

Child Sex and Breastfeeding Bias in the United States

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ABSTRACT

There is evidence that mothers in India breastfeed their daughters for a significantly shorter duration than they do their sons, an effect attributed to son preference. As breastfeeding is known to reduce fertility, researchers believe the effect is due to parents wanting to try to conceive again earlier after the birth of a daughter (presumably to try for a son). No one has examined whether certain ethnic groups in the US - especially those most at risk for having a bias for sons over daughters - exhibit similar bias in breastfeeding duration. In this paper we use data from the Fragile Families and Child Wellbeing Study as well as the Pregnancy Risk Assessment Monitoring System to assess whether any sex bias exists in breastfeeding duration in the United States. Preliminary analyses suggest that mothers of Asian decent breastfeed their daughters for a significantly shorter time than they do their sons.

OVERVIEW

The health, psychosocial, and economic benefits of breastfeeding for mothers, children, and society are well-established.¹⁻³ The American Academy of Pediatrics and World Health Organization (WHO) recommend that mothers should exclusively breastfeed their infant for the first six months and continue breastfeeding for up to two years.^{1,3} While 73% of mothers in the US start breastfeeding and 42% are feeding their infant any breast milk at 6 months postpartum, disparities persist.⁴ For example, one estimate found a 20 percentage point difference between black and white mothers breastfeeding initiation (54% versus 74%) that continued to six months.

Much of the public health literature surrounding breastfeeding has focused on class and racial and ethnic differences in breastfeeding initiation and duration. However, one potential disparity has remained unexplored in the United States: disparities based on infant sex. There is evidence that mothers in India breastfeed their daughters for a significantly shorter duration than they do their sons.⁵ Researchers attribute this effect to a cultural bias in preferring sons to daughters. As breastfeeding is known to reduce fertility, they believe the effect is due to parents wanting to try to conceive again earlier after the birth of a daughter (presumably to

try for a son). No one has examined whether certain ethnic groups in the US - especially those most at risk for having a bias for sons over daughters - exhibit similar bias in breastfeeding duration.

DATA

In this article we examine this understudied yet potentially important disparity in breastfeeding in the United States in two data sources where women were selected for participation immediately after having a child. One is longitudinal and rich in socio-economic information about mothers while the other is much larger and has detailed race and ethnicity information. The first is the Fragile Families and Child Wellbeing Study (FFCWS), a longitudinal survey of approximately 5,000 births in 20 U.S. cities. The sample is representative of births in large cities in the U.S. Due to deliberate oversampling of nonmarital births, only one third of the sample is married at the time of birth. Interviews of both mothers and fathers were first taken between 1998 and 2000. Both parents, when possible, were then re-interviewed one year, three years, and five years later. Breastfeeding data are available at the year one follow-up.

The second source of data we will use in this paper is the Pregnancy Risk Assessment Monitoring System (PRAMS), a surveillance system designed to monitor maternal health behaviors and outcomes. Although not all states participate in PRAMS, the states that did oversample mothers at higher risk for adverse pregnancy outcomes, including mothers from ethnic minority groups. Questionnaires are standardized across states and contain approximately 55 core questions. Participating states receive questionnaires from 1,300-3,400 mothers per year, approximately 4 months postpartum, which are linked with infants' birth certificate. Overall we have data on births from 37 states from 2000 through 2010 for a total of 427,280 births. Although not longitudinal and not as detailed as the FFCWS data, the large sample allows for analysis by detailed race and ethnic categories.

METHODS

For our project, we will capitalize on the random nature of child sex assignment in order to investigate whether mothers breastfeed boy infants for a significantly longer period of time than they breastfeed girl infants. Because sex is randomly assigned, we can assume that any association between sex of child and breastfeeding duration is causal. Using interactions, we will examine whether there is a stronger child sex effect (or whether the bias only exists) in ethnic or racial communities shown to have preferences for sons compared to daughters. We will also test for the importance of immigrant status, as it may prove to be a predictor of bias within ethnic groups that reveal any bias.

PRELIMINARY RESULTS

In Table 1 we present preliminary results from the Fragile Families and Child Wellbeing Study using Cox proportional hazard models to model breastfeeding duration among Asian American mothers. We find that the time to failure (ending breastfeeding) is significantly reduced if the infant is a boy. This is true after we control for many predictors of breastfeeding duration. There were no effects of child sex for white women in the sample. African-American women show a slight daughter preference in breastfeeding duration, an unanticipated finding that we will explore in more depth in the full paper.

Table 1: Hazard ratios from Cox Proportional Models Predicting Time to “Failure” or Stopping Breastfeeding among Asian American Mothers in the Fragile Families and Child Wellbeing Study (N=83)

	Hazard Ratio
Child is a boy	0.48 *
Mother's age in years	0.99
Parents relationship status at birth	
married	2.36
cohab	3.61
visiting	3.29
Mother's education	
high school degree	0.26 *
some college	0.99
college degree or more	0.23 *
Mother was born outside of the US	0.75
Parity (reference = first birth)	
second birth	0.95
third birth or greater	1.14
Mother knew father less than a year	0.83
Household income	1.00 *
Father is not Asian	0.30 ***

In preliminary results not shown here, we find that Chinese mothers in the United States in the PRAMS data are less likely to be breastfeeding if they had daughters at one month post partum, compared to Chinese mothers in the United States who had sons. This was not consistent across other Asian American mothers or other ethnic groups, however. Our complete paper will explore why any effect may be concentrated among Chinese mothers living in the US.

EXPECTED CONTRIBUTIONS

Our preliminary results suggest that Asian American and Immigrant Asian mothers in the United States may preference sons in terms of breastfeeding duration. As we state above, this is the first evidence to our knowledge that sex bias in breastfeeding

exists in the United States. Additional analyses will include tests for the proposed mechanism. For example, is the effect stronger among first time mothers (those without any sons).

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