THE EFFECTS OF HOUSING AND NEIGHBORHOOD CROWDING ON CHILDREN'S WELL-BEING
(Abstract)

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Introduction

Poor living conditions can serve as a mechanism of social stratification, affecting children's well-being and resulting in the intergenerational transmission of social inequality. One's housing and surrounding neighborhood relates to many aspects of social life including privacy, location, health, security, social relations, and community resources. Stressors of the home and neighborhood environment may affect the life of a child, and have lasting consequences throughout the life-course. This paper will use data from the Los Angeles Family and Neighborhood Survey to conduct a multilevel analysis of both housing and neighborhood crowding effects on an array of child well-being indicators, including academic achievement, behavior problems, and physical health. Through this project, we will better understand whether and in what ways crowding in both the home and neighborhood affects the well-being of a child living in that environment, as well as the manner in which these effects are transmitted.

Background

Concerns regarding the consequences of population overcrowding began with Malthus in the late 1700s and early 1800s. However, it was the early 1960s that sparked a wealth of empirical research on the negative effects of population overcrowding. Calhoun's study of laboratory rats found correlations between population density and increased aggression, disruptions in mating patterns and maternal activity, and higher rates of illness. Housing crowding may have negative psychological or pathological effects, including psychological withdrawal, stress, aggression, and loneliness. There are also correlations between housing crowding and greater negative parent-child relations, less-responsive parenting, increased child behavioral problems at school, and lower math reasoning test scores (Solari 2005). Most studies on housing crowding are focused on its effects on mental or psychological consequences of the inhabitants and on one specific indicator of child well-being, with little research in the realm of neighborhood crowding effects on children.

Housing can act as a mechanism of social stratification, affecting other areas of life. Housing crowding may negatively affect educational attainment, a strong predictor of future earnings and occupation, making the role of housing intermediary in the transmission of socioeconomic status (Conley 2001). At the same time, it is important to consider the possible effects of crowding at several spatial levels. For example, for some children, a neighborhood can serve to be as much of a home as their own houses.

Research has well noted the importance of neighborhood effects on child outcomes (Jencks and Mayer 1990). The differential effects of housing and neighborhood crowding may vary across children of different ages and for different child outcomes. We conduct a multi-level analysis of both housing and neighborhood crowding effects on child well-being.

Growing up in a poor family and neighborhood has negative effects on child health, cognitive development, school achievement, and emotional well-being. Indeed, housing and neighborhood overcrowding can be seen as socioeconomic indicators since people who cannot afford the price of private space are more likely to live in overcrowded conditions. Still, it is unclear whether or not housing and neighborhood crowding, net of other socioeconomic indicators, has an effect on child well-being (Baldassare 1988). We address the questions: 1) What is the size of the effect of crowding on child well-being at different geographic scales (i.e. household, census block group, and census tract)?; 2) To what extent are differences in child outcomes attributed to socioeconomic factors and residential crowding?; and 3) Do the crowding effects vary across a set of child well-being outcomes?

Data and Analytic Approach

Data. In order to investigate housing and neighborhood crowding effects on child well-being, we use the Los Angeles Family and Neighborhood Survey (L.A. FANS), a multi-stage stratified cluster sample specially designed to capture family effects of child development, educational performance, and behavioral and physical health. The first wave of data was collected in 2000-01 from a representative sample of approximately 3,200 households in 65 neighborhoods in Los Angeles County, allowing for a diverse set of neighborhoods, including densely populated central city areas as well as rural metropolitan areas. The L.A. FANS over-samples poor neighborhoods and households with children, making these data ideal to study children most vulnerable to living in crowded conditions (Sastry *et al.* 2003). Our analyses use samples that vary in size between 1,200 and 2,300 children aged 3 to 17.

Los Angeles is a unique context in which to study the effects of housing and neighborhood crowding. Los Angeles County has high levels of poverty, a shortage of affordable housing, and one of the highest levels of housing crowding. Five of the ten large cities with the highest incidents of housing crowding lie within Los Angeles County. In 2000, these cities' housing units were between 28 and 49 percent overcrowded (that is, living in a household with more than one person per room), compared to 6 percent nationwide. The context of Los Angeles is also ideal to study the well-being of immigrant children – a population at particular risk of crowding (Myers, Baer, and Choi 1996). This study compares incidents and possible differential effects of crowding between immigrants and natives.

Analytic Approach. Our analysis of crowding effects on child well-being is multi-level in two respects. First, we investigate crowding at several geographic levels, including the household, census block group, and census tract. Second, we examine the effects of

crowding on children using a multiple indicator approach. We consider several dimensions of child well-being, including academic achievement, measured using Woodcock-Johnson math and reading test scores; behavioral problems, measured using internal and external behavior problem indices; and physical health, measured using an index of parent-reported health assessments.

There are different conceptualizations of what constitutes a household and a neighborhood, as well as how to define crowding. For this study, we define the household as all individuals residing in the housing unit. We explore the neighborhood as a census tract and a block group. Housing crowding is treated as a continuous measure of persons per room, in accordance with Solari's findings (2005). Neighborhood crowding is a measure of persons per square mile, with adjustments made to account for rural versus urban areas. By exploring these concepts, we can understand how crowding on multiple levels of a child's living environment can impact their well-being.

In the first stage of our analyses, we examine the effect of several indicators of crowding, socioeconomic status, and other demographic and neighborhood factors on each separate measure of child well-being. In subsequent analyses, we investigate whether crowding and other factors affect children through a single latent variable, which is reflected by several indicators of well-being. This model is designed to measure the effect of housing and neighborhood crowding on specific indicators of child well-being by treating each different indicator as a dependent variable within the same model. This is a type of multilevel linear model and, at the same time, a MIMIC model (Multiple Indicators, Mult(I)ple Causes) (Bollen 1989). We explore whether a single dimension of child well-being is sufficient to represent the effects of housing and neighborhood crowding rather than multiple dimensions. A simpler specification has the advantage of gaining greater statistical power to measure crowding and other effects.

Using this framework, we consider models for the gross effect of housing and neighborhood crowding, of other social and demographic variables, and of the net effect of crowding controlling for other variables. This sequence of models will show the relative size of the different dimensions of crowding; it will reveal the net effect of crowding once controlling for other socioeconomic indicators; and it will show whether the effect of poverty and immigration status on child well-being are transmitted through household and neighborhood crowding.

Preliminary Work

In preliminary analysis of the L.A.FANS, we have examined the effects of household crowding on children's mathematics achievement. This analysis provides quite robust evidence of a small but significant effect of household crowding controlling for a large number of social and demographic factors (Solari 2005). In our ongoing work, we examine neighborhood as well as housing crowding and multiple child outcomes.

Implications

This study addresses a neglected aspect of social inequality – crowdedness of housing and neighborhoods. We document the effect of these factors on a number of important indicators of child well-being. This investigation furthers our understanding of the role of a child's living environment on their future socioeconomic status. With this knowledge, we can inform policy decisions on housing and neighborhood quality, to improve the life chances of children from disadvantaged families.

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