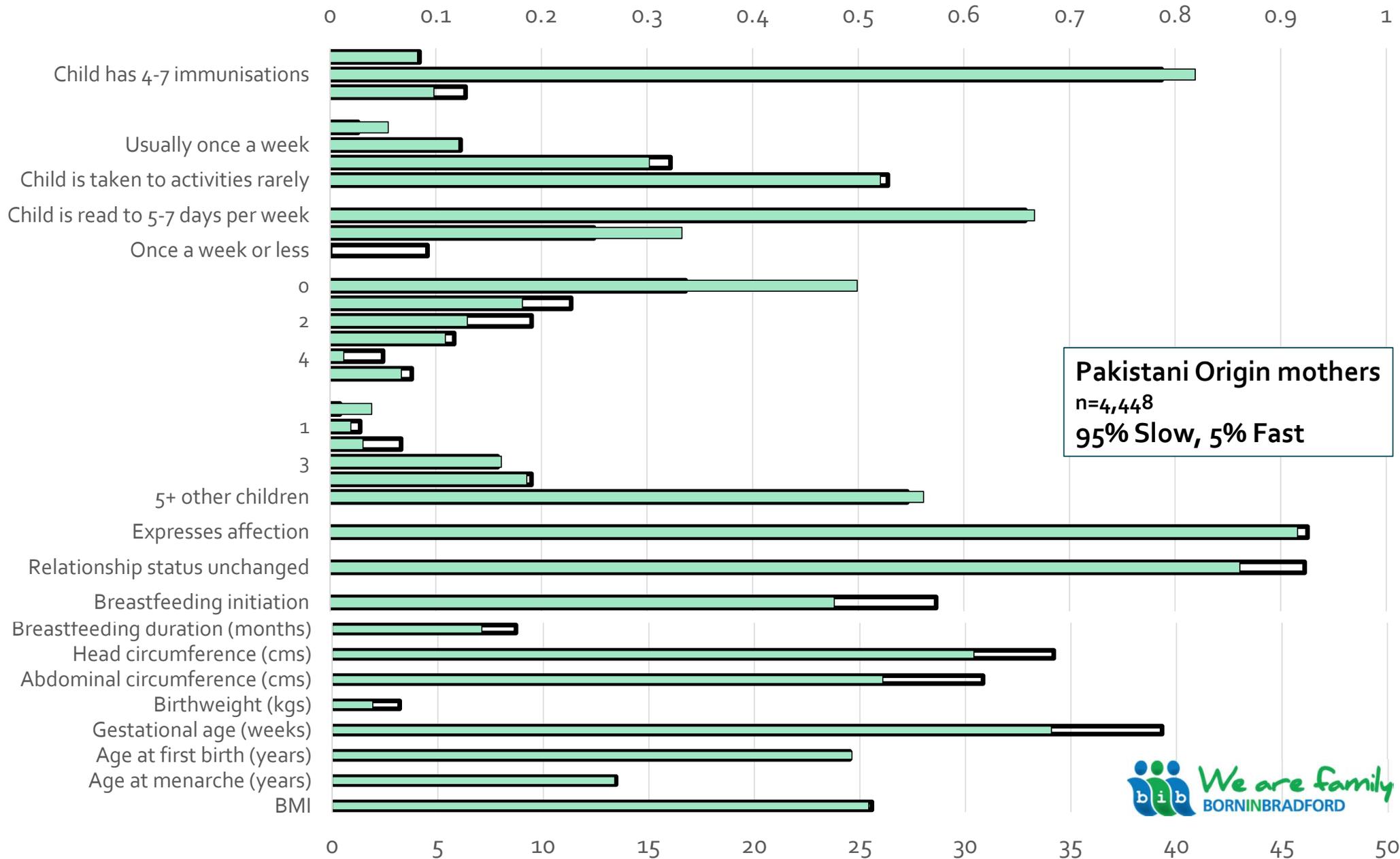
Findings



Two distinct clusters? Fast vs Slow?





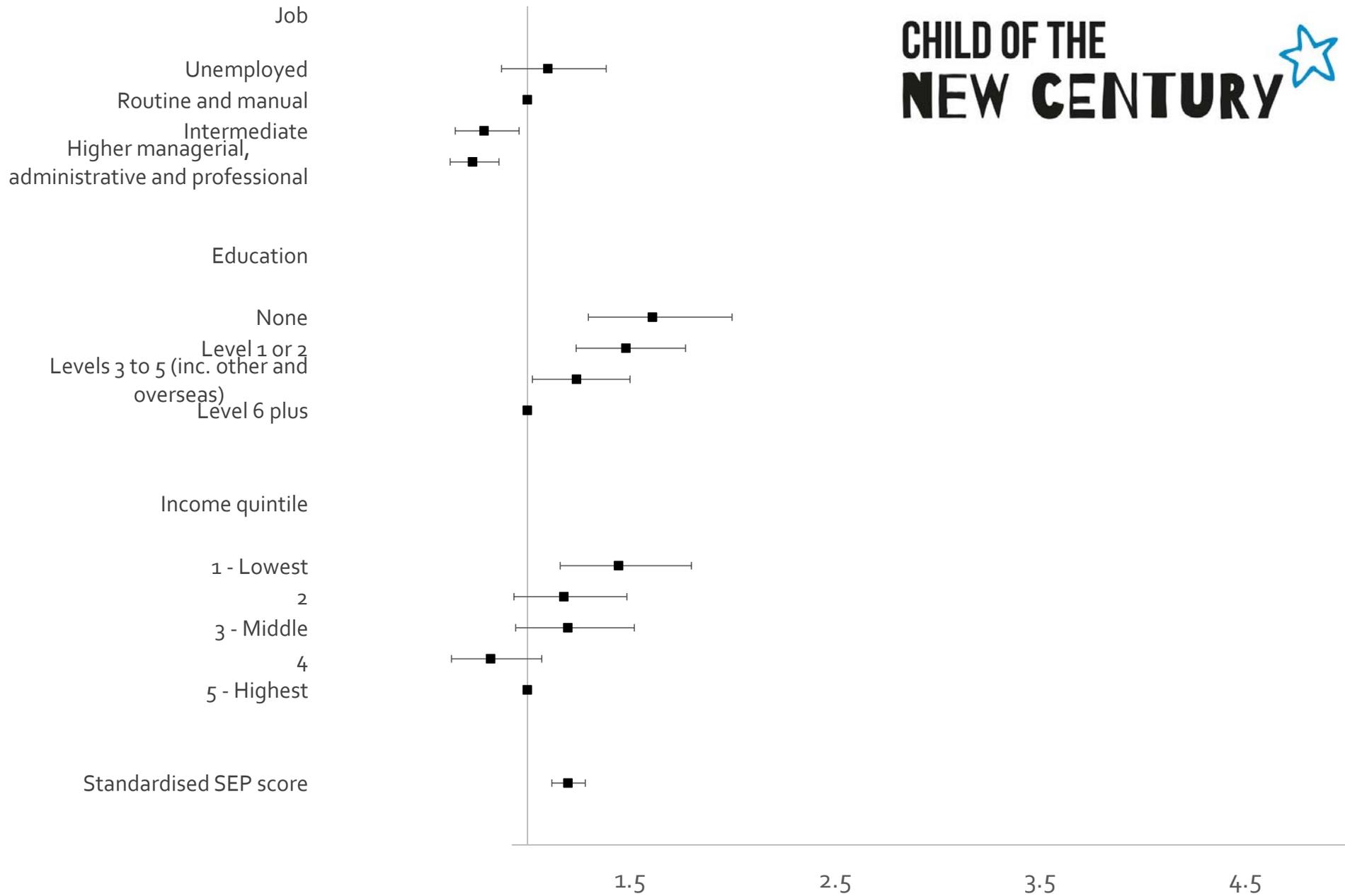


Associations with resource availability (SEP)

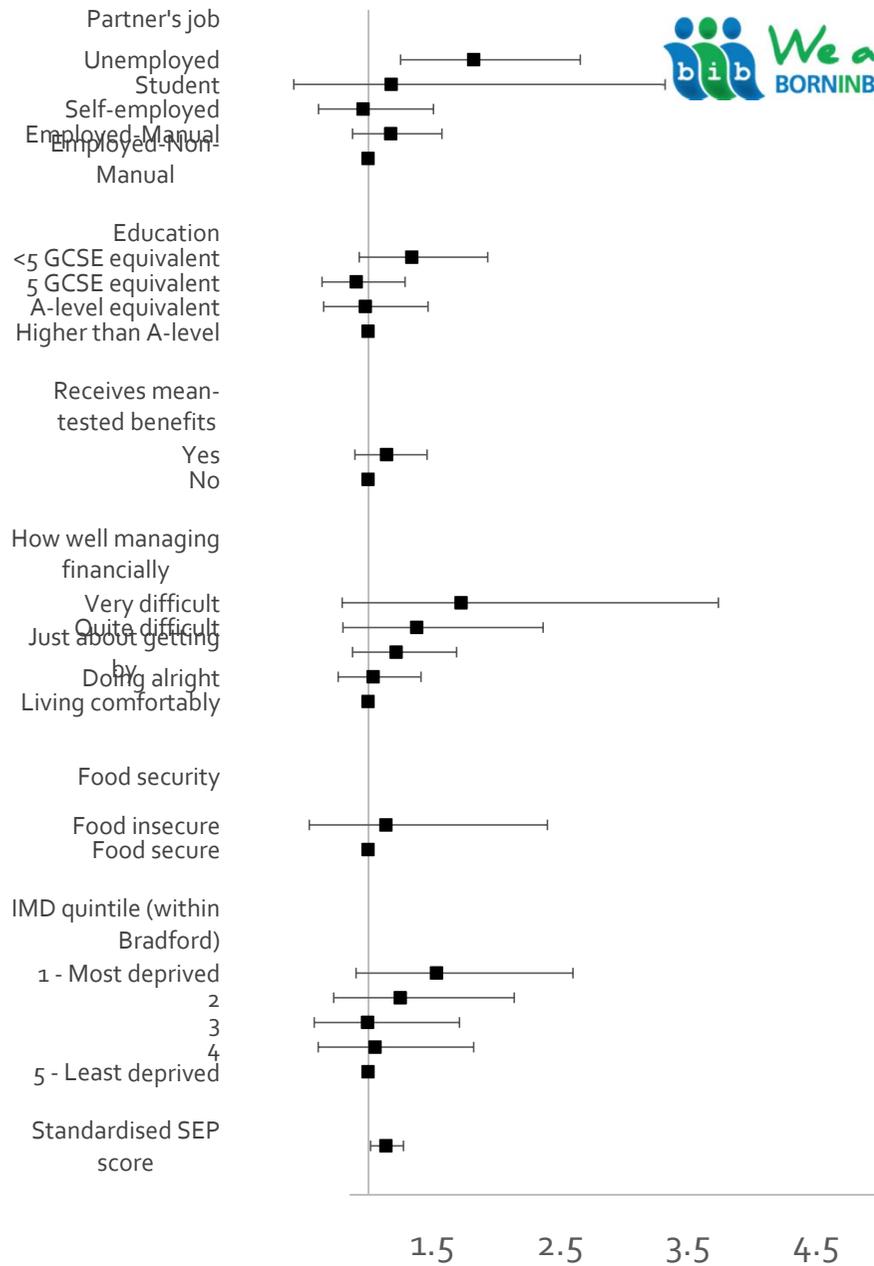
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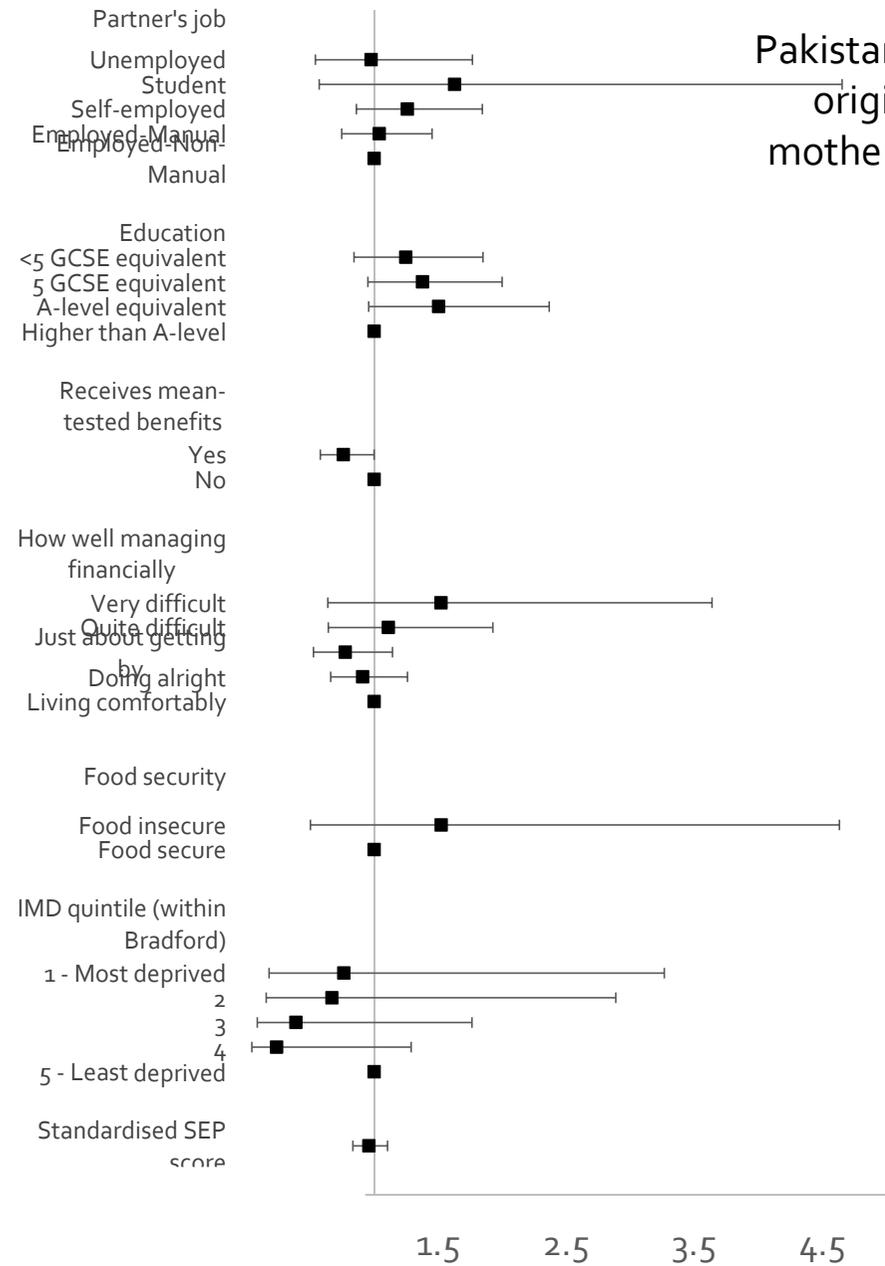
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White British mothers



Pakistani origin mothers

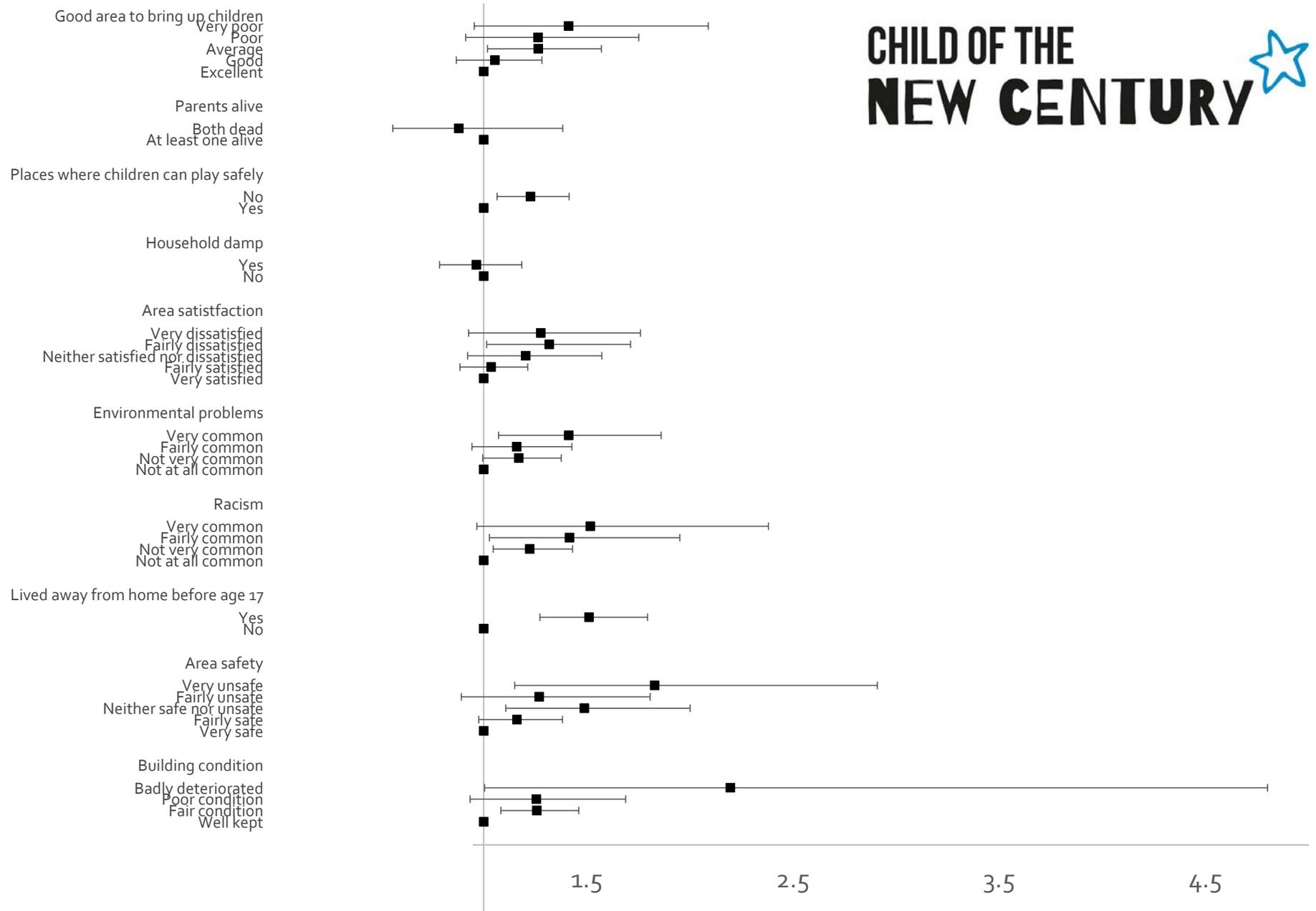


Associations with environmental quality

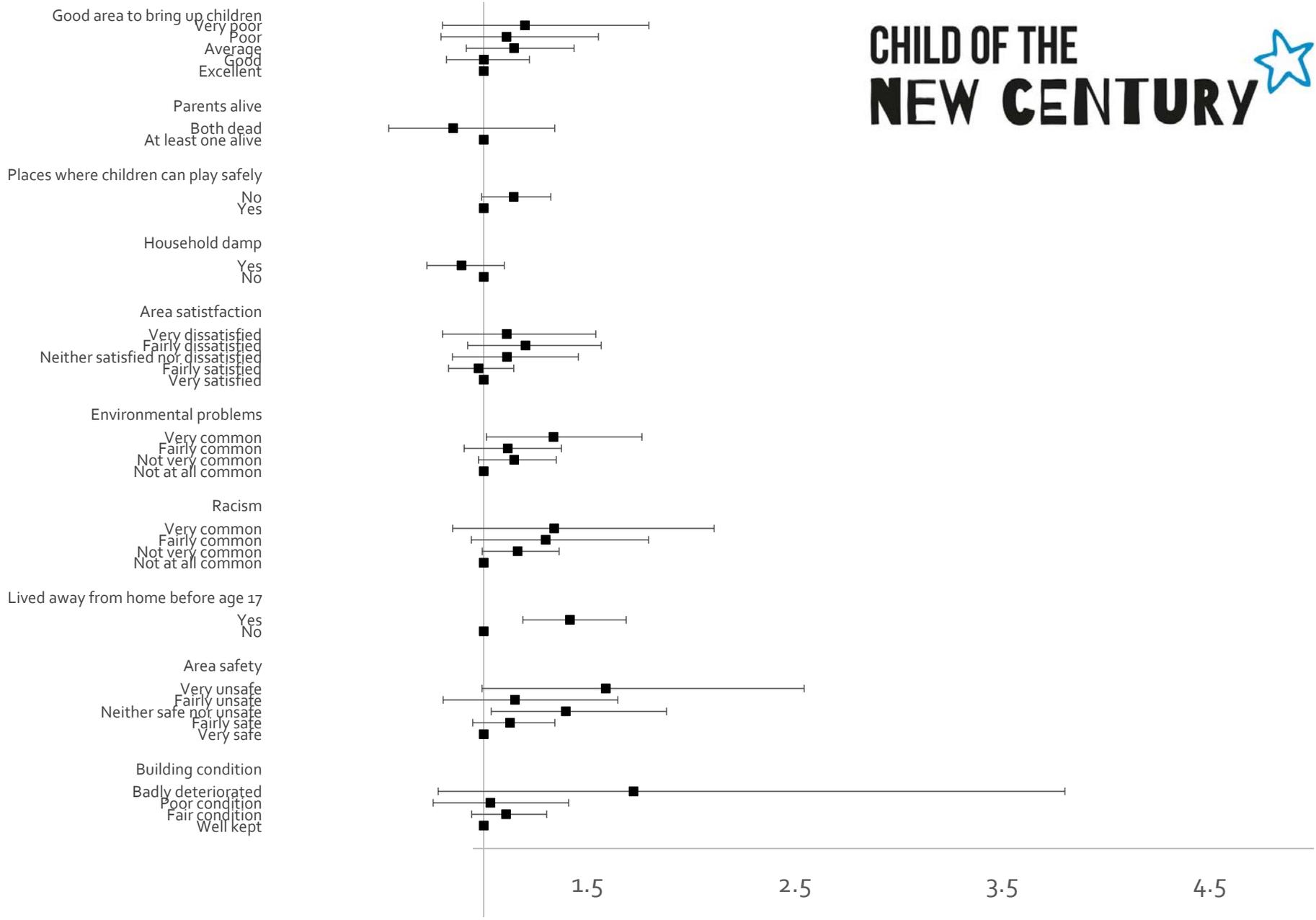
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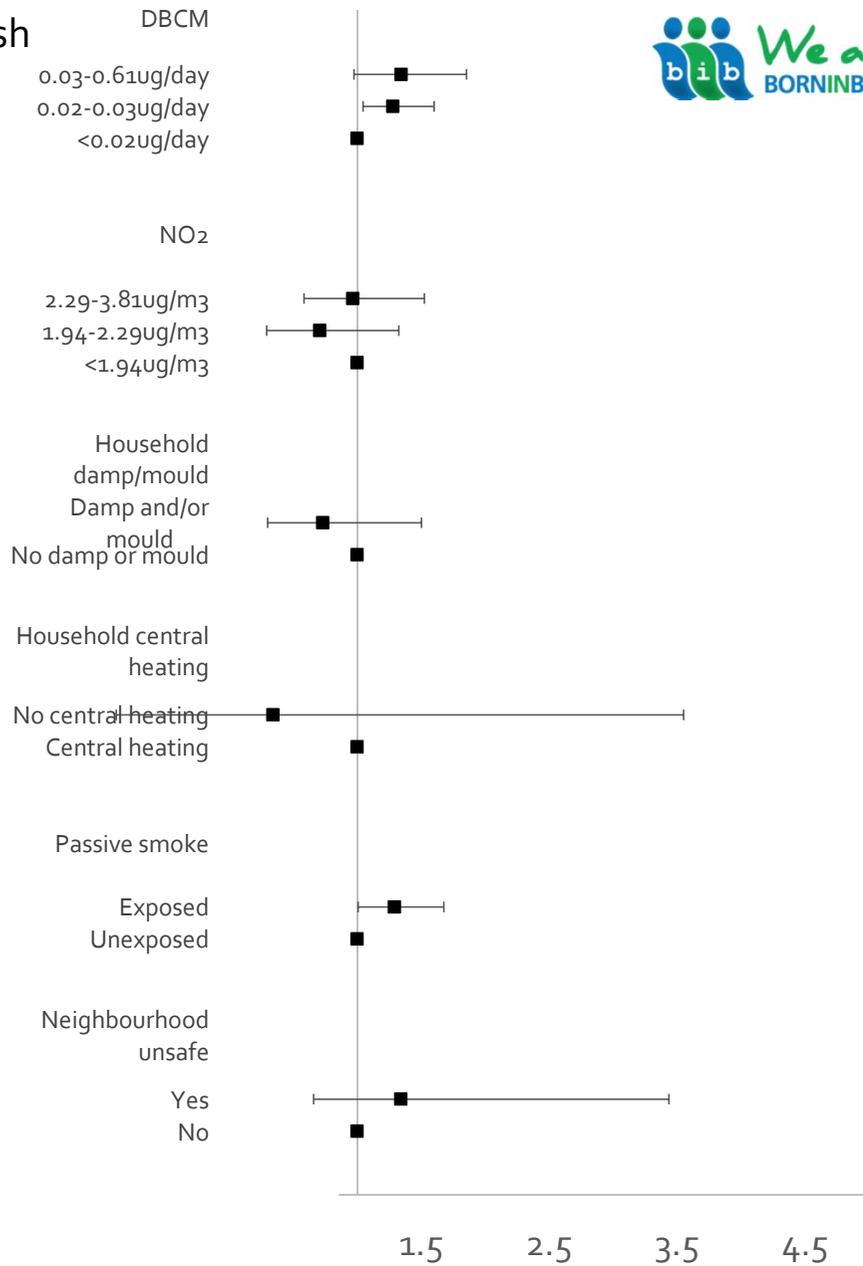


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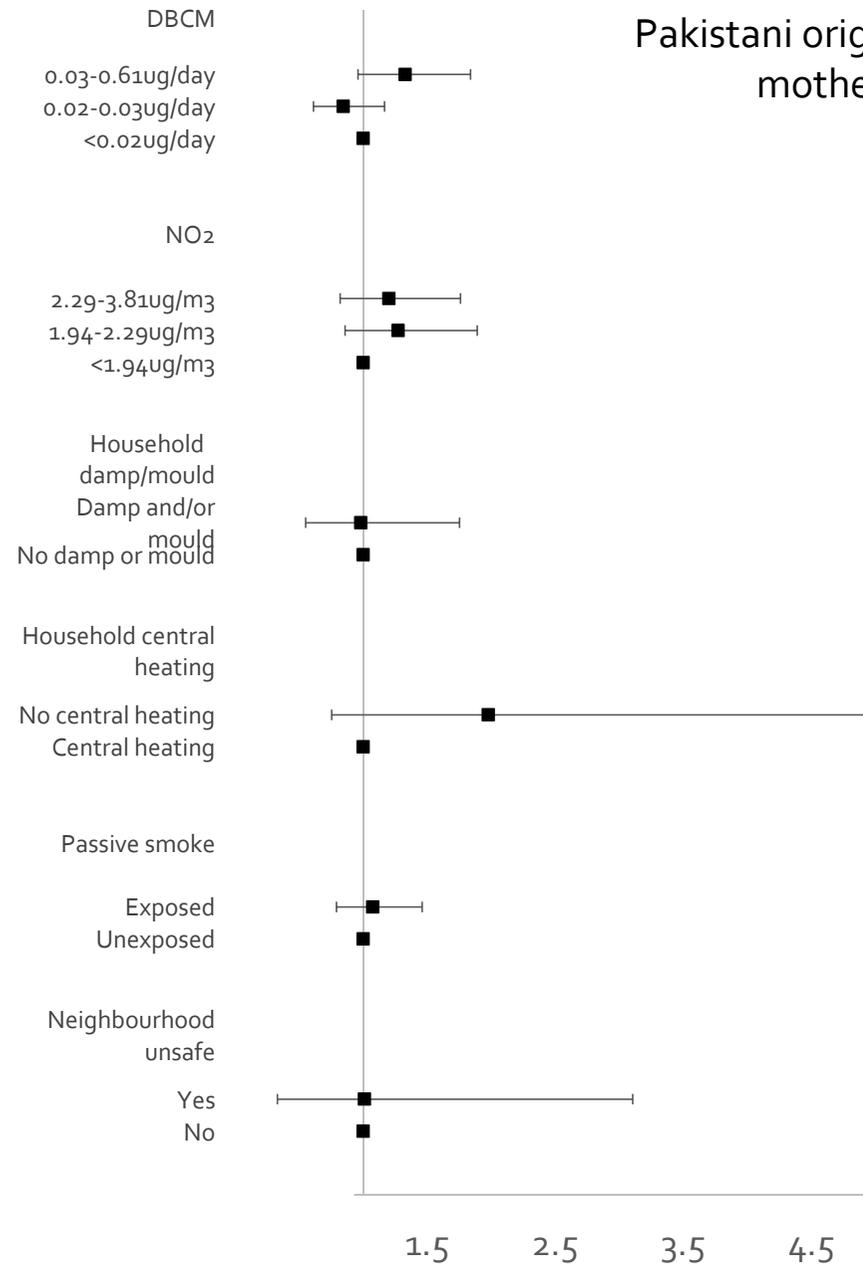




White British mothers

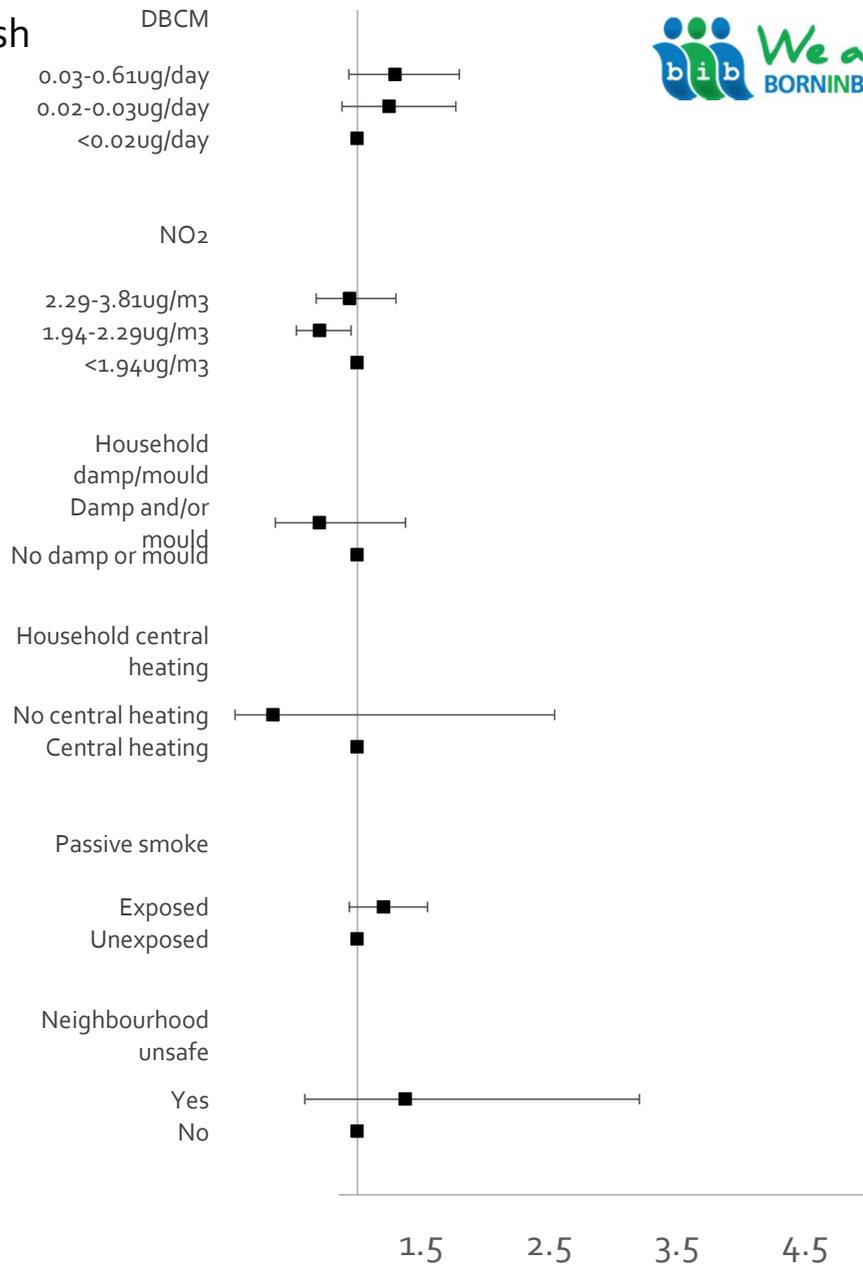


Pakistani origin mothers

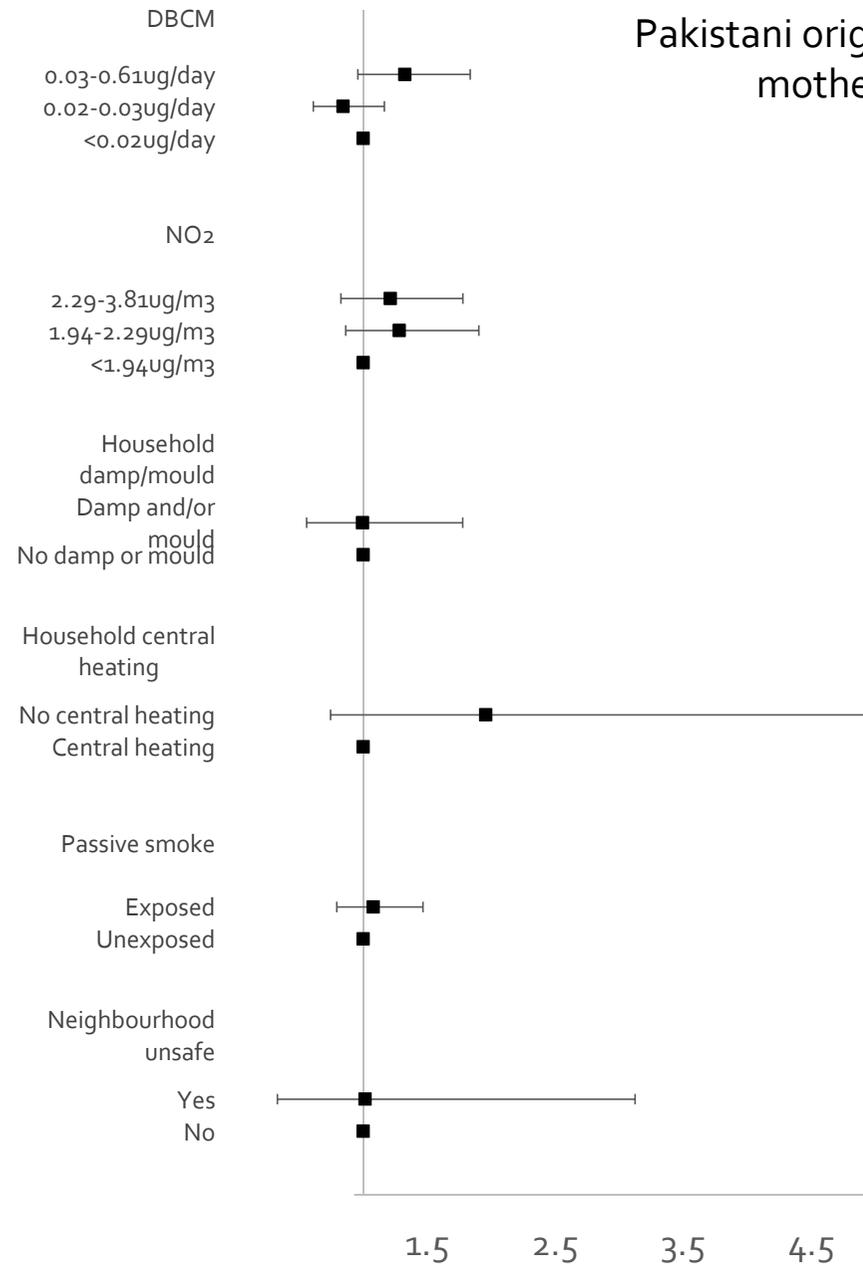




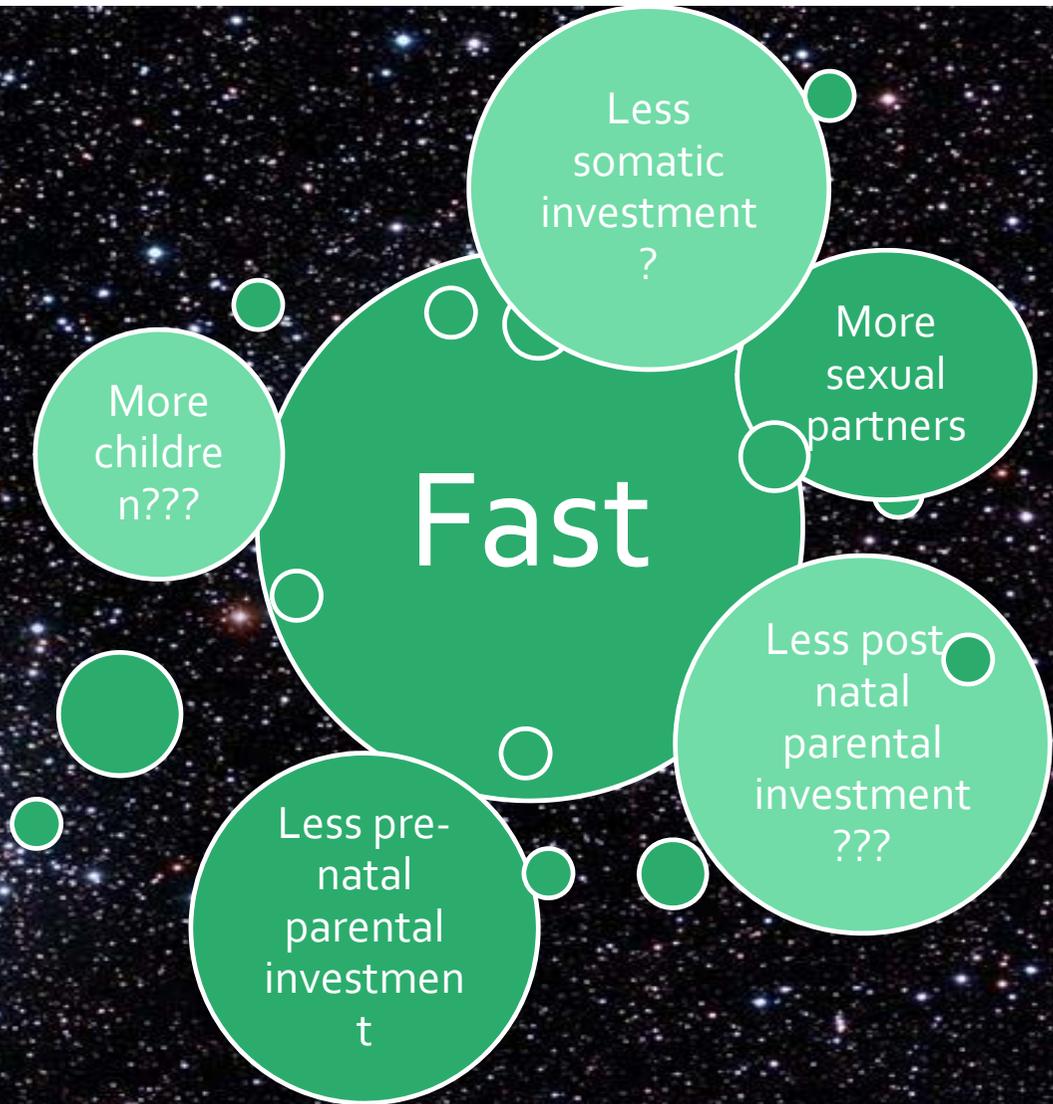
White British mothers



Pakistani origin mothers



Conclusions



Thank you!



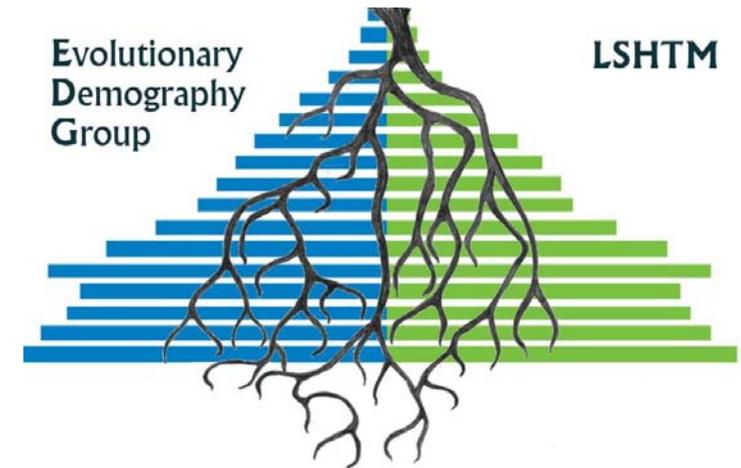
UK Data Service

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 @lolabear88

laura.brown@lshtm.ac.uk



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