Age of Women when having babies in the US

Yutong Han
GEG: 691 GIS 1
24/04/2019

Background

An interesting topic strongly caught my eyes when I went through the New York Times' website, " **The Age That Women Have Babies**". The report not only says that women gradually have their first baby **at a later age** in 2016 compared with 1980, but also points out that **the biggest factor** of this situation is **education**, not geography or **home prices**.

Is it true? I want to **verify** this conclusion with data and the help of GIS.

Research Question

After deciding my topic, I'd like to **compare** the distribution of each state's **education attainment of bachelor's degree**, **value of home** and **mean age of mother** between 2000 and 2018 to answer the following questions.

1. How did **the age of women who have their first baby** in the United States **change** in these years?
2. Is there a **correlation** between **value of home** and the change of the age of women who have their first baby?
3. Is there a **correlation** between **education level** and the change of the age of women who have their first baby?

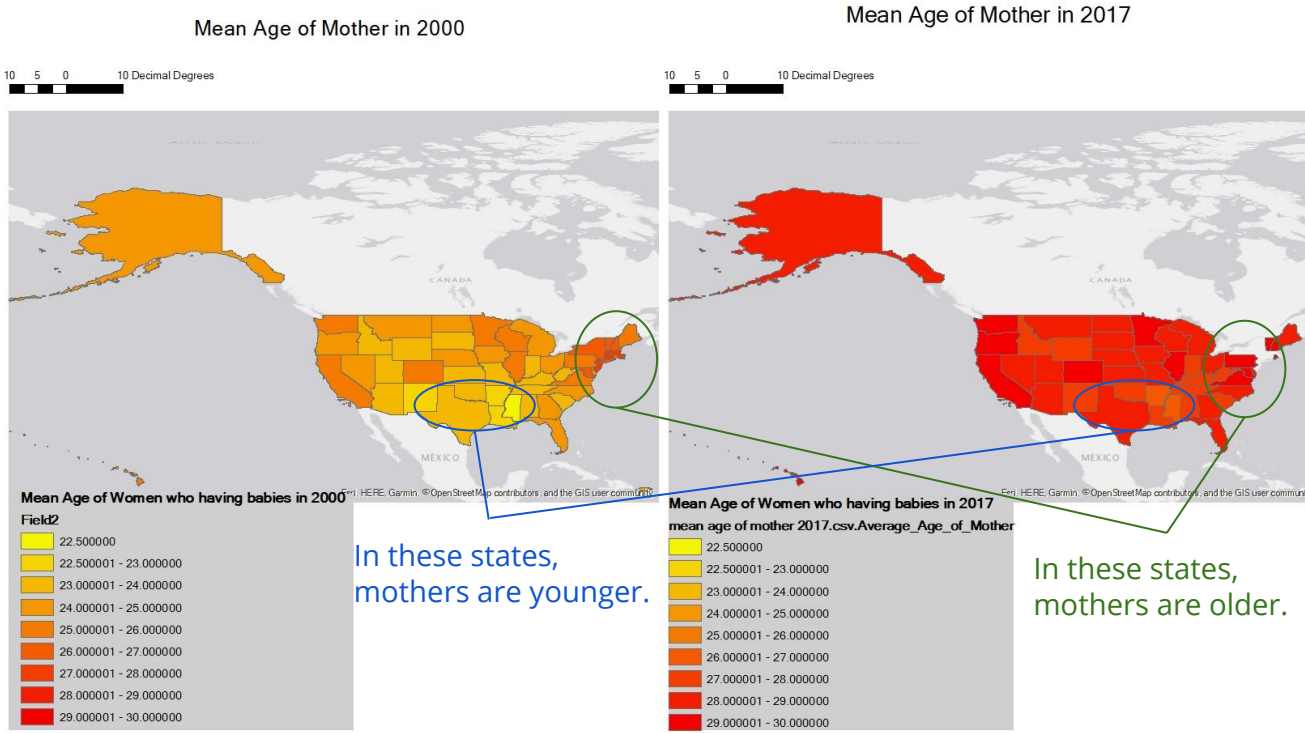
Data Acquisition

For the study, I used public data (mean age of mother) from **America's Centers for Disease Control and Prevention (CDC)** and data (value of home, education level) from **Simply Analytics**.

The Change of Mean Age of Mother

The mean age of mother in 2017 is 28.65, **4 years older** than 24.65 in 2000. There are **more women in their early 30s** having babies than younger mothers for the first time.

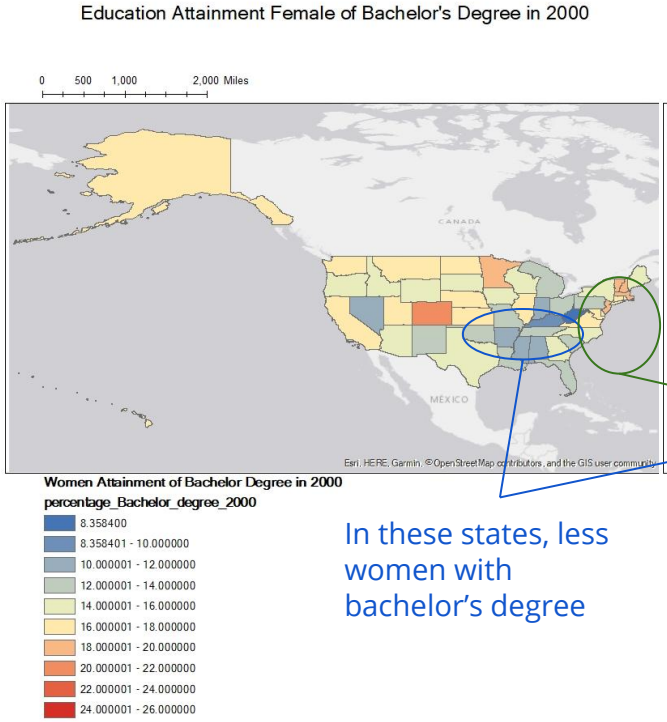
First-time mothers are **older in big cities and on the coasts (eg. New York)**, and **younger in rural areas and in the Great Plains and the South (eg.Oklahoma)**.



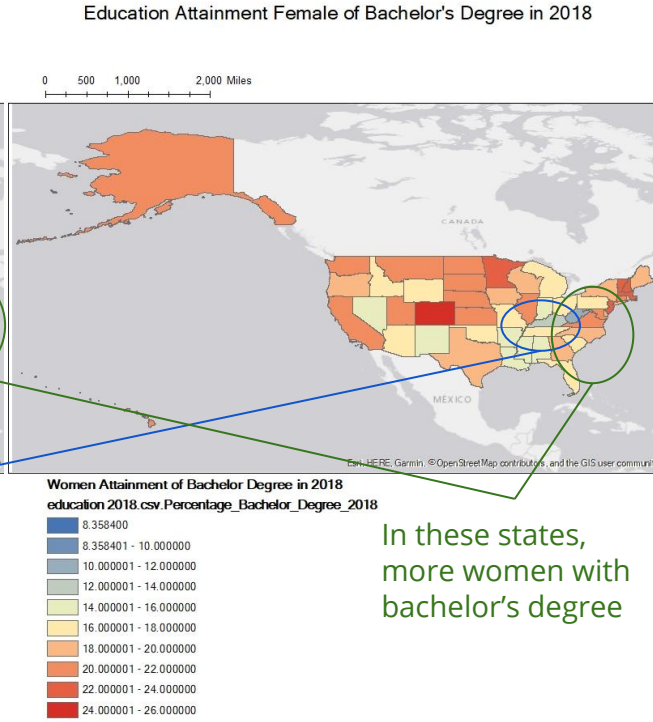
The Change of the Percentage of Women with Bachelor's Degree or Higher

The **average percentage** of women with bachelor's degree or higher in 2018 is 29.94%, **higher 7.19%** than 22.75% in 2000. There are **more women with higher education level** compared with before.

Women with higher education also focus **in big cities and on the coasts (eg. New York)**, and **less in rural areas and in the Great Plains and the South (eg.Oklahoma)**.



In these states, less women with bachelor's degree

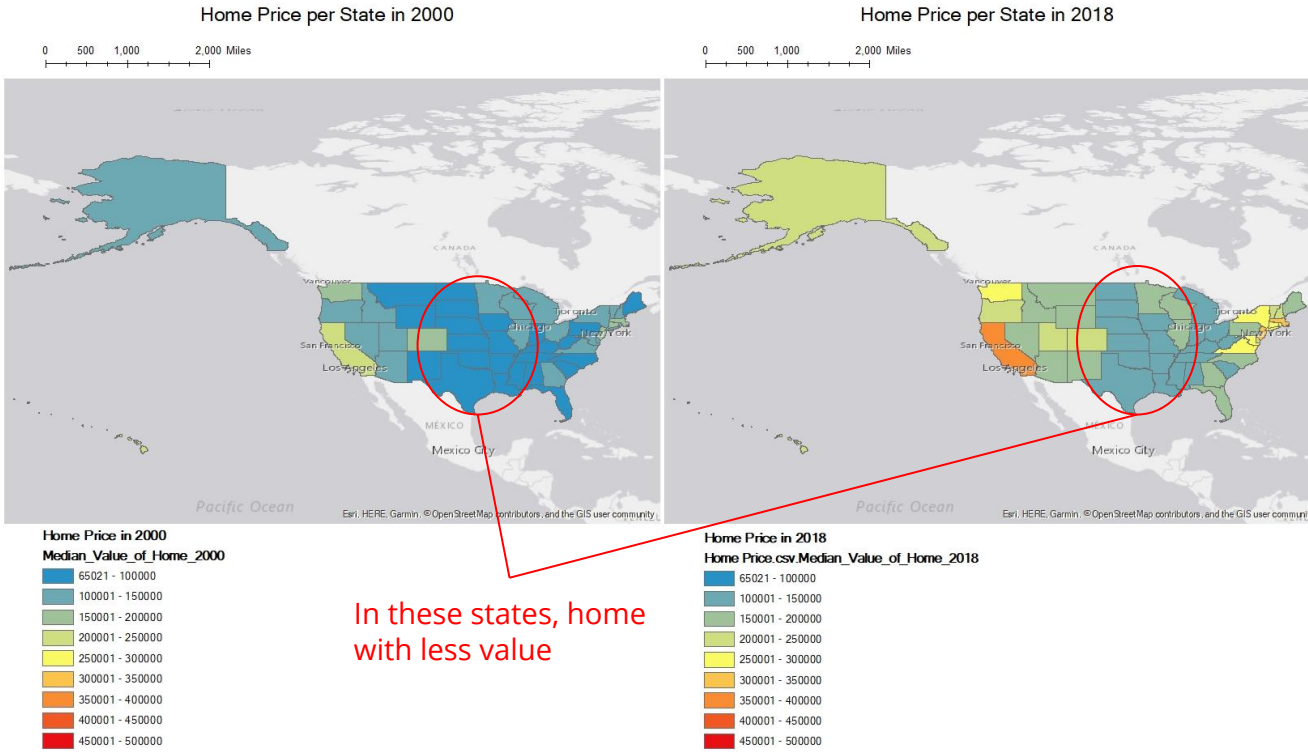


In these states, more women with bachelor's degree

The Change of Value of Home

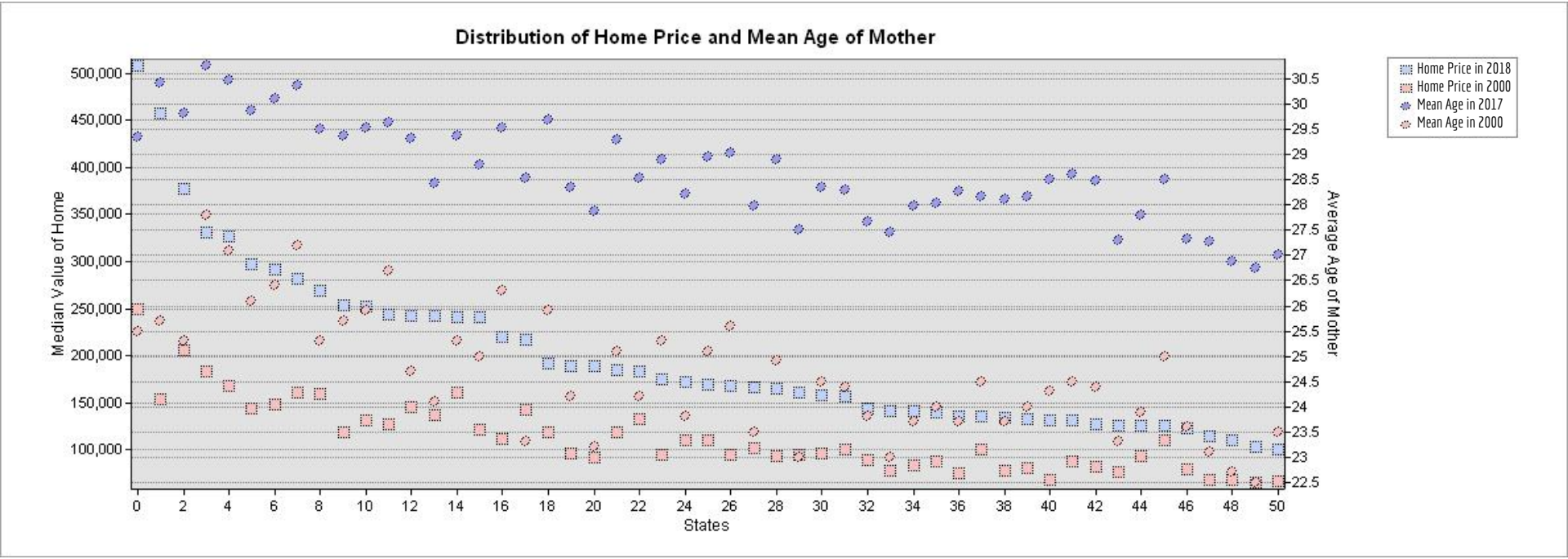
The **average value of home** in 2018 is $198,882, **higher $86,047** than $112,835 in 2000.

Home with higher value is **not very obvious** in big cities and on the coasts (eg. District of Columbia). But **home with less value** is **obvious** in rural areas and in the Great Plains and the South (eg.Oklahoma).



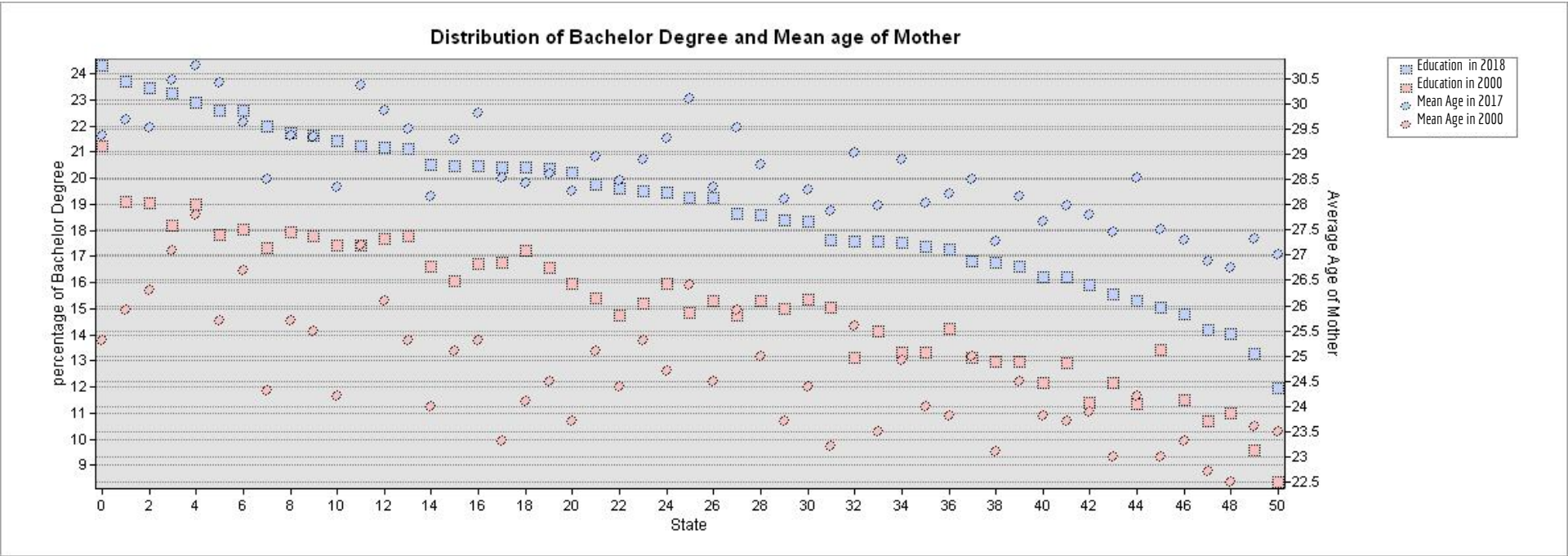
The Distribution between Home Price and Mean Age of Mother

The correlation coefficient is 0.6639 (2000) and 0.7753 (2018). They have **strong correlation** with each other.



The Distribution between Education Attainment and Mean Age of Mother

The correlation coefficient is 0.7670 (2000) and 0.8127 (2018). They have **stronger correlation than the correlation between home price and mean age, especially in 2018**.



Conclusion

There are **more women in their early 30s** having babies than younger mothers for the first time.

There is a **strong correlation** between **value of home, education attainment** and the change of the age of women who have their first baby.

But **college is a stronger factor than value of home**.

Thank you!