Nativity and Ethnic Differences in Children's Health Environments in the U.S. and U.K.: The Role of the Family

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Using data from the United States and the United Kingdom, we propose to investigate whether strong nativity and ethnic differences in maternal health behaviors and child health depend on family composition and stability. Despite a large body of research demonstrating healthier behaviors and birth outcomes in immigrant families, little is known about how broadly this pattern applies. We use rich longitudinal data to examine two questions: 1) do nativity differences in children's health environments and in child health depend on mothers' family structure? 2) Are nativity differences weaker for mothers and children who experience family disruption in early childhood?

Unpacking the Paradox: The Health Incorporation of Foreign-Born Children

Immigrants' ability to move up the socioeconomic ladder in their host countries—that is, their degree of socioeconomic incorporation—is of long-standing interest to migration scholars and policymakers (e.g., Chiswick 1978). To date, most of the literature on immigrant incorporation has focused on adults' socioeconomic outcomes (e.g., Van Tubergen, Maas and Flap 2004) and children's linguistic and academic development (e.g., Fuligni and Witgow 2004; White and Glick 2009), with much less attention given to the role of health. This is an important oversight, in light of research showing that child health is a strong predictor of educational achievement and eventual socioeconomic success (Currie 2006; Jackson 2009; Palloni 2006). Health is an area in which immigrants may have an advantage over the native-born population, at least in certain domains. Research on birth outcomes in the United States, for example, indicates that babies born to Hispanic immigrant mothers are more likely to have a normal birth weight and less likely to die in infancy than babies born to native-born mothers (Landale, Oropesa and Gorman 2000). This advantage exists despite the below-average socioeconomic status and poorer living conditions of these mothers, presenting a "paradox" for researchers and policymakers who seek to understand the relationship between socioeconomic status and health. In particular, the foreign-born health advantage is often framed as a

Hispanic paradox reflecting something unique about the migration decisions and/or cultural practices of families from Latin America (e.g., Landale, Oropesa and Gorman 2000; Palloni and Arias 2004).

In recent work, Jackson, McLanahan and Kiernan (2009) examine whether the paradox in mothers' behaviors extends beyond U.S. Hispanics to non-Hispanic immigrant mothers in the U.S. and to white, South Asian, black African and Caribbean, and other (largely East Asian) immigrants in the U.K. This work demonstrates that the "Hispanic paradox" extends to not only other socioeconomically disadvantaged immigrant groups, but also to more advantaged mothers. The immigrant paradox may not actually be a paradox: although the findings clearly demonstrate that foreign-born mothers who are socially and economically disadvantaged have much healthier behaviors than their native-born peers, on average, the same is observed among more advantaged immigrants, albeit not always as strongly. This work also shows that in neither setting do differences in mothers' household composition play a strong role in explaining nativity differences; this is surprising, given substantial compositional differences across nativity groups.

Here we consider family structure as a factor that works in *combination* with nativity and ethnicity to produce disparities in children's health environments. The foreign-born advantage may be weaker within single-parent families because mothers must draw from fewer economic and social resources, making it more difficult to maintain healthy behaviors, high-quality housing, food, and health care for their children. In addition, because of the much lower prevalence of single-parent households among many foreign-born groups in the U.S. and U.K. (Jackson, McLanahan and Kiernan 2009), there may be weaker support networks in place as a coping resource. As a result, children and parents may be less resilient during and after a disruption than in groups in which instability is common. Previous studies have shown a weaker negative association between family disruption and children's educational achievement among African-American children than among whites in the U.S. (Amato and Kieth 1991; Smith 1997). It is unclear whether this pattern extends to the foreign-born, who experience very different family environments.

DATA, MEASURES AND METHODOLOGY

Data. Our analysis is based on two national birth cohort studies well suited to studying nativity differences in health behaviors: the American *Fragile Families and Child Wellbeing Study* (FFS) and the U.K. *Millennium Cohort*

Study (MCS). Both studies are representative of national populations, contain rich longitudinal information on families' and children's contexts and health, and oversample ethnic minority families. The FFS is a national birth cohort study following approximately 5,000 children born in large U.S. cities between 1998 and 2000, including a large oversample of births to unmarried parents. Mothers, and most fathers, were interviewed in the hospital soon after birth. The initial interviews were followed by telephone interviews with both parents when the child was 1, 3, and 5 years old; the 9 year interview is currently in the field. The MCS is the fourth of Britain's national longitudinal birth cohort studies, providing information about children and their families in the four countries of the United Kingdom. The first wave, carried out during 2001-2002, included 18,818 cohort children. Information was first collected from parents when the babies were nine months old. The main caregiver, usually the mother, was interviewed again when the child was 3, 5 and 7 years (age 7 data are not yet available). Both data sources are quite valuable for the questions considered here, in that they provide detailed longitudinal information on the demographic, social and economic situations of families and the health and well-being of children and their parents.

Measures. *Nativity.* Although all children are born in the U.S. or U.K., mothers may be foreign-born. We will separate foreign-born mothers (first-generation) from those born in the U.S. or U.K. (second generation). Within the foreign-born group we will also separate mothers by ethnicity. In the FFS we can distinguish between Hispanic and non-Hispanic foreign-born mothers. In the MCS, we can distinguish among South Asian (Indian, Pakistani, Bangladeshi), black (African, Caribbean), white and other foreign-born mothers.

Family Structure. In both samples, we will distinguish women who are single at the time of the child's birth (reference) from those who are married to the biological father or cohabiting with the biological father. At later ages, we will distinguish among mothers who are single, married to the biological father, cohabiting with the biological father, or coresiding (married or cohabiting) with a non-biological father. We will also construct a measure of family stability, using mothers' reports of whether they have married, begun cohabitating, separated or divorced, or ended a romantic relationship.

Health. We will examine mothers' health behaviors at the time of the child's birth, and between birth and age 5. Both the FFS and MCS include measures of breastfeeding initiation, smoking during pregnancy,

prenatal drinking, prenatal care, smoking behavior around the child, and the frequency of drinking. Measures of child health include behavior problems related to depression, anxiety and aggression; asthma; and dietary and exercise practices.

We will also include a rich set of measures of children's socioeconomic environments throughout childhood, to capture factors correlated with nativity, family structure and health.

Analytic Strategy. The analysis will consist of two parts. First, we will use linear, binary logistic or ordinal logistic regression models, depending on the outcome, to examine whether the foreign-born health advantage is weaker among immigrant mothers who are single, in the cross-section. These models will include age-specific interactions between nativity and family structure.

Secondly, we will extend the cross-sectional focus to consider stability and change. Are nativity differences weaker for mothers and children who experience family disruption over the course of the survey? We will use the measures of family stability to examine whether nativity differences in mothers' behaviors and child health are weaker when family disruption has occurred. We will begin by estimating models in which the dependent variables are maternal health behaviors and child health at ages 1, 3 or 5, and the independent variables include an interaction between nativity and family instability leading up to that age. We will also use latent growth curve techniques to examine stability and change in maternal and child health. Growth curve models provide the advantage of modeling not only cross-sectional variation in an outcome, but also variation in its growth or decline over time, within the same individuals (Bollen and Curran 2006). An unconditional model estimates an individual-specific (*i*) and time-specific (*t*) trajectory of health (measured continuously), (*y*), as a function of an individual-specific intercept (α), and individual and time-specific slopes (β) and errors (ε). λ is a constant:

$$y_{it} = \alpha_i + \lambda_t \beta_i + \varepsilon_{it}$$

The second level of the growth model allows health to vary as a function of not only time, but of covariates that vary across, but not within, individuals. This amounts to equations for the random intercepts and slopes:

$$\alpha_i = \alpha_0 + \alpha_1 x_{1i} + \alpha_2 x_{2i} + ...\alpha_k x_{ki} + u_i$$

$$\beta_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + ...\beta_k x_{ki} + v_i$$

where x_1 through x_k are time-invariant measures (e.g., nativity) that predict group differences in starting points (α) and the growth factor (β). u_i and v_i are individual error terms. These models will predict changes in children's health environments (maternal health behaviors and child health) as a function of time-invariant interactions between nativity and family structure/stability. Latent growth curve techniques will provide an estimate of how nativity and family structure/stability potentially predict not only levels of inequality in children's health environments, but also changes in those inequalities over time.

OVERALL CONTRIBUTIONS

Using nationally representative, longitudinal data, we examine whether nativity differences in children's health and health environments apply across a variety of family types, and whether these differences are sensitive to family stability. This research will deepen our understanding of the health integration of foreign-born families.

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