

Health: The Design, Planning and Politics of How and Where We Live

- **Paper / Proposal Title:**

The Effect of Crowding within Households on Behavioural Problems in Children: A Quantitative, Prospective Cohort Study in Southampton

- **Format:**

Presentation (in-person) or could prepare Poster presentation if required

- **Author(s) Name:**

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- **Abstract (299 words):**

Background

Children with behavioural problems are at increased risk of mental and physical health problems, criminal convictions and poorer employment prospects. In England, nearly one child in every ten, lives in overcrowded housing (using the Bedroom Standard). This is likely to worsen with the increasing population size, urbanisation, and housing crisis. Studies have already shown overcrowding has numerous negative impacts but the effect on behavioural problems is yet to be confirmed.

Aim/Objectives

To test the hypothesis that there is a positive association between crowding in the household and behavioural problems in children, as well as factors that are potential mediators in this relationship. Additionally, to test whether subjective and objective measures of crowding agree.

Methods

This was a secondary data analysis using the prospective cohort study Southampton Women's Survey. 2,602 three-year-old children met the inclusion criteria (exposure and outcome measured) between 2001-2010. Crowding was measured by people per room (PPR) and the mothers' perception of space. Behavioural problems were assessed with the Strengths and Difficulties Questionnaire (SDQ), a validated method. Univariate and multiple linear regression analysis were performed. Confounding variables included sex, single parents, parental education, income, and occupation. Ethics approval was received.

Results

Characteristics of the sample were broadly representative of the population in England. In a household that was more crowded by one PPR than another, children had more behavioural problems by 1.30SDQ points (95%CI 0.70-1.90, $p < 0.001$) after adjustment for confounders. This relationship was partially mediated by greater maternal stress and depression, increased use of childcare, less sleep and strained parent-child interactions. Subjective and objective measures of crowding appeared to agree.

Conclusions

The positive association between crowding and behavioural problems in children is consistent with the majority of literature, has implications for housing policies and can be used to identify families likely to benefit from existing support services.

• Author(s) Biography (less than 200 words each):

Dr. Rachael Marsh

Rachael Marsh is a Specialty Registrar in Public Health. She graduated in medicine from Peninsula College of Medicine and Dentistry in 2014 and completed Foundation doctor training in London before entering the training scheme to become a consultant in Public Health.

Her areas of interest include global health, public engagement, the arts and health and the environment and health. She has completed an MSc in Public Health with the University of Southampton where her dissertation focused on housing quality and children's health. She recently facilitated on the undergraduate medicine course on a public health module including air pollution. Last year, she helped to run the Medact Conference in London; Healthy Planet, Better World. This covered a range of topics on the symbiotic relationship between climate change and health from active transport to the food industry and sustainability in the NHS. She is a member of a number of Public Health registrar Specialist Interest Groups on environment and health, as well as community groups passionate about issues such as climate change and sustainability.

Currently she works at Southampton City Council and is lead on a Public Health Community Fellowship scheme in Southampton, working with a charity on fuel poverty.

Dr. Janis Baird

Janis Baird is Professor of Public Health and Epidemiology and Honorary Consultant in Public Health at the MRC LEU, University of Southampton. After graduating in medicine from Cardiff, she trained in General Practice before entering Public Health Medicine. She was a research fellow at the MRC Environmental Epidemiology Unit (EEU) 1994-1997 during which time she carried out her doctoral studies exploring the environmental and genetic origins of blood pressure and glucose tolerance. Having completed specialist training in Public Health she returned to the MRC EEU in 2001. She was awarded an MRC Special Training Fellowship in Health of the Public Research during which she carried out a series of linked systematic reviews to explore the association of infant growth with health and well-being across the life course.

Currently, Janis co-leads a series of complex intervention studies which aim to improve the health and nutrition of women of childbearing age, with a particular focus on reducing inequalities. As well as having extensive experience of systematic review, she also has an interest in process evaluation and between 2011 and 2014 Janis chaired a group of researchers, funded by the MRC, who developed guidance on process evaluation within complex intervention studies.

Professor Hazel Inskip

Hazel Inskip is Professor of Statistical Epidemiology and Deputy Director of the MRCLEU in the Faculty of Medicine. Since 1998 she has directed the Southampton Women's Survey (SWS) and now also works on a number of intervention studies developed as a result of SWS findings. The SWS is an internationally-renowned cohort study, which, uniquely in the western world, recruited young women who were not pregnant and characterised them in detail before following up those who subsequently became pregnant and then following their children.

Hazel has contributed to many grant awarding bodies. She recently completed her term as deputy chair of the MRC's Population and Systems Medicine. She has served on both MRC's and the NIHR's Clinical Fellowship Panels and was a founding member of the NIHR South Central Research for Patient Benefit Committee. She chairs the International Scientific Advisory Committee of the International COSMOS Cohort Study of Mobile Phone Use and Health and the Steering Committee for the ENABLE London Study. She is a member of various other advisory boards and the leadership team of the CLOSER large facility for maximising the return on cohort studies in the UK.