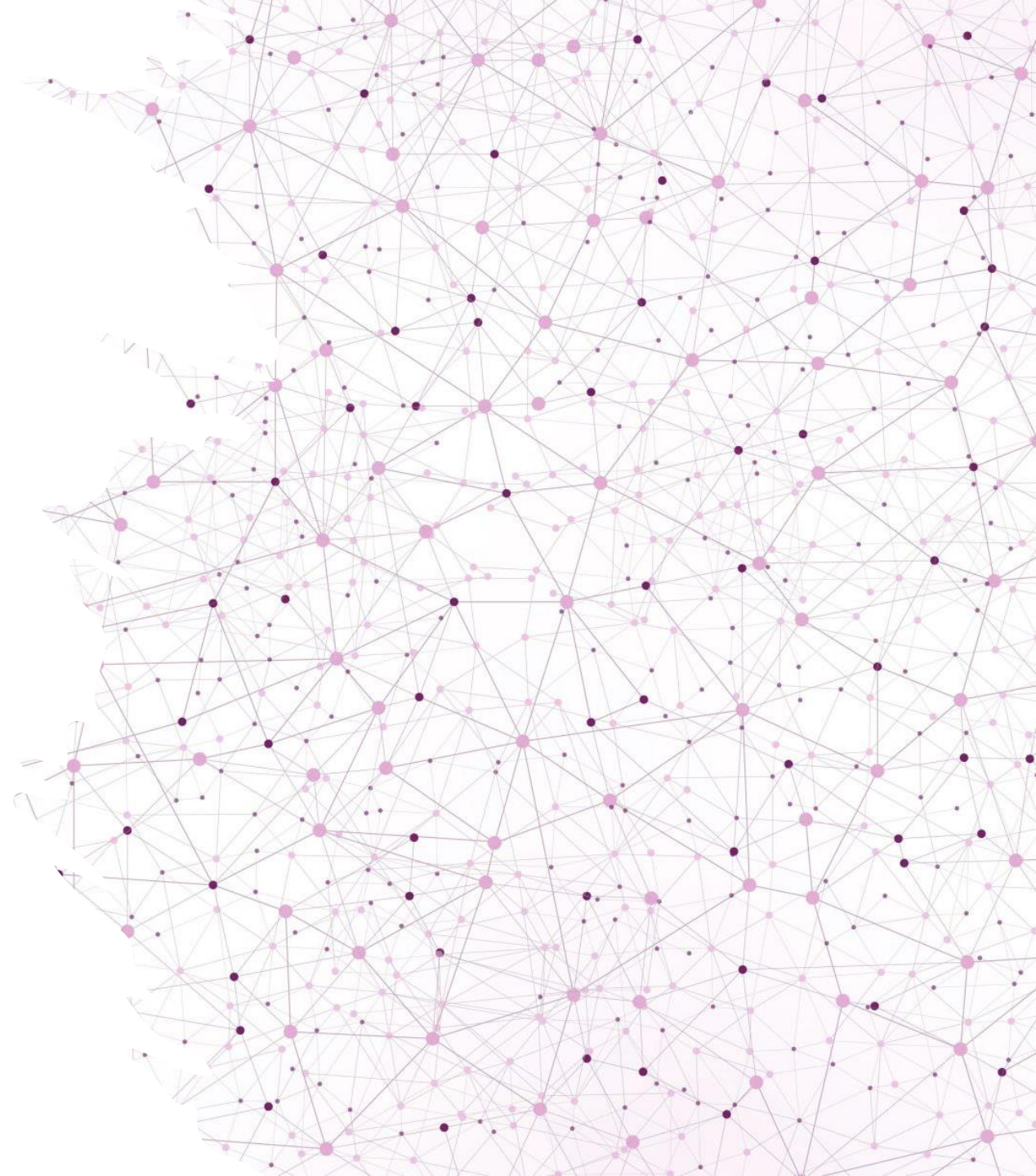


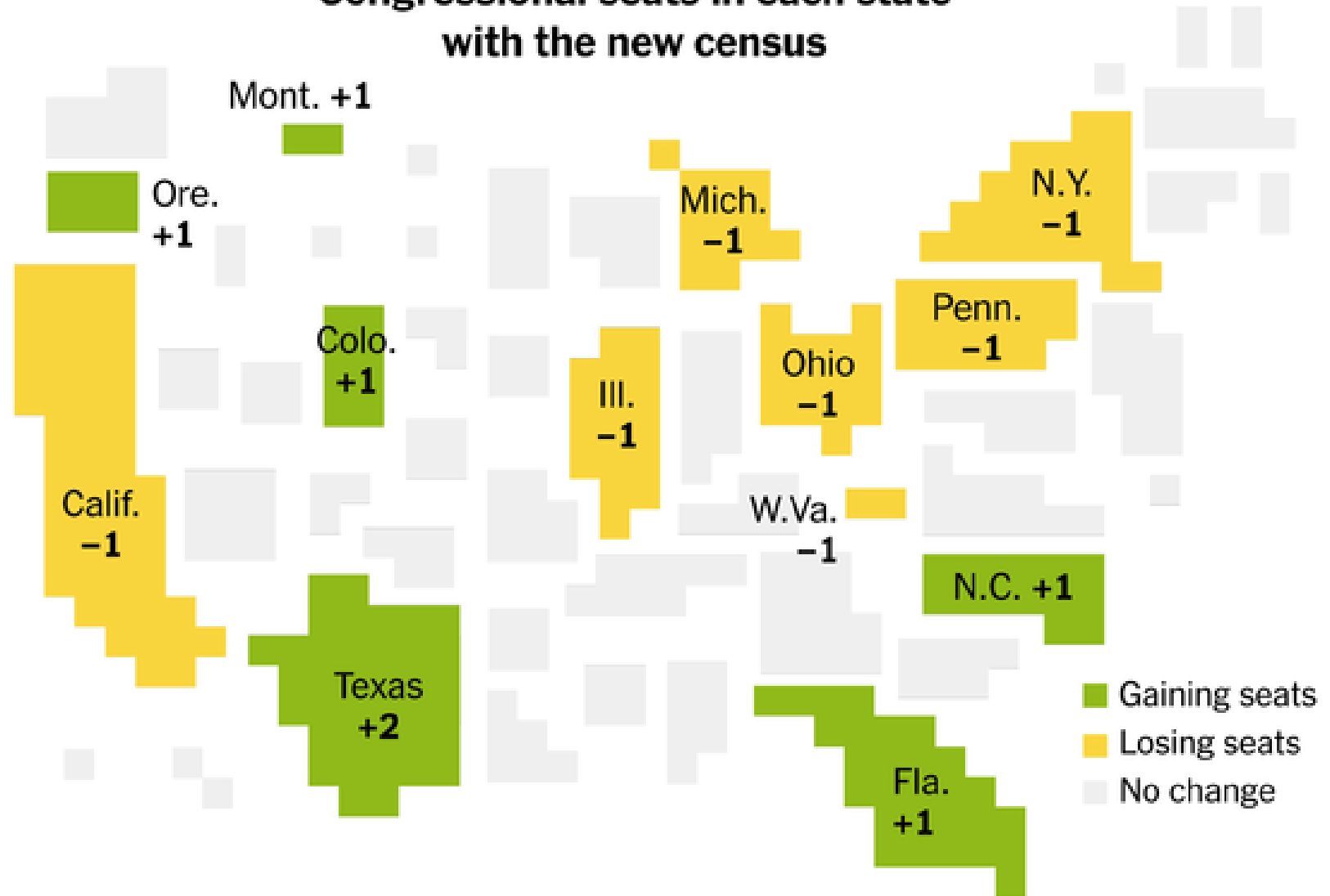
Identifying State-Level Predictors of the Net Undercount of Young Hispanic Children in the 2010 and 2020 U.S. Census

Drs. Susana Quiros & Bill O'Hare

Presented at the 2024 Applied Demography Conference



Congressional seats in each state with the new census





**353 federal programs use
census data to allocate
\$2.8 trillion**

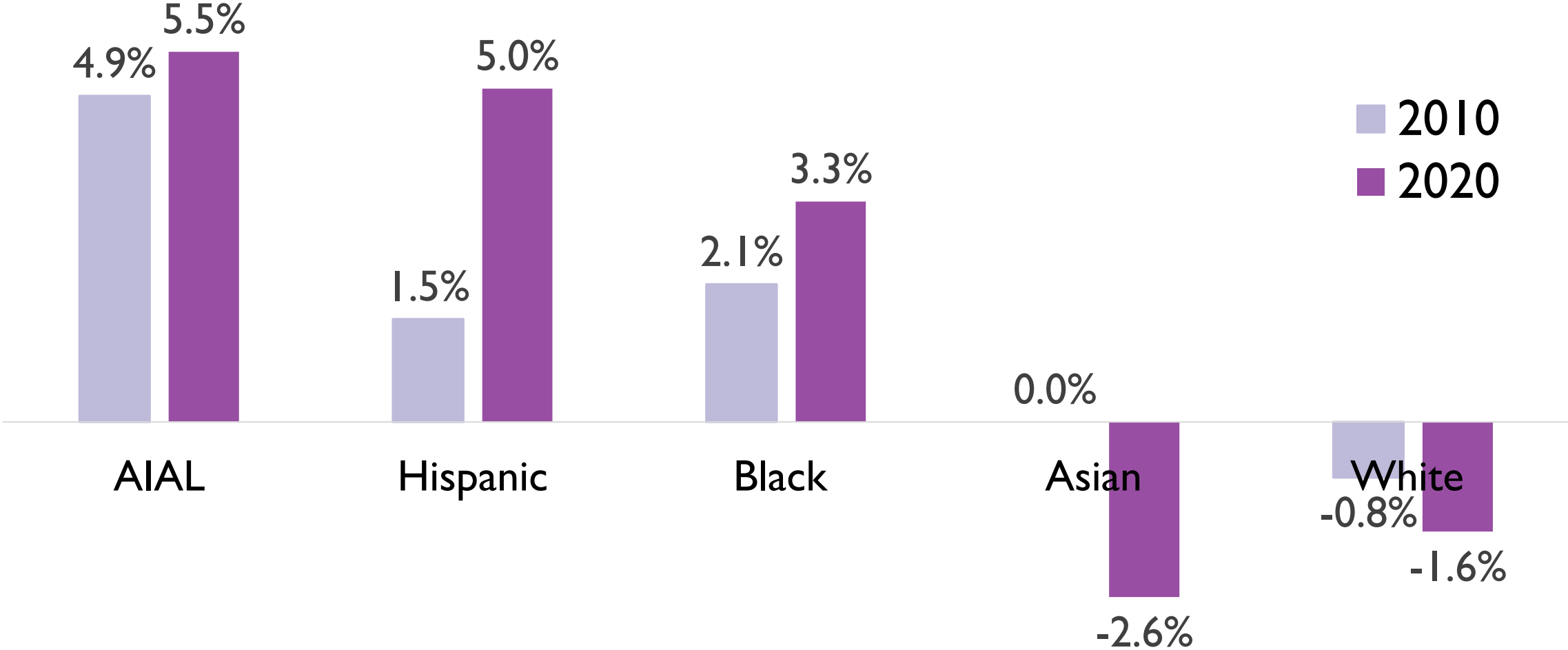


- Medicaid
- Child care
- Children's Health Insurance programs,
- WIC Special Supplemental Nutrition Program for Women Infants

Coverage rate – Definition

- It refers to the accuracy of U.S. census counts of the total population and various demographic groups.
- In this presentation, positive coverage rates indicate undercounts, and negative coverage rates indicate overcounts.

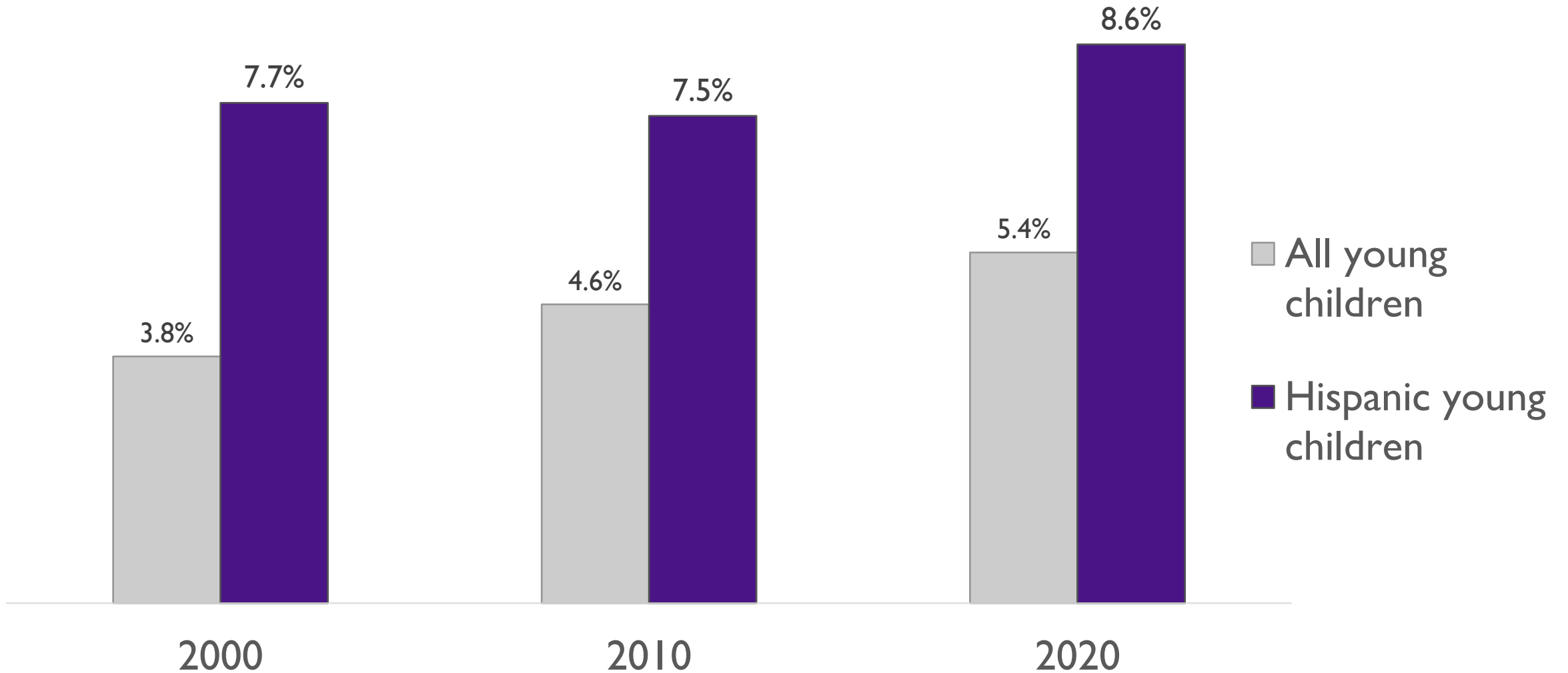
U.S. Census Coverage Rates for the U.S. Population (all ages) by Race/Ethnicity in 2010 and 2020 based on the Post-Enumeration Survey (PES).



This research focuses on young children because:

1. Young children (under 5) had high undercounts in the 2010 & 2020 Censuses.
2. Population estimates for this age group are primarily based on birth certificate data.
3. Birth certificate data for ages 0-4 is reliable (nearly 100% complete) compared to other age groups.

The net undercount of young Hispanic children was much higher than all young children in the 2000, 2010, and 2020 Censuses



The undercount of young children varies by state



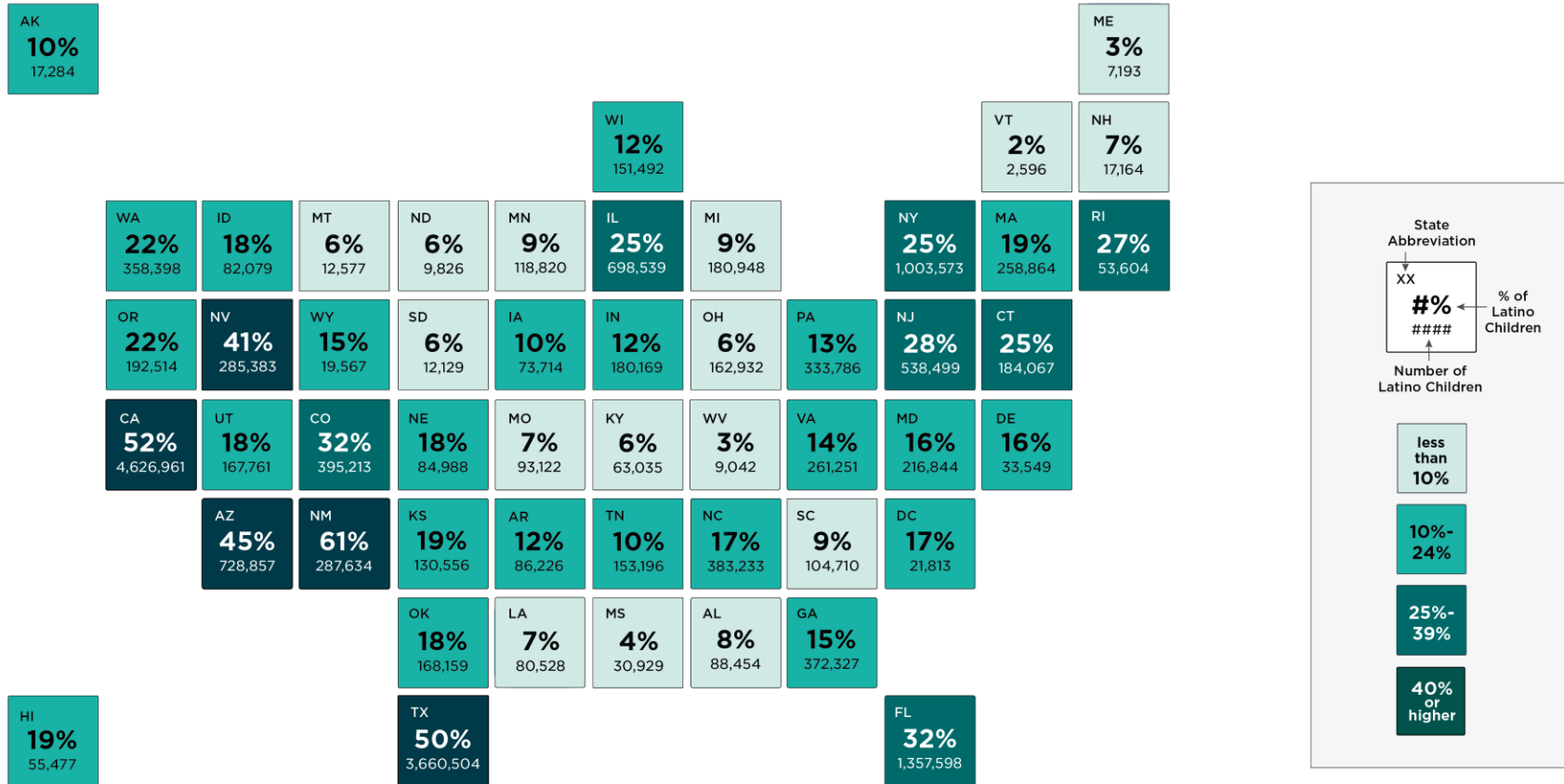
State characteristics associated with the undercount of all young children

- Racial and ethnic composition
- Linguistic isolation
- Housing characteristics (e.g., rented households)
- Family structure and living arrangements



Latino children make up a quarter or more of the child population in 12 states

Percent (and number) of child population that is Latino, by state



Source: Integrated Public Use Microdata Series (IPUMS) 2019 American Community Survey.

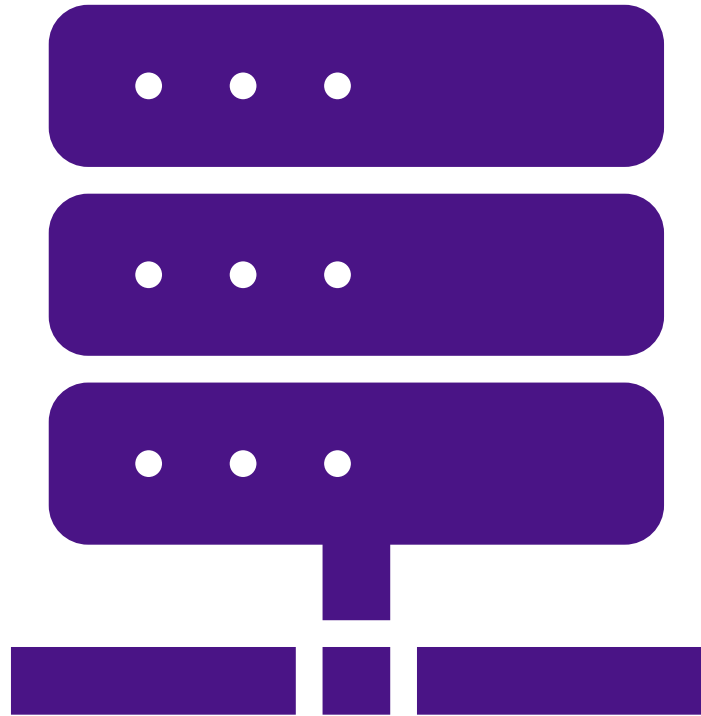


Research Goal



Identify state-level predictors that are correlated with state's net undercount of young Hispanic children

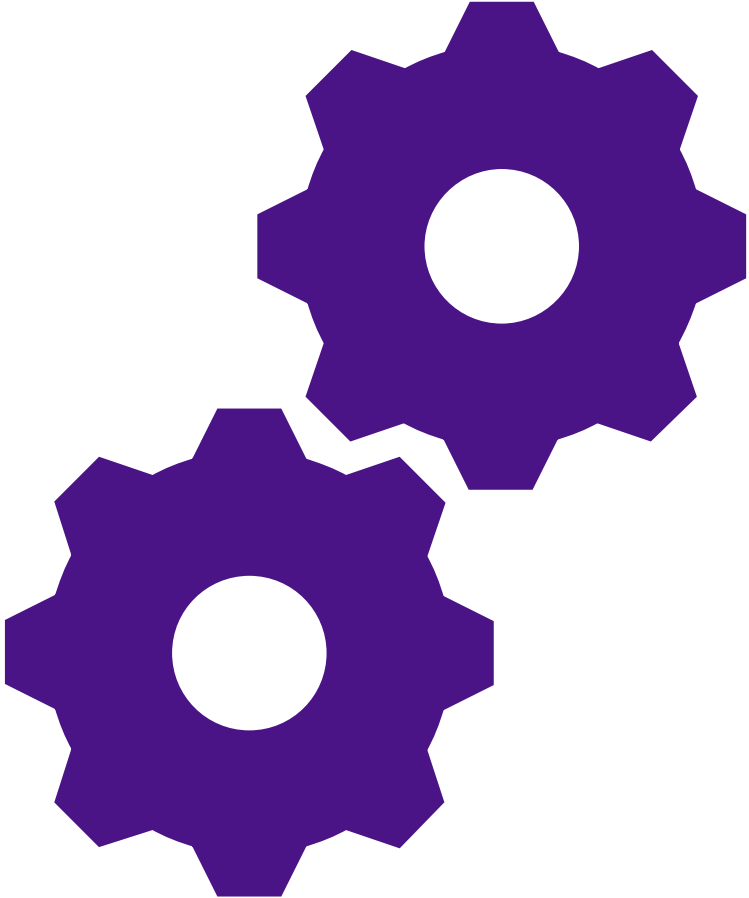
Data Sources



-
- 2010 and 2020 U.S. Census
 - 2010 and 2020 Vintage Population Estimates
 - 2010 and 2020 American Community Survey 1-year files
 - Urban Institute's State Immigration Policy Resource 2022
 - Federal Election Commission

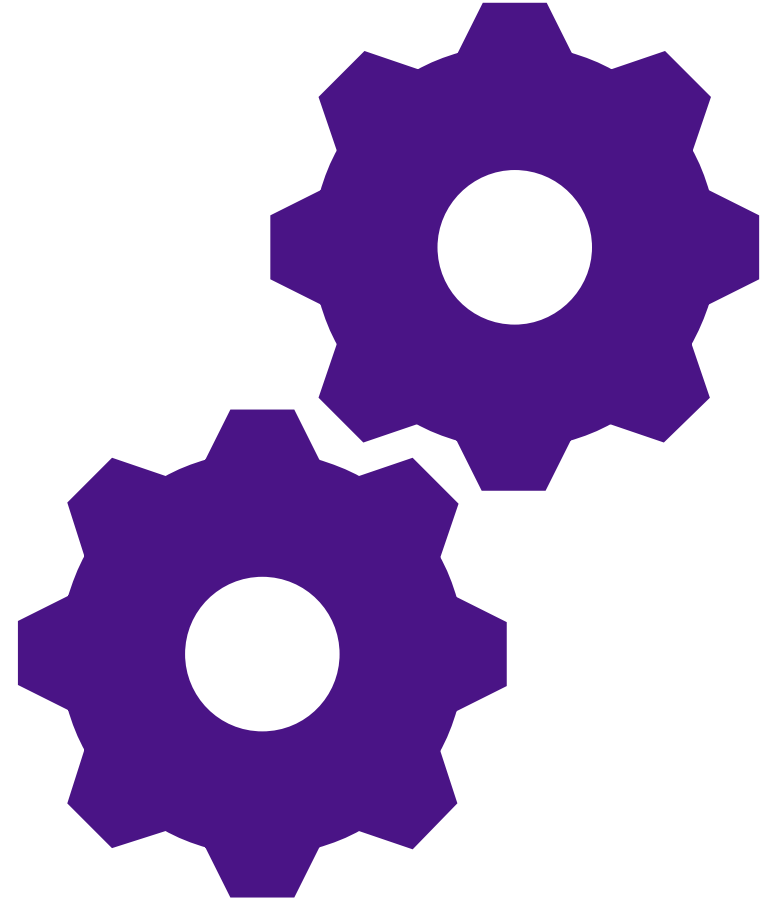


Measures





Dependent Variable



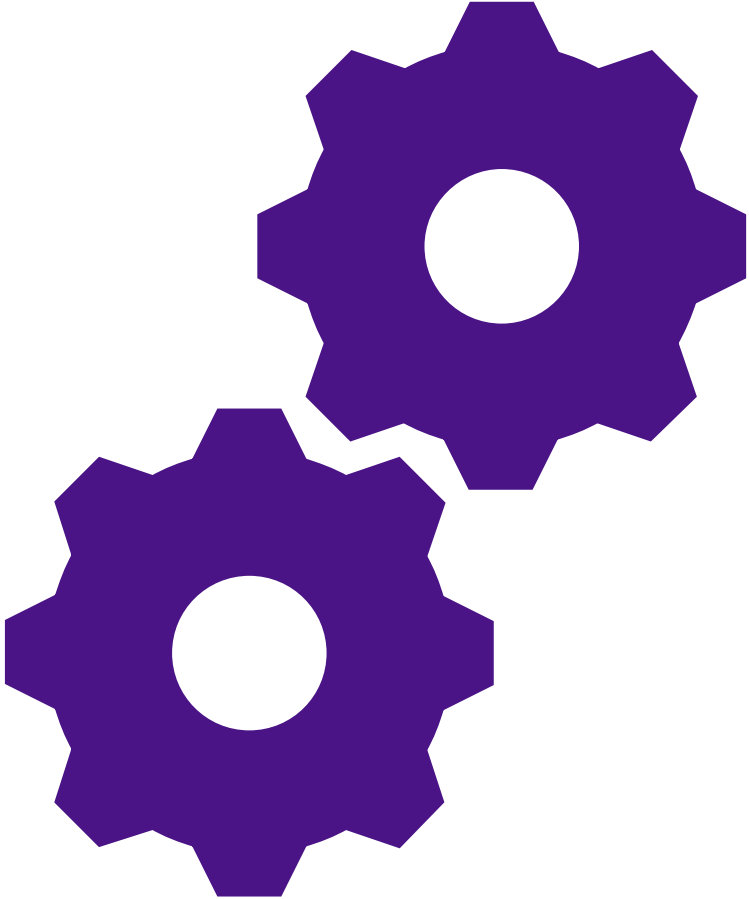
Net Coverage Rate (%)

$$= 100 \times \left[\frac{\text{Population Estimate} - \text{Census Count}}{\text{Population Estimate}} \right]$$

- This method has been previously validated and used by the U.S. Census and other researchers ([Hartley et al., 2021](#); [Jensen & Johnson, 2021](#); [King et al., 2018](#); [O'Hare, 2014](#)) to calculate the state's net coverage rate based on data from the population estimates and the U.S. Census.
- This indicator was level at the state level.



Domains tested for the correlation with the undercount

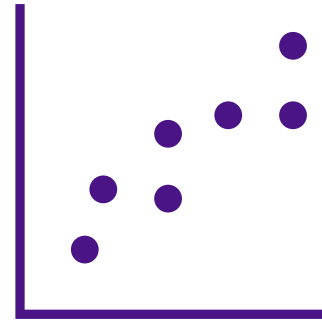


- Race/Ethnicity
- Housing
- Family Structure & Living Arrangements
- Immigration Status & Mobility
- Political Affiliation & Immigrant Policy Climate
- Socioeconomic Status
- Self-Response Rate

Analytical Strategy



Examine how the coverage rate varies by state



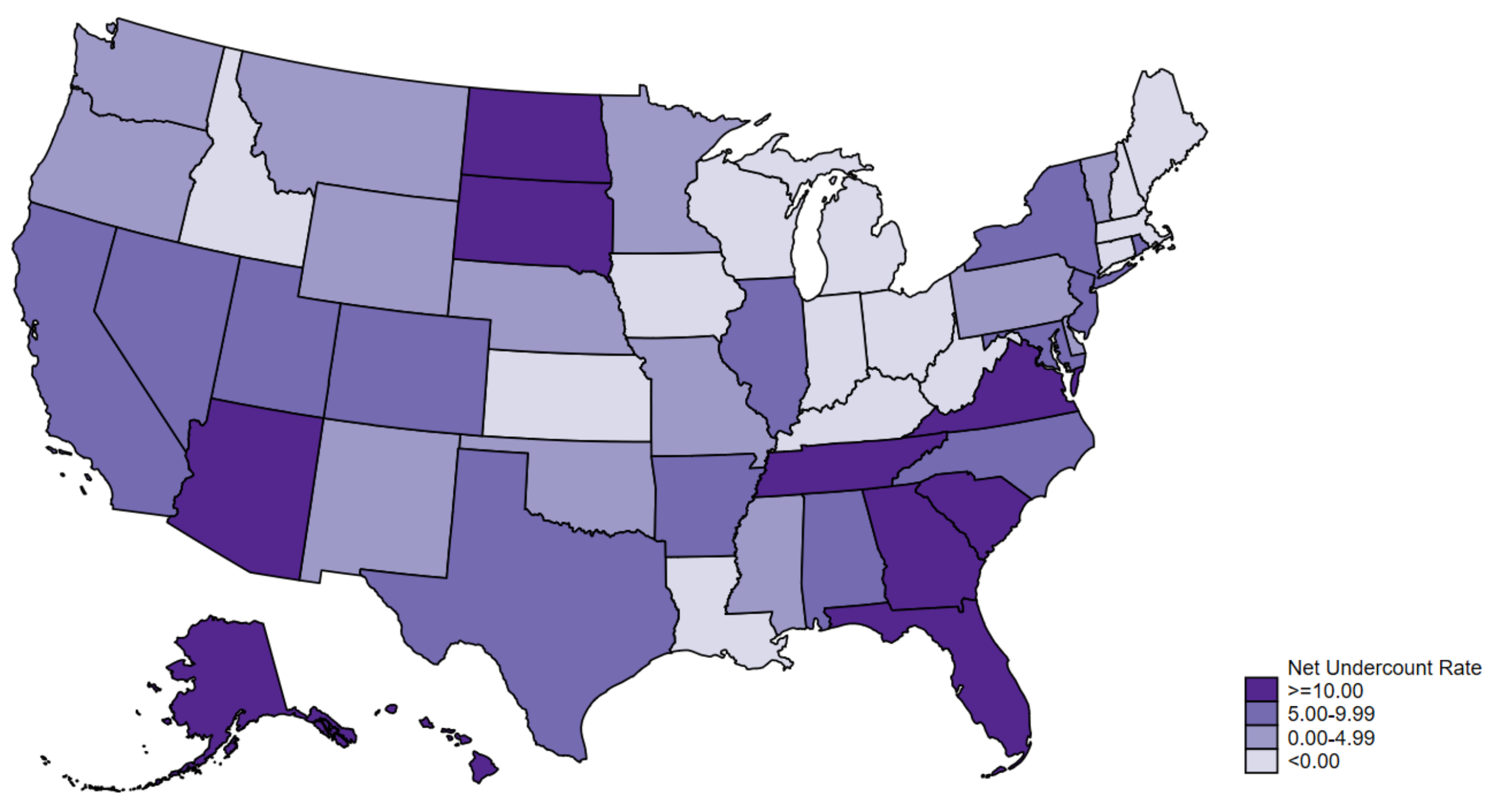
Conduct a correlational analysis



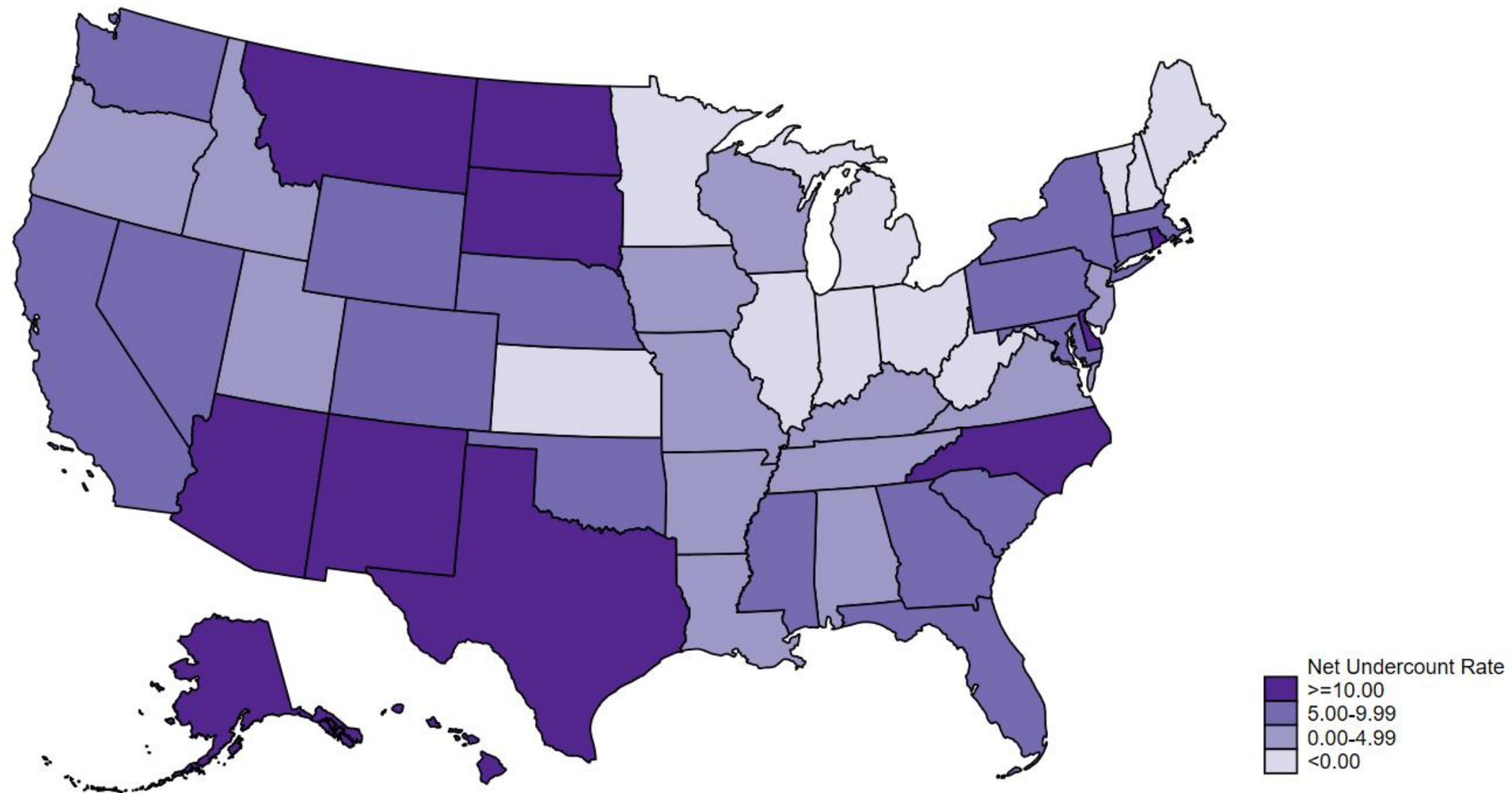
Results



U.S. Map 1: Net Coverage Rates for Young Hispanic Children (ages 0 to 4) in the 2010 Census



U.S. Map 2: Net Coverage Rates for Young Hispanic Children (ages 0 to 4) in the 2020 Census



Correlations of potential explanatory state-level variables with the state's net undercount of young Hispanic children, 2010 and 2020 by domain.



2010

2020

Race/Ethnic Composition

Percent of racial diversity (ages 0-4) 0.54*** 0.65***

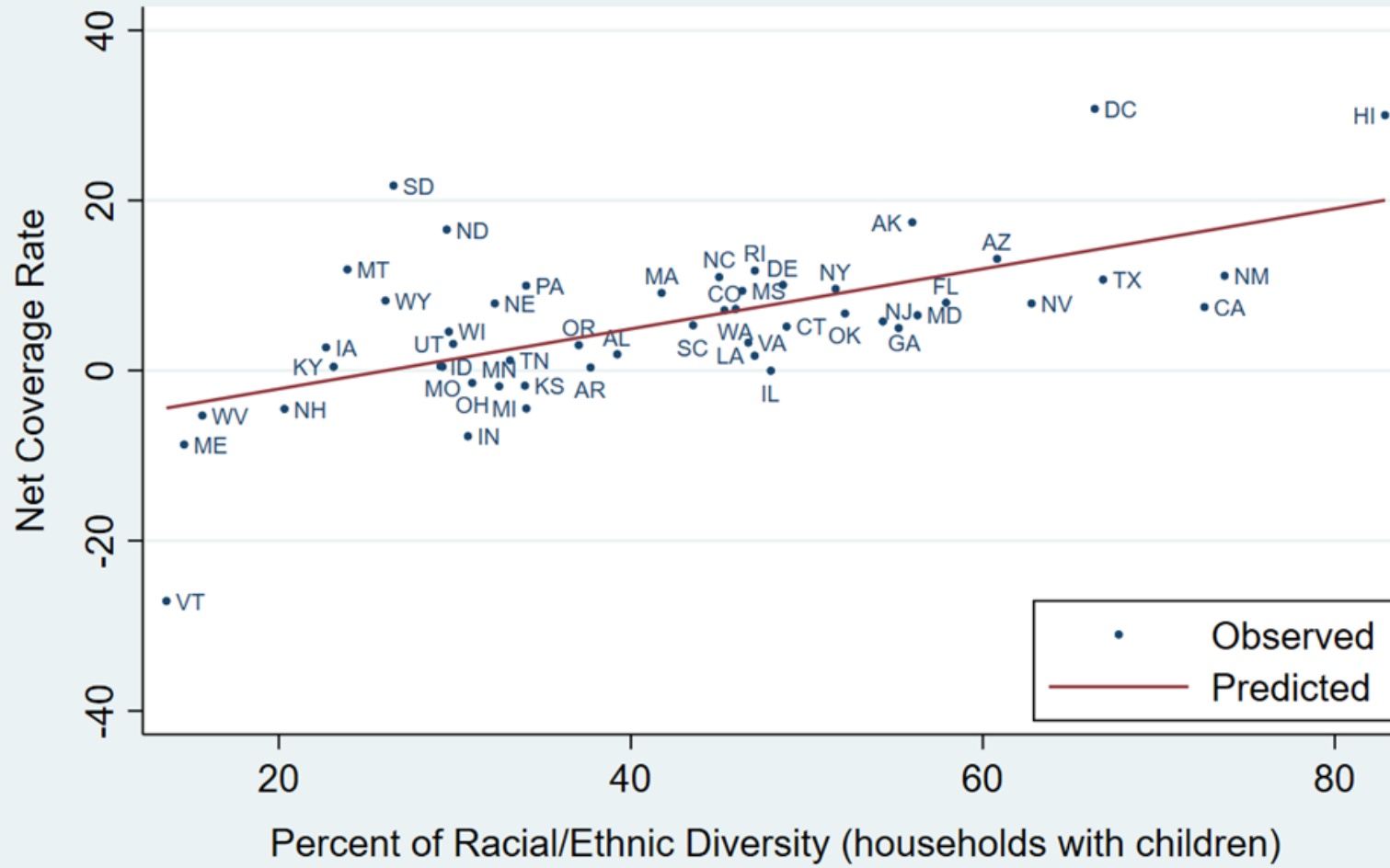
Percent of racial diversity (ages 5-17) 0.58*** 0.63***

Percent of racial diversity (households with related children under 18) 0.55*** 0.61***

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

+ means weak correlation, and *** means strongest correlation

Figure 2. States' Net Undercount Rate for Young Hispanic Children (ages 0-4) in the 2020 U.S. Census by Racial/Ethnic Diversity



The red line plots the prediction for the net undercount from a linear regression of the undercount on the percent of racial diversity.

Correlation with state racial/ethnic composition characteristics	2010	2020
Race/Ethnic Composition		
Percent non-Hispanic Black alone (ages 0-4)	0.32 *	0.13
Percent Hispanic (ages 0-4)	0.13	0.32 *
Percent non-Hispanic Black alone (ages 5-17)	0.37 **	0.18
Percent Hispanic (ages 5-17)	0.12	0.30 *
Percent non-Hispanic Black alone (households with related children)	0.35 *	0.15
Percent Hispanic (households with related children)	0.11	0.30 *

+p<0.1, *p<0.05, **p<0.01, ***p<0.001
+ means weak correlation, and *** means strongest correlation

The racial/ethnic diversity category includes anyone other than non-Hispanic whites. This measure has been called “percent minority” in similar studies (O’Hare et al., 2019; O’Hare, 2014). While imperfect, we prefer the term “racial/ethnic diversity” because the term minority is no longer accurate. For example, less than a quarter of children aged 0-4 were identified as non-Hispanic White alone in California in 2020. In this state, non-Hispanic White alone children are the minority. We acknowledge that in some states, one racial/ethnic group predominates over others (e.g., Blacks in Georgia and Hispanics in Arizona).

Correlation with State Housing Characteristics

	2010	2020
Housing		
Percent of renter-occupied households	0.56***	0.53***
Percent of housing units that are vacant	0.10	-0.26+
Percent of households in multi-unit buildings (2 or more units)	0.35*	0.42**
Percent of crowded households (1.01 or more occupants per room)	0.44**	0.50***

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

+ means weak correlation, and *** means strongest correlation

Correlation with state family structure characteristics

	2010	2020
Family Structure and Living Arrangements		
Percent of children ages 0-4 living in complex households	0.35*	0.20
Percent of children ages 0-4 living in multigenerational households	0.34*	0.33*
Percent of children 0-4 who live with nonrelative householder or in group quarters	0.24+	0.23+
Percent of children 0-17 living with a householder who is not their parent	0.48***	0.36**
Percent of households that have 7+ people	0.34*	0.33*

+p<0.1,*p<0.05, **p<0.01, ***p<0.001

+ means weak correlation, and *** means strongest correlation

Correlation with state migration characteristics

	2010	2020
Immigration Status and Mobility		
Percent of children ages 1-4 who have moved in the past year	-0.01	-0.02
Percent of adults ages 18+ who are foreign-born	0.30*	0.31*
Percent of adults ages 18+ who are not U.S. citizens	0.31*	0.34*
Percent of householders who are ages 15-34	-0.03	0.01

+p<0.1,*p<0.05, **p<0.01, ***p<0.001

+ means weak correlation, and *** means strongest correlation

Correlation with state political affiliation and immigrant policy climates

	2010	2020
Political Affiliation and Immigrant Policy Climate		
Immigrant exclusion score	0.13	-0.09
Percent of popular vote for Trump in the 2020 presidential election		-0.21

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

+ means weak correlation, and *** means strongest correlation

The immigration exclusion score indicates the degree of state policies penalizing immigrants


Correlation with state socioeconomic characteristics

	2010	2020
Socioeconomic Status		
Percent of families with children ages 0-4 in poverty	-0.03	-0.08
Percent of persons in poverty	-0.01	-0.12
Percent of persons ages 0-4 in poverty	-0.02	-0.04
Percent of adults ages 18+ with less than high school or equivalent	0.10	0.00
Percent of households linguistically isolated (no one ages 14+ speaks English "very well")	0.19	0.35*
Percent of population ages 18 and older with limited English proficiency (do not speak English "well")	0.20	0.28*

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

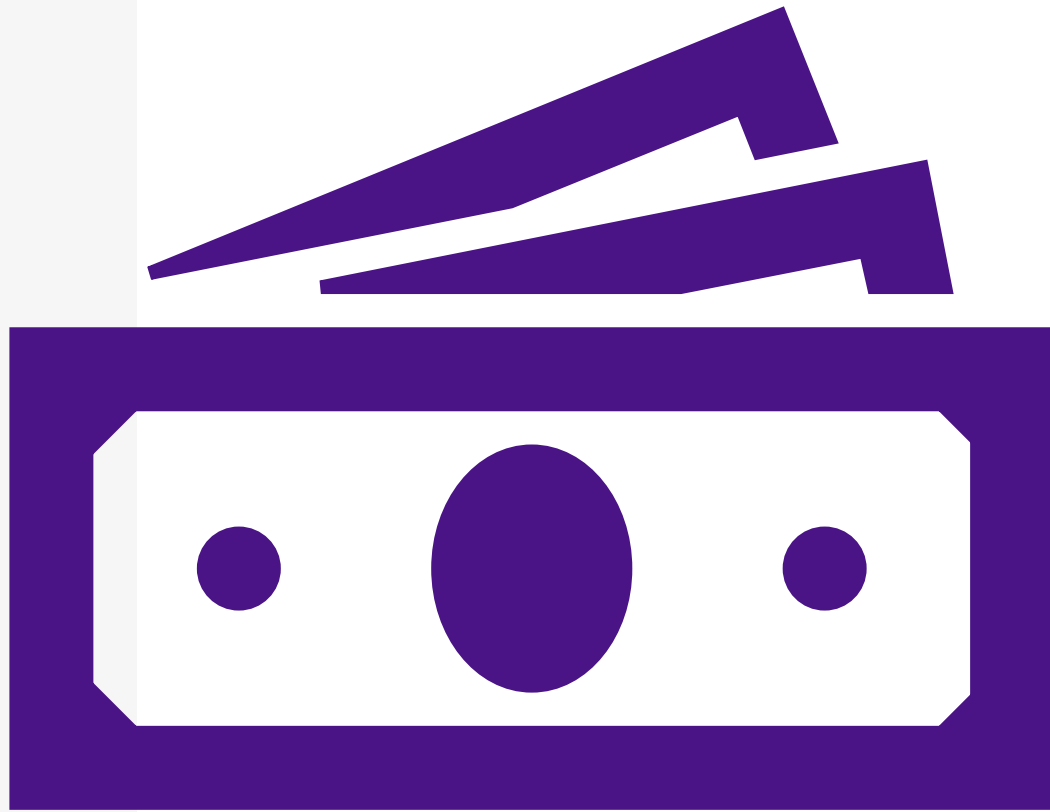
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Discussion

A group of young children, likely in a classroom, are looking up and listening attentively. The children are wearing light blue and white clothing. The background is slightly blurred, showing other children and a teacher or adult figure. The overall scene is bright and focused on the children's engagement.

The significance of the state's Hispanic population for state legislatures cannot be overstated.

The effort to draw legislative districts based on the number of voting-age citizens is based on the idea that doing so would advantage non-Hispanic Whites and Republicans and dilute the political power of the state's Hispanics (Wines, 2019)



A complete count of the population is critical for the equitable allocation of federal funds.

Based on census counts, the federal government distributes between \$2.1 and 2.8 trillion in federal funds to states and localities.

State's characteristics associated with the undercount

Associated

- Racial diversity
- Hispanic ethnicity (2020)
- Foreign-born composition
- Citizenship composition

Not associated

- Immigration exclusion score
- % voted for Trump

Housing characteristics
(rented & crowded
households) predicted
the Hispanic
undercount.



Living in multigenerational households and households with unrelated children also predicted the undercount.



Table 2A. Intercorrelation matrix for selected potential explanatory variables, 2020

	Percent of racial diversity (households with related children under 18)	Percent of renter-occupied households	Percent of crowded households (1.01 or more occupants per room)	Percent of children ages 0-4 living in multigenerational households	Percent of children 0-17 who are not biological, adopted or step-children of householder	Percent of adults ages 18+ who are foreign-born	Percent of adults ages 18+ who are not U.S. citizens	Immigrant exclusion score	Percent of popular vote for Trump	Percent of households linguistically isolated (no one ages 14+ speaks English "very well")	Percent of population ages 18 and older with limited English proficiency
Percent of racial diversity (households with related children under 18)	1.00										
Percent of renter-occupied households	0.58 ***	1.00									
Percent of crowded households (1.01 or more occupants per room)	0.71 ***	0.53 ***	1.00								
Percent of children ages 0-4 living in multigenerational households	0.68 ***	0.27 +	0.66 ***	1.00							
Percent of children 0-17 who are not biological, adopted or step-children of householder	0.53 ***	0.17	0.45 ***	0.79 ***	1.00						
Percent of adults ages 18+ who are foreign-born	0.72 ***	0.62 ***	0.68 ***	0.51 ***	0.13	1.00					
Percent of adults ages 18+ who are not U.S. citizens	0.75 ***	0.65 ***	0.69 ***	0.49 ***	0.12	0.97 ***	1.00				
Immigrant exclusion score	-0.37 *	-0.52 ***	-0.42 *	-0.16	-0.05	-0.60 ***	-0.58 ***	1.00			
Percent of popular vote for Trump	-0.46 ***	-0.62 ***	-0.36 *	-0.17	-0.11	-0.59 ***	-0.54 ***	0.72 ***	1.00		
Percent of households linguistically isolated (no one ages 14+ speaks English "very well")	0.74 ***	0.53 ***	0.69 ***	0.56 ***	0.21	0.95 ***	0.93 ***	-0.54 ***	-0.47 ***	1.00	
Percent of population ages 18 and older with limited English proficiency	0.71 ***	0.56 ***	0.68 ***	0.54 ***	0.14	0.96 ***	0.96 ***	-0.54 ***	-0.45 ***	0.97 ***	1.00

Sources: American Community Survey (ACS) data 2020 1-year files, Urban Institute' State Immigration Policy Resource 2022, and Federal Election Commission 2022

Notes: See Appendix for a detailed description of each measure.

+p <0.1, *p <0.05, **p <0.01, ***p <0.001

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

+ means weak correlation, and *** means strongest correlation



Thank you!

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Table IA. Categorization for immigrant policies, 2010 and 2020

	Policy Description	Inclusive (-1)	Neutral (0)	Restrictive (1)
Public Benefits	Offers cash assistance at levels close to those received under SSI to LPRs who are ineligible for SSI even after five years with this status	Yes		No policy
	Funds TANF-like cash assistance for LPRs during their first five years with this status*	Yes		No policy
	Provides TANF for LPRs after the five-year ban*	Yes		No policy
	Provides food assistance for LPR children during the five-year ban	Yes		No policy
	Provides food assistance for LPR adults during the five-year ban	Yes		No policy
	Provides Medicaid/CHIP for LPR children during the five-year ban	Yes		No policy
	Provides public health insurance to some unauthorized immigrant children	Yes		No policy
	Provides public health insurance to LPR adults during the five-year ban	Yes		No policy
	Provides public health insurance to some unauthorized immigrant adults	Yes		No policy
	Provides Medicaid for LPR pregnant women during the five-year ban	Yes		No policy
	Provides Medicaid for unauthorized immigrant pregnant women	Yes		No policy
Integration	Allows certain unauthorized immigrant students to apply for in-state tuition for	Yes		No policy
	Allows certain unauthorized immigrant students to apply for in-state financial aid	Yes		No policy
	Allows unauthorized immigrants to apply for state driver's license	Yes		No policy
	Denies university enrollment for unauthorized immigrant students	No policy		Yes
	Formally recognizes English as its official language	No policy		Yes
Enforcement	Has 287(g) agreement task force model in place		No policy	Yes
	Has 287(g) agreement jail model in place		No policy	Yes
	Has 287(g) agreement Warrant Service Officer model in place		No policy	Yes
	Participate in Secure Communities. Through this program, the FBI shares fingerprints with immigration enforcement agencies for checks against immigration databases		No policy	Yes
	Mandates some or all employers to use E-Verify mandate, a system that confirms the employment eligibility of workers*		No policy	Yes
	Has multiple enforcement-related measures on the books as a result of passing an omnibus immigration bill, such as Arizona's SB1070 and copycat bills in several states*		No policy	Yes
	Has a policy to block cities, counties, or other jurisdictions from requiring employers to use E-Verify	Yes	No policy	

Note: * Indicates there was no data for 2020