

Title card	What are the general trends?	Does the age of the mother at the time of ..	Does the education level of the mother pl..	Looking at these factors, what future t..	The summary
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Birth trends in the United States of America (2016 to 2021)

Research objective:

Understanding the trends in childbirths in the USA through the years (2016 - 2021) via the lenses of education level and age of the mothers at the time of birth

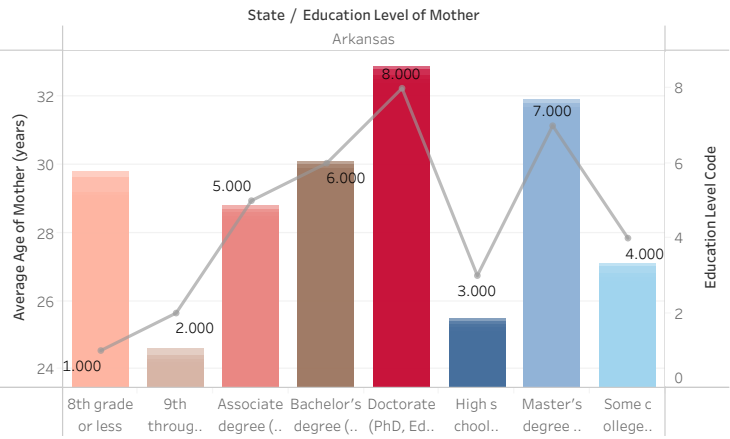
Seminar: Advanced Data Visualisation, LB1

Author: Ms. Mariam Adrian Hussein

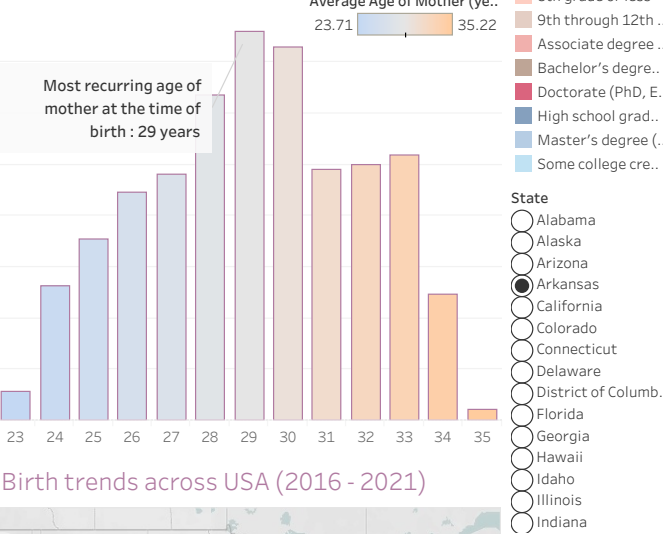
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Trends in Child birth in The United States (2016 - 2021)

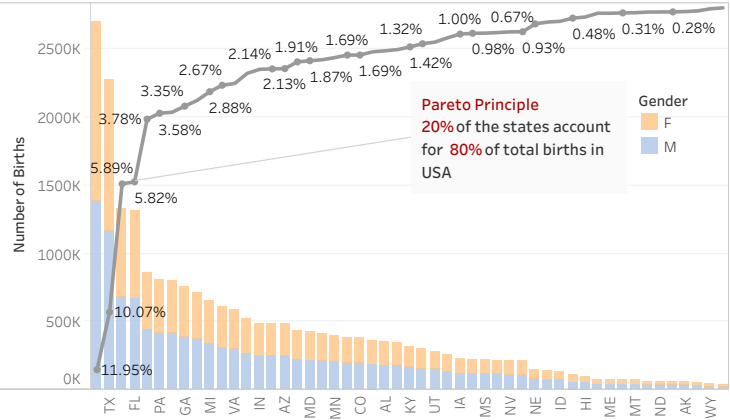
Education level of mothers across the states



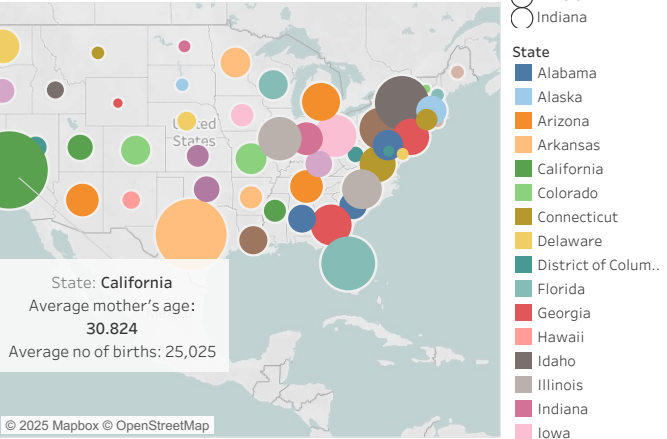
Average age of mothers (general)



Total number of births and gender of babies born in each state



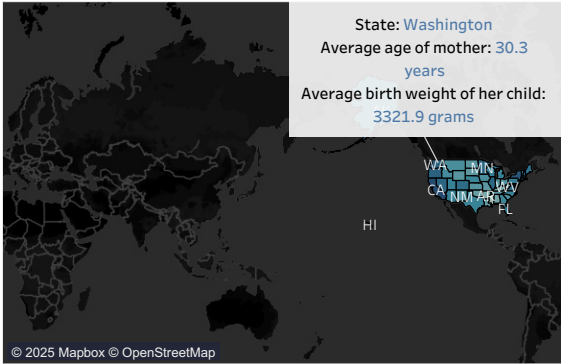
Birth trends across USA (2016 - 2021)



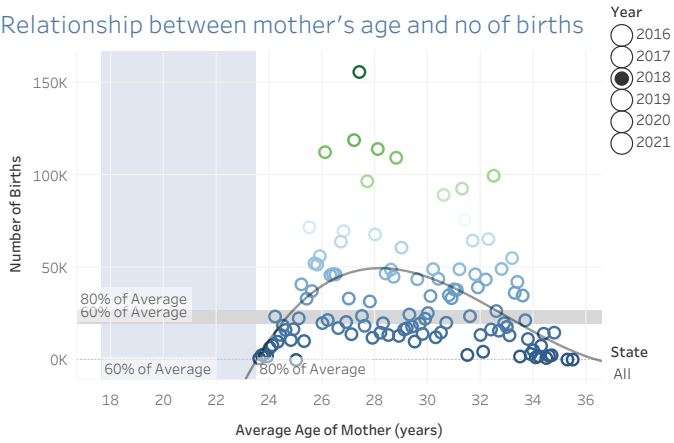
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Relationship between the mother’s age at the time of birth versus the weight of the child

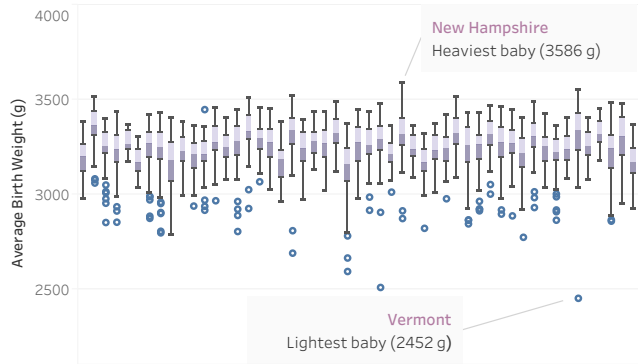
Age of mother at the time of birth across the states(2016 - 2021)



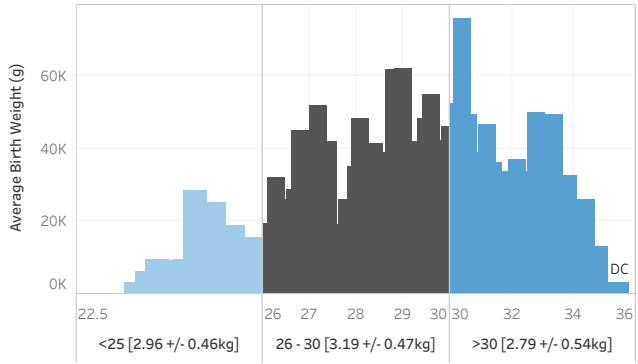
Relationship between mother’s age and no of births



Boxplot of baby weight across the states



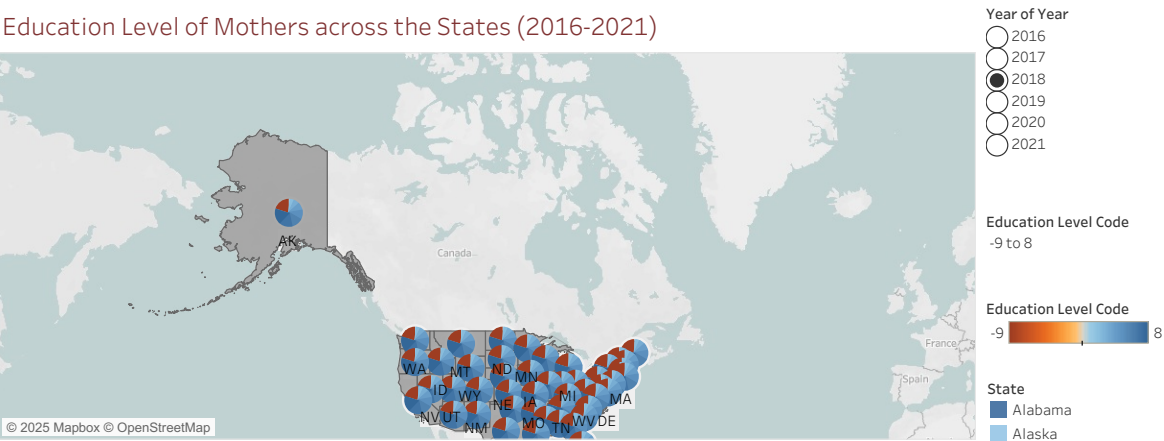
Mom age vs weight relationship - weighing the risks



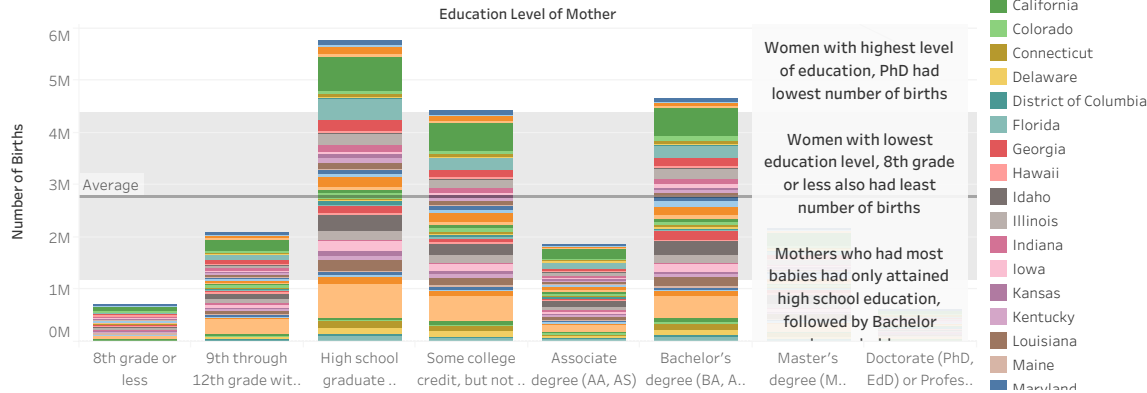
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The relationship between education level achieved by the mothers versus the number of births

Education Level of Mothers across the States (2016-2021)

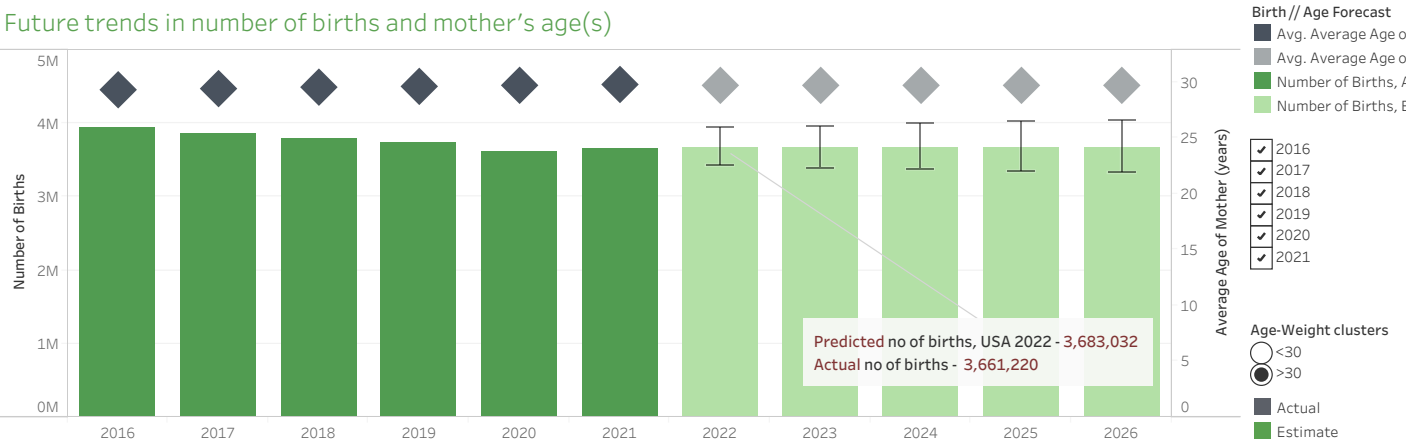


Education vs no of births

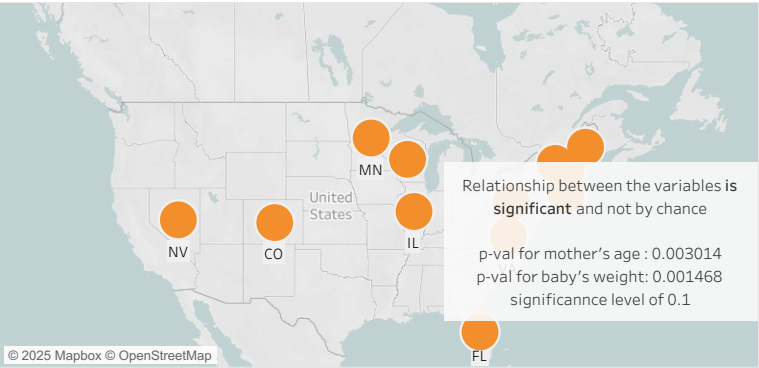


Estimated projections of the studied variables for 2022 & 2023 based on observed trends

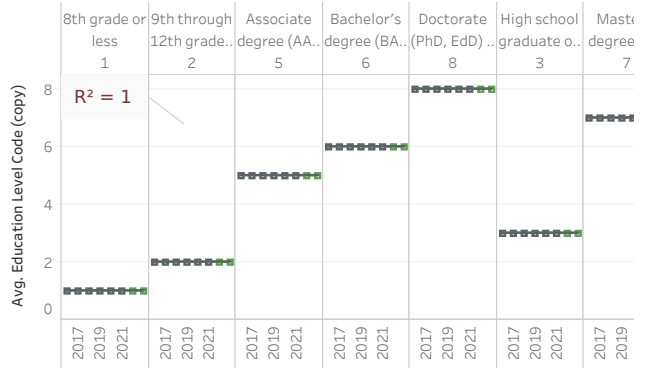
Future trends in number of births and mother's age(s)



Age - Weight Cluster map



Predicted education trends (2022, 2023)



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A summary of the trends:

Data source: US Births by Year, State and Education level : <https://www.kaggle.com/danbraswell/temporary-us-births>

1. General trend notes:

- The more educated the mother was, the later she gave birth.
- Most mothers had babies between the ages of 28 - 30
- Most states mothers had at least some middle school education and higher
- California and Texas had the highest, outstanding number of births while Wyoming and Vermont had the least

2. Mother's age vs Baby weight with relation to births:

- Mothers between 26 - 30 years had heavier babies than >30 mothers followed by <25
- The results seem to agree with this study study done with 135 women <https://www.ijrcog.org/index.php/ijrcog/article/view/7540>

Despite the relationship being significant (by the p-val), further research is necessary.

3. Education vs no of births

- Interesting that highest educated and least educated women actually had the lowest number of births
- There is a possibility that had babies late because of focus on education and career

4. Future trends

- Predicted no of births for 2022 was very precise to the actual values that came to be observed
- Most mothers will continue being educated in the future
- Very minor fluctuation in number of births to be expected