

## Disclaimer

Any analyses, interpretations, or conclusions reached herein are the work of the author and should not be attributed to the National Center for Health Statistics, which is responsible only for the initial data.

## Data

We use data for the 3,988,733 births that occurred in the year 2015 in the United States (excluding territories). The data were originally<sup>1</sup> collected from birth certificates and sent from each reporting region via electronic files through the Vital Statistics Cooperative Program, as administered<sup>2</sup> by the National Vital Statistics System (National Center for Health Statistics, 2015; National Bureau of Economic Research, 2016b).

Earlier years of the data have been the basis of several<sup>3</sup> key papers: Bailey (2012) uses 20 years (1968–1988) of birth data in an analysis of the effects of American family-planning programs on fertility rates. In an exploration of trends on teenage pregnancies, births, and terminations, Kost & Maddow-Zimet (2016) employ birth data from 1968–2014. More recently, Zhang et al. (2017) identify at-risk subgroups and risk factors for early preterm births based on the 2014 birth data.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Median	Mean (s.d.)
Prior terminations	3,966,486	0	30	0	0.408 (0.874)
Prior live births	3,973,944	0	20	1	1.113 (1.282)
Prior non-live births	3,968,652	0	12	0	0.016 (0.184)
Months between births	2,262,189	4	300	38	50.137 (37.063)
Births per pregnancy	3,988,733	1	5	1	1.035 (0.192)
Prenatal care began during which month	3,728,140	1	10	3	2.942 (1.499)
Prenatal care visits	3,803,007	0	98	11	11.238 (4.116)
Maternal age	3,988,733	12	50	29	28.514 (5.858)
<b>Total Records</b>	<b>3,988,733</b>				

Source: National Center for Health Statistics (2015)

Descriptive statistics for select variables are displayed in Table 1. Prior terminations range from 0–30 with a median at 0 and a mean at 0.408 (s.d. = 0.874), indicating heavy right skew. Similarly, prior live births (0–20, median = 1, mean = 1.113, s.d. = 1.282) and prior non-live births (0–12, median = 0, mean = 0.016, s.d. = 0.184) have upper outliers. Months between births, which ranges from 4–300, has a median at 38 and a mean at 50.137 (s.d. = 37.063), indicating that while births in 2015 were an average of 3.2–4.2 years later than

<sup>1</sup> The dataset used herein was published by the National Bureau of Economic Research and is based on the original dataset, which can be found at [https://www.cdc.gov/nchs/data\\_access/vitalstatsonline.htm](https://www.cdc.gov/nchs/data_access/vitalstatsonline.htm).

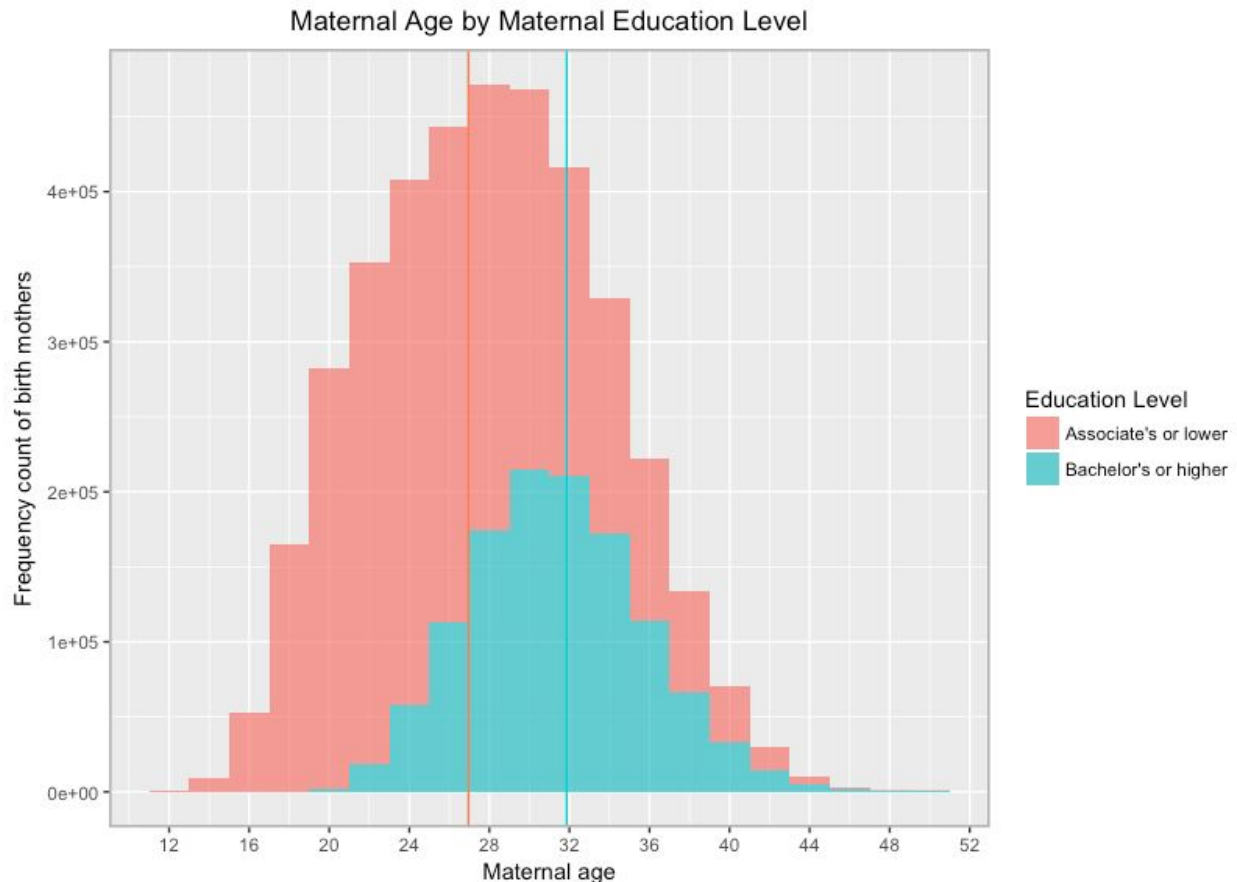
<sup>2</sup> The National Vital Statistics System is operated by the National Center for Health Statistics, which is housed within the Centers for Disease Control and Prevention.

<sup>3</sup> Given that the 2015 dataset was released just last year, it is not surprising that we did not identify publications using this specific dataset. Additionally, inconsistencies in how earlier years of the data are cited in publications, coupled with the fact that there are two distinct publishers of the data, resulted in a low count of identified papers using the NCHS birth datasets.

the birth mother's previous birth, there was high variability among the observations. The vast majority of pregnancies are of single babies, with high-order multiples (6 or greater) being classified together with quintuplet pregnancies (NCHS, 2015). On average, prenatal care begins during the third month of pregnancy and comprises 11 such visits. Maternal age ranges from 12–50, with the median at 29 and the mean at 28.514 (s.d. = 5.858).

We examine maternal age more closely in Figure 1, which displays a histogram of maternal age by maternal education level (associate's degree or lower compared to bachelor's degree or higher). Most births are to women educated at or below the level of an associate's degree, with births to women educated at or beyond the level of a bachelor's degree comprising a much smaller share of total births. Additionally, mothers with lower levels of education range more widely in age than mothers with higher levels of education; this indicates that births to women with more education occur later in life than those to women with less education.

Figure 1: Histogram of Maternal Age by Maternal Education Level



Source: National Center for Health Statistics (2015)

We continue our exploration of births by maternal education level; descriptive statistics are displayed in Table 2. Here we remark upon some notable features: As shown in Figure 1, women with lower levels of education range more widely in age than women with more education; specifically, women educated at or

below the associate level range in age from 12–50, while women educated at or beyond the bachelor level range in age from 15–50. For women with less education, the median age is 26, while for women with more education, it is 32. For women with bachelor’s degrees and higher, the interval between births is shorter than for women with an associate’s degree or lower (medians of 34 and 41, respectively). On average, women with more education begin prenatal care one month earlier than women with less education (in the second month, compared to in the third, respectively) and have an average of one additional prenatal visit (12 compared to 11, respectively).

Table 2: Descriptive Statistics by Maternal Education Level

		N	Min	Max	Median	Mean (s.d.)
Associate’s and below	Prior terminations	2,658,022	0	30	0	0.422 (0.904)
	Prior live births	2,663,462	0	20	1	1.240 (1.372)
	Prior non-live births	2,659,863	0	12	0	0.019 (0.198)
	Months between births	1,581,755	4	300	41	52.570 (38.823)
	Births per pregnancy	2,670,808	1	5	1	1.030 (0.177)
	Prenatal care began during which month	2,528,029	1	10	3	3.077 (1.581)
	Prenatal care visits	2,593,433	0	98	11	10.922 (4.234)
	Maternal age	2,670,808	12	50	26	26.950 (5.801)
	<b>Total Records</b>	2,670,808				
Bachelor’s and above	Prior terminations	1,192,015	0	24	0	0.369 (0.795)
	Prior live births	1,193,838	0	14	1	0.829 (0.989)
	Prior non-live births	1,192,200	0	12	0	0.009 (0.153)
	Months between births	601,611	4	300	34	43.540 (30.823)
	Births per pregnancy	1,199,720	1	5	1	1.046 (0.219)
	Prenatal care began during which month	1,157,495	1	10	2	2.644 (1.245)
	Prenatal care visits	1,166,014	0	98	12	11.960 (3.719)
	Maternal age	1,199,720	15	50	32	31.865 (4.337)
	<b>Total Records</b>	1,199,720				

Source: National Center for Health Statistics (2015)

## References

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