

Preschool Enrollment in the United States: 2005 to 2019

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Background

- This project uses American Community Survey (ACS) data to examine individual and state-level trends in preschool enrollment from 2005 to 2019 (every year of ACS data).
- The [ACS](#) is an ongoing national survey that provides vital information on a yearly basis about our nation and its people.
- First, we explore descriptive national trends in preschool enrollment from 2005-2019 and identify individual-factors associated with preschool enrollment.
- Then we examine how preschool enrollment changed across states and seek to identify factors associated with state-level changes in preschool enrollment.

Motivation for Project

- Early childhood education provides a more structured and academic component to childcare when compared with more informal care options ([Bassok et al. 2016](#))
- Preschool attendance is associated higher reading and math skills as well as better scores on achievement tests compared to non-preschool enrollment ([Ansari 2018](#), [Lee et al. 2018](#))
- Some studies show preschool enrollment can facilitate labor force participation¹ and increase educational attainment for parents ([Kesler 2020](#); [Sabol and Chase Lansdale 2015](#))

Data Validation Checks

- Prior to undertaking this work, we compared the ACS estimates and models presented here to other census data such as the Survey of Income and Program Participation (SIPP) and the Current Population Survey (CPS).
- Though some differences emerge, the overall trends and associations we identify are consistent across surveys.

National Trends in Preschool Enrollment: 2005-2019

- From 2005 to 2019, preschool enrollment has increased in overall numbers and in the percentage of 3- and 4-year-olds enrolled in preschool.
- During the Great Recession and its aftermath (2008-2013), there was a national drop-off in preschool enrollment, but recent gains put preschool enrollment above its level in 2005.
- Public school enrollment has expanded, as the number of children enrolled in public preschool increased by about 470,000 (an 18.5 percent increase) from 2005 to 2019.
- Gains in public preschool have come at the expense of private preschool, which has over 200,000 fewer enrollees (a 9.5 percent decline) in 2019 compared with 2005.

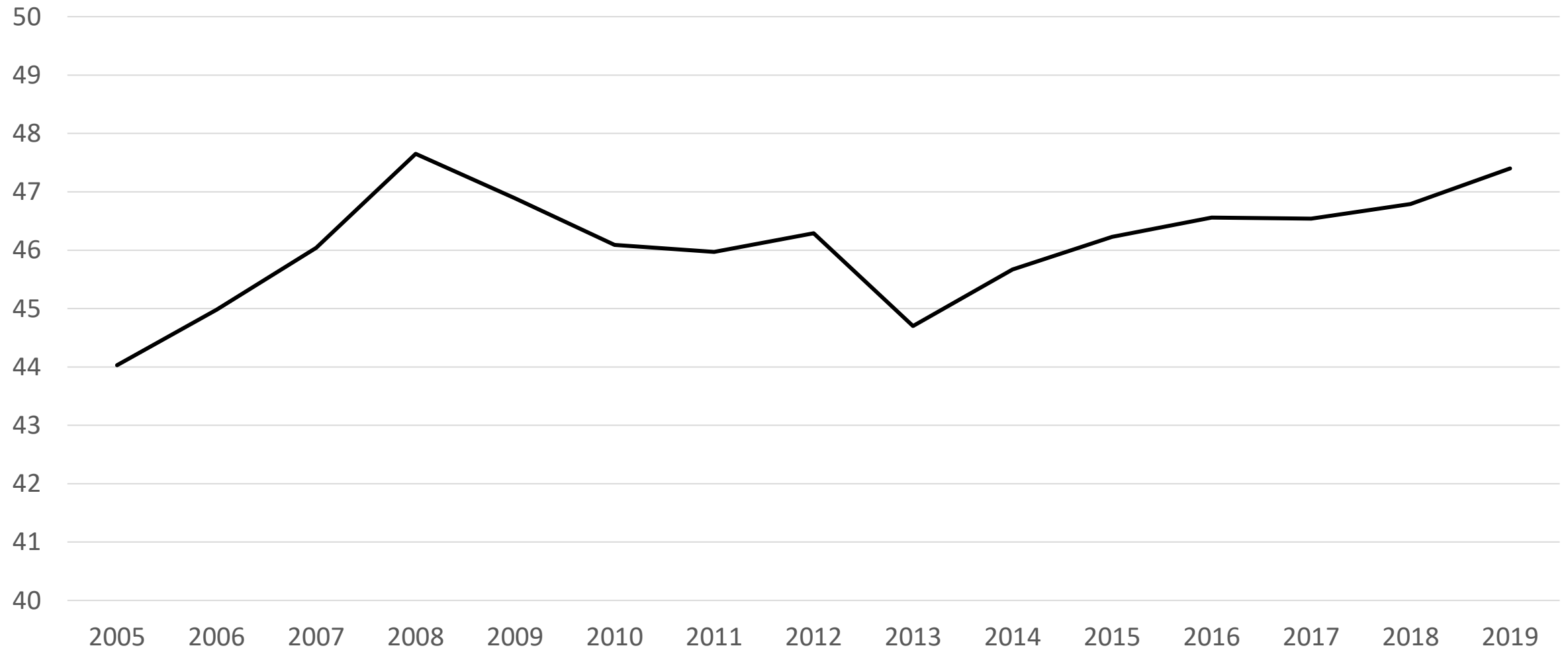
National Preschool Enrollment Trends: 2005 to 2019

	Number of children enrolled (in thousands)			Percentage of 3- and 4-year-old children enrolled			Percentage of 3- and 4-year- olds with working mothers enrolled		
	Any Preschool	Public School	Private School	Any Preschool	Public School	Private School	Any Preschool	Public School	Private School
2005	4,785	2,541	2,244	44.0	22.6	21.5	48.0	23.3	24.7
2019	5,044	3,012	2,032	47.4	27.5	19.9	51.8	28.9	22.9
Change	259	471	-212	3.4	4.9	-1.6	3.8	5.6	-1.8

Note: The number of children enrolled includes all preschool enrollees, not just 3- and 4-year-olds.

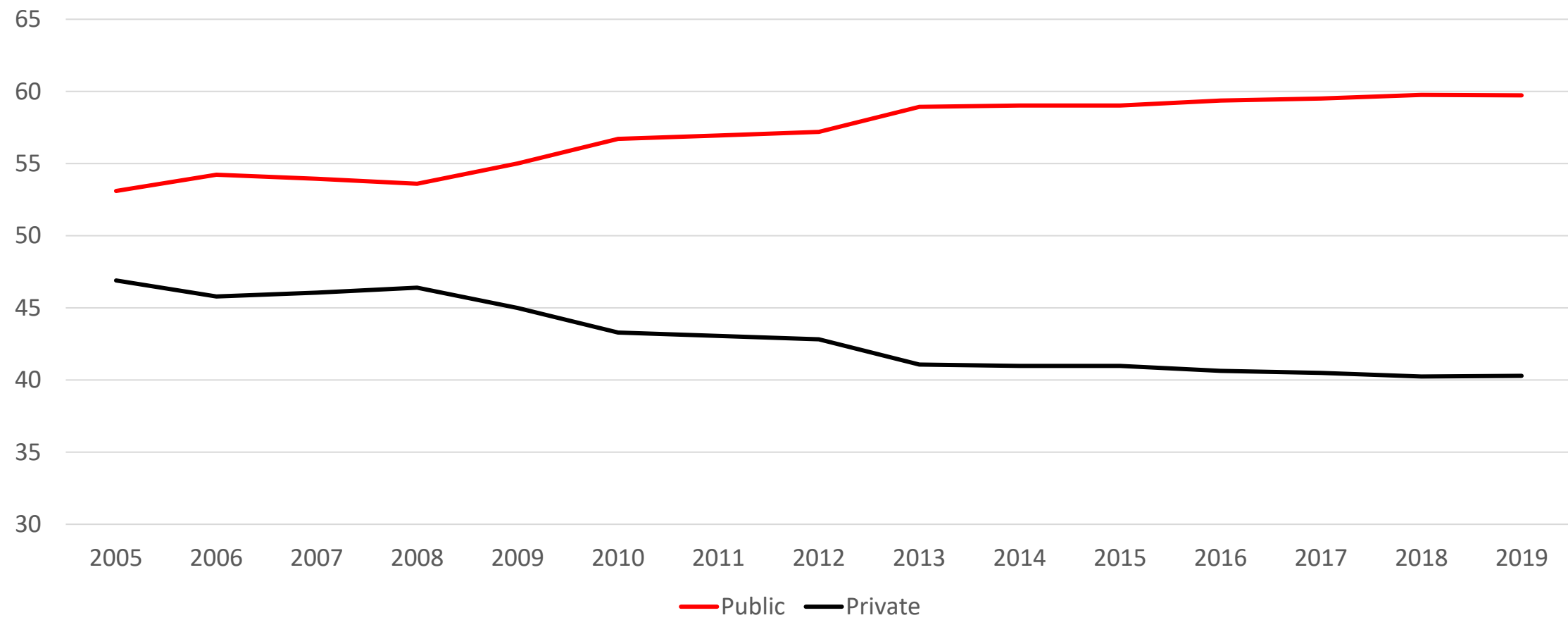
Source: U.S. Census Bureau, American Community Survey 2005 and 2019 1-year data. For more information, see <[census.gov/acs](https://www.census.gov/acs)>

Percentage of 3- and 4-Year-Olds Enrolled in Preschool: 2005-2019



Source: U.S. Census Bureau, American Community Survey 2005-2019 1-year datasets. For more information, see <[census.gov/acs](https://www.census.gov/acs)>

Public and Private Preschool Enrollment Shares: 2005 to 2019



Source: U.S. Census Bureau, American Community Survey 2005-2019 1-year datasets. For more information, see <census.gov/acs>



What Does the Shift to Public Schools Tell Us About Early Childhood Education?

- The next table uses a logistic regression model to examine the individual-level factors associated with preschool enrollment in 2019.
- Individuals with lower household incomes and working mothers are more likely to enroll their children in public preschool compared with higher income households and non-working mothers.
- In contrast, children with parents that have high levels of education and/or household income are more likely to enroll in private preschool compared to their less advantaged counterparts.
- Taken together, the expansion of public preschool from 2005 to 2019 has likely made preschool enrollment more accessible for the general public.

Logistic Regression Model on Preschool Enrollment (2019)

Independent Variables		Total Enrollment	Public Enrollment	Private Enrollment
Mother's Age⁴		1.02 ***	1.01 **	1.03 ***
Parent's Education⁵ (reference = Less than high school)	<i>High School</i>	1.23 ***	1.18 ***	1.47 ***
	<i>Some College</i>	1.59 ***	1.30 ***	2.44 ***
	<i>Bachelor's Degree or Higher</i>	2.49 ***	1.04	5.49 ***
Household Income Quintile (reference = lowest quintile)	<i>2nd</i>	0.92 **	0.90 ***	1.17 ***
	<i>3rd</i>	0.98	0.86 ***	1.51 ***
	<i>4th</i>	1.13 ***	0.80 ***	2.02 ***
	<i>5th</i>	1.67 ***	0.67 ***	3.27 ***
Mother Work Status (reference = mother working)	<i>Mother Working</i>	1.32 ***	1.30 ***	1.06 *
	<i>Mother not present</i>	1.02	1.10 *	0.91
Householder's Marriage Status (reference = not married or single parent)	<i>Married</i>	0.89 ***	0.90 ***	1.00

Source: U.S. Census Bureau, American Community Survey 2019 1-year data. For more information, see <[census.gov/acs](https://www.census.gov/acs)>

Note: 1. The numbers reported are odds ratios.

2. * = $p < .05$, ** $p < .01$, *** $p < .001$

3. Model results are truncated; this model also controls for child's age, race, Hispanic origin, parent citizenship status, and census region.

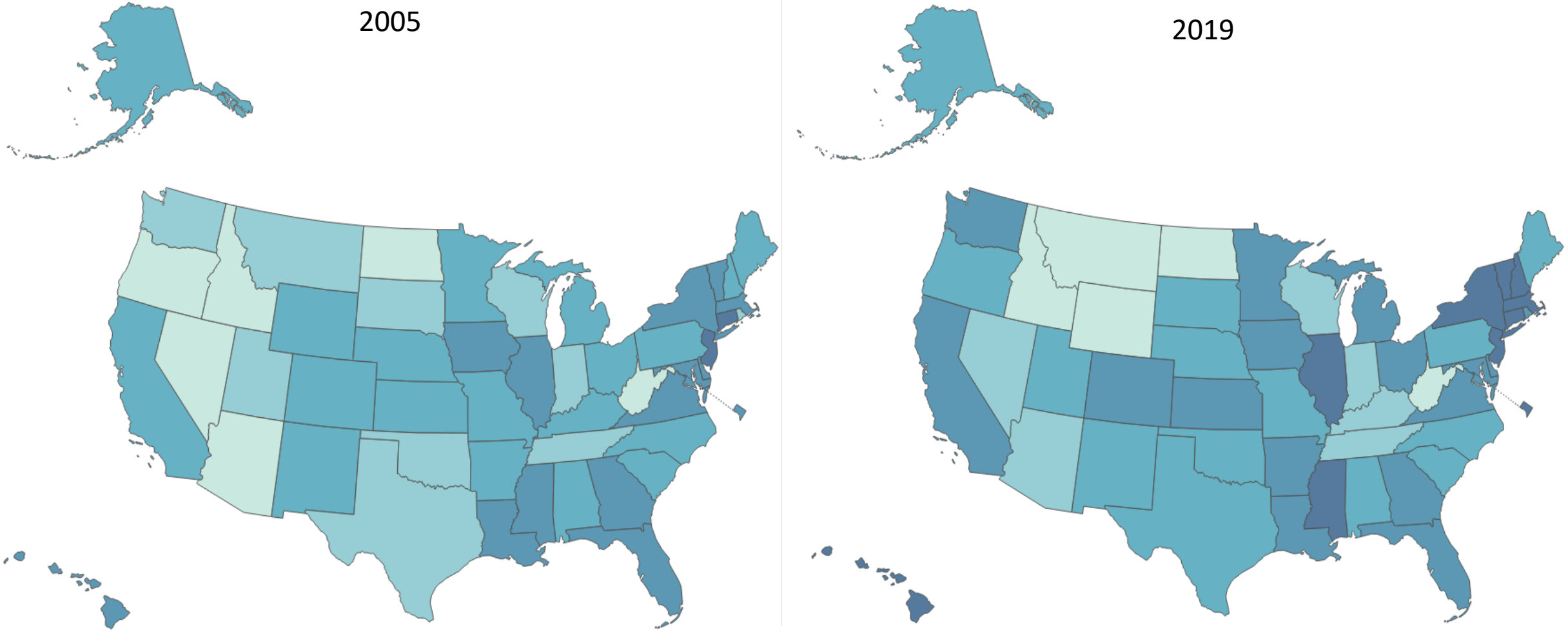
4. In cases where a child does not have a mother, father's age is used in place of mother's age.

5. When both parents are present, parent's education is measured using the highest level of education.

How Has Preschool Enrollment Changed Across States?

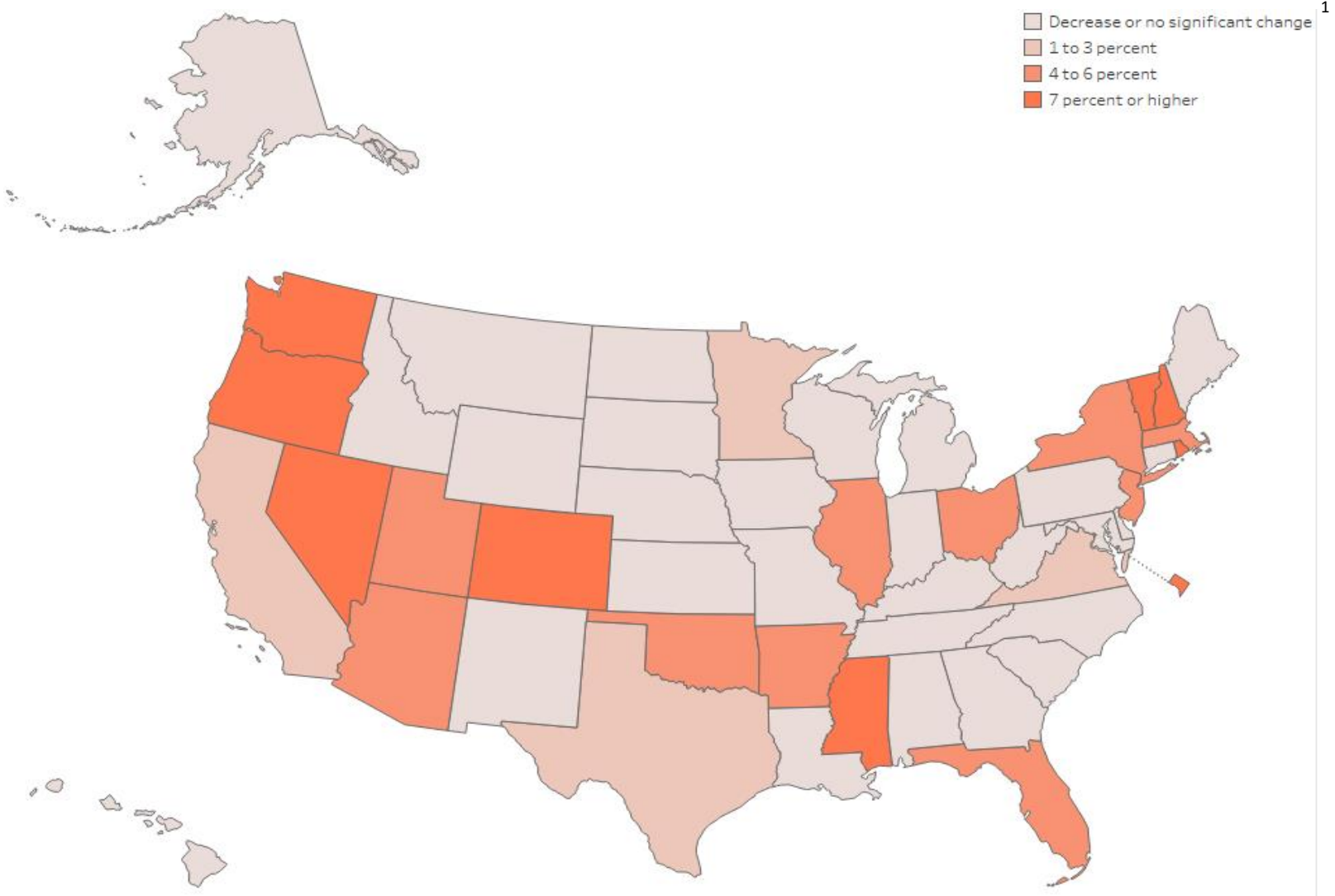
- The growth in preschool enrollment has largely not changed the distribution in the level of preschool enrollment across states.
- Regionally, the West and Northeast are high-growth areas for preschool enrollment.
- Beyond the regional high-growth areas, there is not a discernable pattern to increases in preschool enrollment across states.

Percentage of 3- and 4-Year-Olds Enrolled in Preschool by State: 2005 and 2019



Source: U.S. Census Bureau, American Community Survey 2005 and 2019 1-year data. For more information, see <[census.gov/acs](https://www.census.gov/acs)>

Percentage-Point Increase in the Percentage of 3- and 4-Year-Olds Enrolled in Preschool from: 2005 to 2019



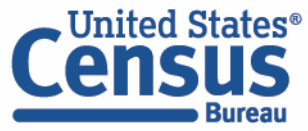
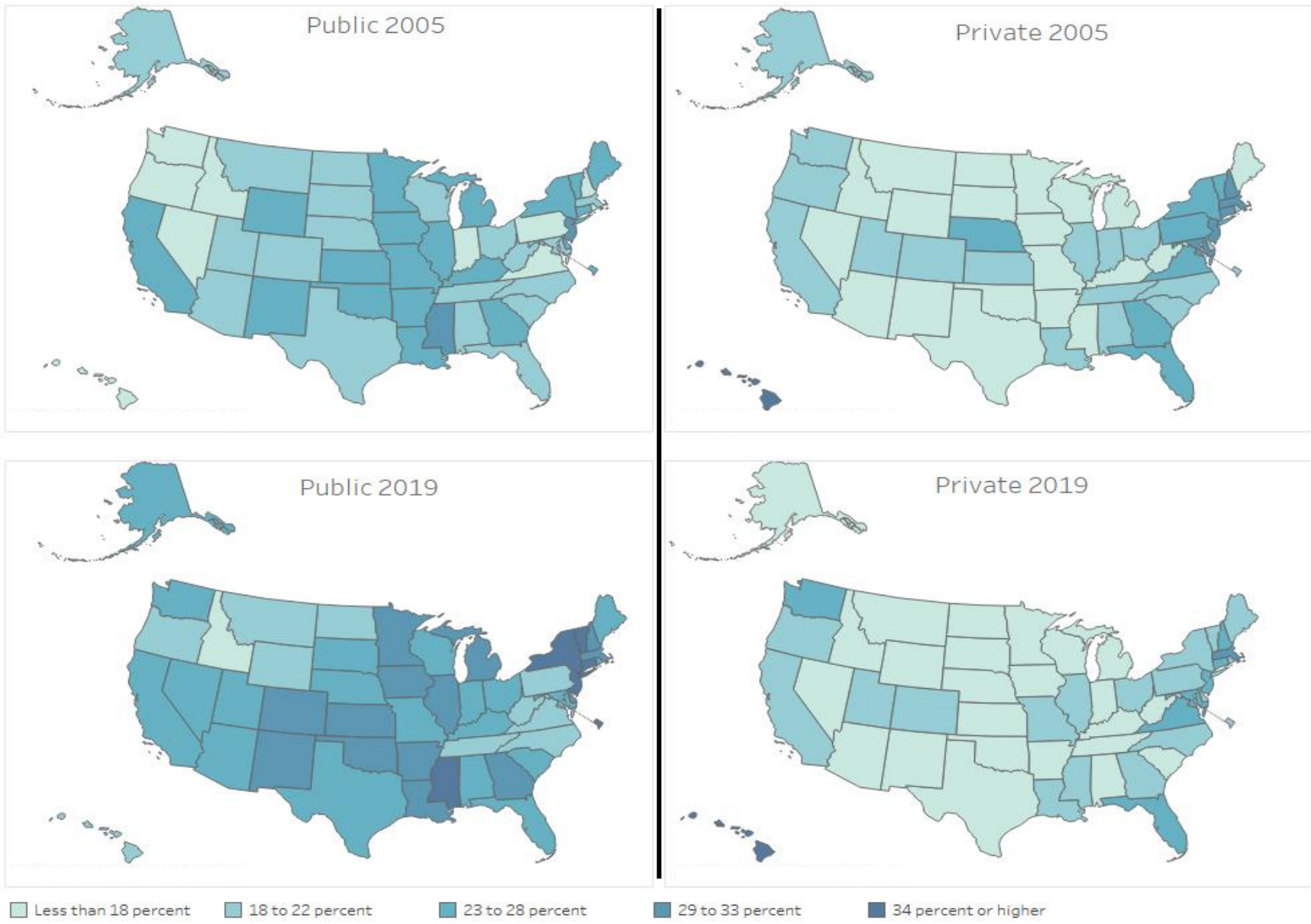
Source: U.S. Census Bureau, American Community Survey 2005 and 2019 1-year data. For more information, see <census.gov/acs>

Note: 1. Kentucky was the only state with a statistically significant decrease.

What Does the Expansion of Public Preschool Look Like Across States?

- The percentage of children enrolling in public preschool has expanded across states.
- The percentage of preschool enrollees enrolled in private preschool declined from 47 percent to 40 percent from 2005 to 2019.
- In 2019, private preschool enrollment is more common on the east and west coasts of the country compared to other states, but these areas also saw declines in private enrollment over the timespan.

Percentage of 3- and 4-Year-Olds Enrolled in Preschool By State and School Type



Source: U.S. Census Bureau, American Community Survey 2005 and 2019 1-year data. For more information, see census.gov/acs

What Characteristics Affect States' Levels of Preschool Enrollment from 2005 to 2019?

- The pattern of growth in preschool enrollment across states is not obvious from simply looking at the map.
- To explore these changes further, we use an OLS regression model on state-level percentage-point change in preschool enrollment from 2005 to 2019.
- Changes in the percentage of 3- and 4-year-olds with working mothers are positively associated with changes in states' preschool enrollment.
- Changes in socioeconomic conditions at the state level were not associated with changes in states' preschool enrollment.
- Though not pictured, similar patterns are found when exploring changes in public preschool enrollment.

State Level OLS Regression Model on Percentage-Point Change in Preschool Enrollment from 2005 to 2019

Variable	Percentage-Point Change 2005-2019
3- and 4-year-old children with working mothers (percentage change, 2005-2019)	0.502*
Bachelor's degree or higher (percentage change, 2005-2019)	NS
Poverty rate (percentage change, 2005-2019)	NS
Median home value (dollar change, 2005-2019)	NS
Urban (percentage change, 2005-2019)	NS

Source: U.S. Census Bureau, American Community Survey 2005 and 2019 1-year data. For more information, see <[census.gov/acs](https://www.census.gov/acs)>

Notes:

1. Numbers reported are OLS regression coefficients
2. * = $p < .05$
3. Dependent variable is measured as the percentage-point difference between the percent of 3- and 4-year-olds enrolled in preschool in 2019 and 2005 across states.

Summary of State Level Changes and Their Association with Changes in Preschool Enrollment from 2005 to 2019

Correlation in Multivariate and Bivariate Models	No correlation
Percentage change in 3- and 4-year-old children with working mothers	Percentage change in urban population
Census region	Percentage change in bachelor's degree attainment or higher
	Percentage change in poverty rate
	Percentage change in unemployment rate
	Change in the percentage of the state's population that is white-alone*
	Percentage change in all children with working mothers*
	Dollar change in median income
	Dollar change in median home value

Notes:

1. * = Variable is associated with change in preschool enrollment when looking specifically at public school enrollment
2. **Percentage Change** refers to the percentage-point change in the state-level estimate from 2005 to 2019

Conclusion

- Preschool enrollment from 2005 to 2019 is characterized by consistent growth and a shift to enrollment in public schools.
- The expansion of public preschools nationally should lead to expanded opportunities for parents and families to access early childhood education for their children.
- Geographic, demographic, and economic patterns to the expansion of preschool over the timespan are difficult to understand, but increases in the percentage of working mothers are associated with gains in preschool enrollment.

Questions?

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