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## Data on Breastfeeding and State Policies in the United States

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## Data Article

# Data on breastfeeding and state policies in the United States

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## ABSTRACT

Breastfeeding is critically important to maternal and child health in the United States. Examining the relationship between breastfeeding outcomes and state policies requires multidisciplinary efforts to link data from various sources. This article describes an integrated dataset that was used to understand the relationship between participation in a nutrition assistance program and low-income children's breastfeeding outcomes [1]. This dataset merged public health information from the National Immunization Surveys Data from 2006 to 2016 and matching state policy data from the Correlates of State Policy Project (CSPP), the U.S. Department of Agriculture/Economic Research Services (USDA/ERS) Supplemental Nutrition Assistance Program (SNAP) Policy Index, the U.S. Bureau of Labor Statistics (BLS), Centers for Medicare & Medicaid Services (CMS), and the Census Bureau. The integrated dataset compiles variables in breastfeeding outcome, child's and mother's socio-demographic characteristics, and state-level policy measures, including SNAP participation rates, SNAP policy indices, unemployment rates, and Children's Health Insurance Program (CHIP) enrollment rates. This multidisciplinary dataset included information on a total of 219,904 children with 98 variables.

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## Specifications Table

Subject	Public Health and Health Policy
Specific subject area	Maternal and Child Health
Type of data	Table
How data were acquired	The original datasets were available as comma-separated values (CSV) files in the official websites of the Centers for Disease Control and Prevention, Michigan State University, the U.S. Department of Agriculture, the U.S. Bureau of Labor Statistics, the U.S. Census Bureau, and the Centers for Medicare & Medicaid Services.
Data format	Analysed Filtered
Parameters for data collection	U.S. children aged 19-35 months who were born between 2005 and 2014
Description of data collection	The public health data was downloaded from the data portal of the National Immunization Surveys (NIS); state-level policy data was downloaded from the Correlates of State Policy Project (CSPP), created by the Institute for Public Policy and Social Research (IPPSR) at Michigan State University, as well as from websites of the U.S. Department of Agriculture/Economic Research Service, the U.S. Bureau of Labor Statistics, the Centers for Medicare & Medicaid Services, and the U.S. Census Bureau.
Data source location	Primary Data Sources: Country: USA NIS: <a href="https://www.cdc.gov/nchs/nis/data_files_teen.htm">https://www.cdc.gov/nchs/nis/data_files_teen.htm</a> CSPP: <a href="http://ippsr.msu.edu/public-policy/correlates-state-policy">http://ippsr.msu.edu/public-policy/correlates-state-policy</a> SNAP policy index: <a href="https://www.ers.usda.gov/data-products/snap-policy-data-sets/snap-policy-index-interactive-tool/">https://www.ers.usda.gov/data-products/snap-policy-data-sets/snap-policy-index-interactive-tool/</a> Local Area Unemployment Statistics: <a href="https://www.bls.gov/lau/">https://www.bls.gov/lau/</a> CHIP enrollment: <a href="https://aspe.hhs.gov/system/files/pdf/76386/index.pdf">https://aspe.hhs.gov/system/files/pdf/76386/index.pdf</a> and <a href="https://www.medicaid.gov/chip/reports-evaluations/index.html">https://www.medicaid.gov/chip/reports-evaluations/index.html</a> State population: <a href="https://www.census.gov/topics/population.html">https://www.census.gov/topics/population.html</a>
Data accessibility	Repository name: Breastfeeding and State Policy Data identification number: <a href="http://dx.doi.org/10.17632/px6bvvyft7x.4">http://dx.doi.org/10.17632/px6bvvyft7x.4</a> (DOI) Direct URL to data: <a href="http://dx.doi.org/10.17632/px6bvvyft7x.4">http://dx.doi.org/10.17632/px6bvvyft7x.4</a> <a href="https://data.mendeley.com/datasets/px6bvvyft7x/4">https://data.mendeley.com/datasets/px6bvvyft7x/4</a>
Related research article	Qj Zhang, Chun Chen, Hong Xue, Kayoung Park, Youfa Wang, Revisiting the Relationship between WIC Participation and Breastfeeding among Low-Income Children in the U.S. after the 2009 WIC Food Package Revision, Food Policy, 2021, 101(4):102089 <a href="http://dx.doi.org/10.1016/j.foodpol.2021.102089">http://dx.doi.org/10.1016/j.foodpol.2021.102089</a> .

## Value of the Data

This nationally representative, multidisciplinary data can be used:

- These data can be used to examine the relationship between breastfeeding outcomes and state-level policies in the U.S., which is an important policy topic.
- These data can be of benefit to policymakers or researchers who are interested in breastfeeding-related policy research.
- These data can be useful in examining how breastfeeding may be related to varying state-level policy instruments over time.
- These data can be useful in explaining the disparities in breastfeeding outcomes across states and income groups from a policy perspective.

## 1. Data Description

This dataset contains information about the breastfeeding outcomes of 219,904 U.S. children born in the years from 2005 to 2014. It is a single, unified dataset with 98 variables, including breastfeeding outcome, children's and mothers' socio-demographic characteristics, resident states, and state-level policy data from 2006 to 2016. The breastfeeding outcome was ever breastfeeding status (yes/no). Children's and mothers' socio-demographics included children's age group in the survey year (19–23 months, 24–29 months, 30–35 months), birth cohort, sex, and race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, and others), income group (equal to or less than 230% of the FPL, greater than 230% of the FPL), maternal education (less than high school, high school graduate or GED, some college education but no degree, college graduate or higher), maternal age in the survey year (less than 30 years old, equal to or older than 30 years), mother's marital status (married, non-married), number of people in the household, and interview language (English, Spanish, other). Resident states and state-level policy variables included the state annual unemployment rate, Supplemental Nutrition Assistance Program (SNAP) enrollment rate, Temporary Assistance for Needy Families (TANF) enrollment rate, and Children's Health Insurance Program (CHIP) enrollment rate. The raw data files were deposited in the Mendeley data repository <http://dx.doi.org/10.17632/px6bvvyft7x4>. The race/ethnicity, sex, and income distribution of the sample are shown in Figs. 1–2, and 3.

## 2. Experimental Design, Materials and Methods

Breastfeeding practices and socio-demographic characteristics data were from the National Immunization Surveys (NIS)-Child Survey, which can be downloaded from the Centers for Disease Control and Prevention (CDC) official website [2]. NIS is a national, population-based telephone survey conducted by the CDC's National Center for Immunization and Respiratory Diseases (NCIRD) [3]. Main state-level policy data was downloaded from the Correlates of State Policy Project (CSPP), created by the Institute for Public Policy and Social Research (IPPSR) at Michigan State University [4]. Additionally, we obtained the Supplemental Nutrition Assistance Program (SNAP) policy index data, state unemployment rate data, state Medicaid participant

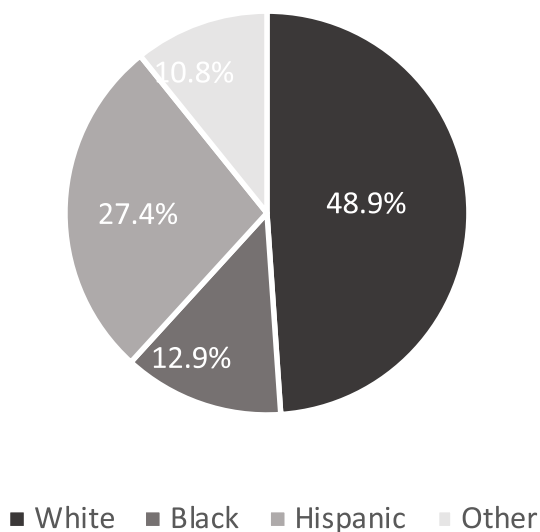


Fig. 1. The race/ethnicity distribution of the sample.

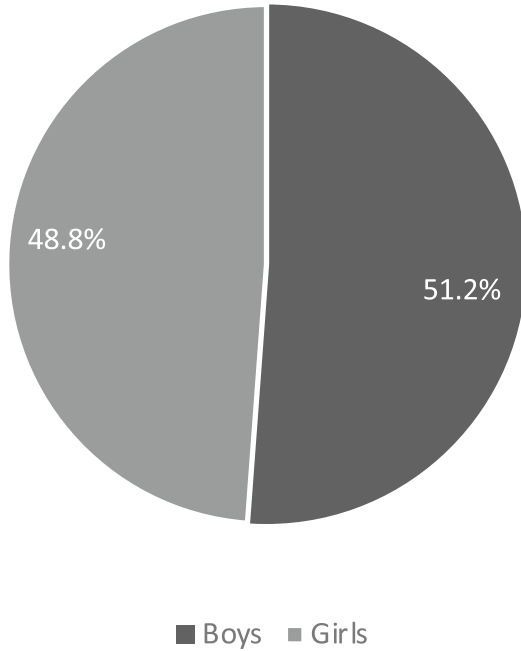


Fig. 2. The sex distribution of the sample.

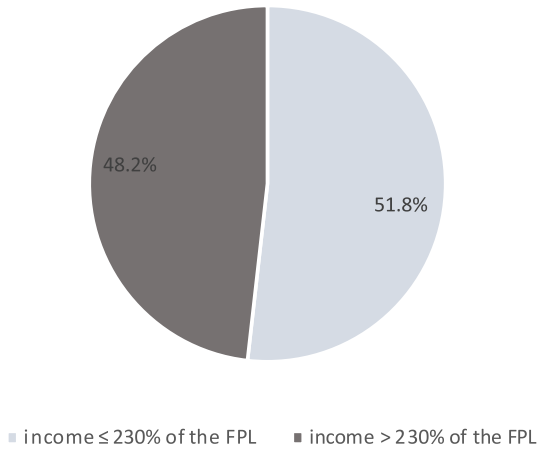


Fig. 3. The income distribution of the sample.

data, and state population data, respectively, from the U.S. Department of Agriculture/Economic Research Service [5], the U.S. Bureau of Labor Statistics website [6], the Center for Medicaid and CHIP Services [7–8], and the U.S. Census Bureau [9–10].

Those original datasets were available as comma-separated values (CSV) files in these official websites. Then Stata 16 was used to convert the data into Stata data format so that they could be merged, processed, and then analyzed [11].

We processed the raw data in three significant ways. First, we generated the birth cohorts from 2005 to 2014 by using the 2006–2016 NIS-child survey data, based on the child’s age group information (age groups: 19–23 months, 24–29 months, and 30–35 months). Second, the state-

level enrollment rate was estimated by taking the number of enrollees in the state divided by the population of the state. For instance, we calculated the TANF enrollment rate as the number of participants divided by the state population, and defined the CHIP enrollment rate as the number of participating infants and children divided by the number of children 18 or under in the state. Third, we merged multiple policy data to match the birth cohorts and children's residential states.

The breastfeeding and state policy data obtained were analyzed and presented using descriptive statistics such as weighted percentage frequencies, following the suggestion in the CDC NIS data user's guide [12].

## Ethics Statement

This study was approved by Institutional Review Board at Old Dominion University [#16-191].

## CRedit Author Statement

**Chun Chen:** Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Data Curation, Writing – Original Draft, Revision & Editing, Visualization; **Hong Xue:** Conceptualization, Methodology, Investigation, Writing – Review & Editing; **Qi Zhang:** Conceptualization, Methodology, Investigation, Resources, Writing – Revision & Editing, Supervision, Project Administration, Funding Acquisition.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have or could be perceived to have influenced the work reported in this article.

## Acknowledgments

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