

Supplement to:

Makovi, Kinga, Alix Winter, Ka-Yuet Liu and Peter Bearman. 2015. “The Population Level Impacts of Differential Fertility Behavior of Parents of Children with Autism.” *Sociological Science* 2: 398-419.

Balance Statistics

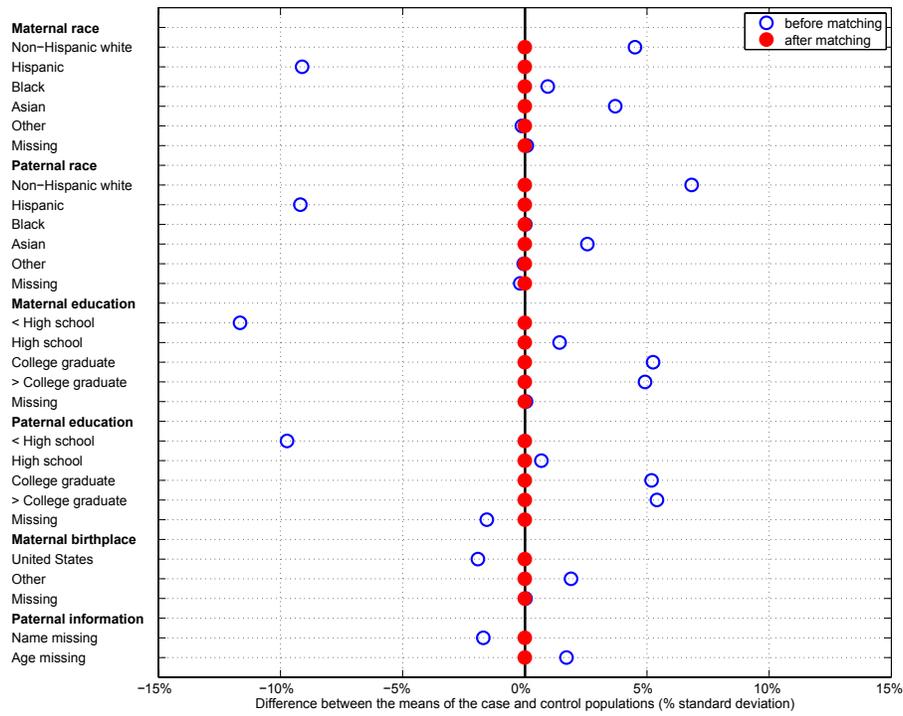


Fig 5. Achieved balance of parental characteristics, categorical variables.

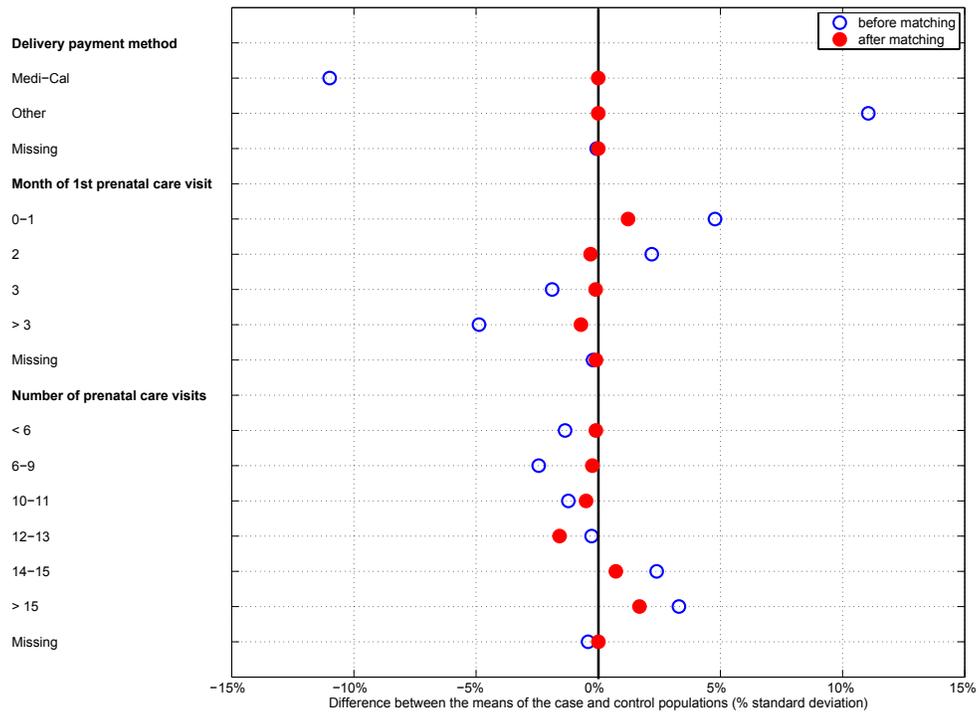


Fig 6. Achieved balance of pregnancy characteristics, categorical variables.

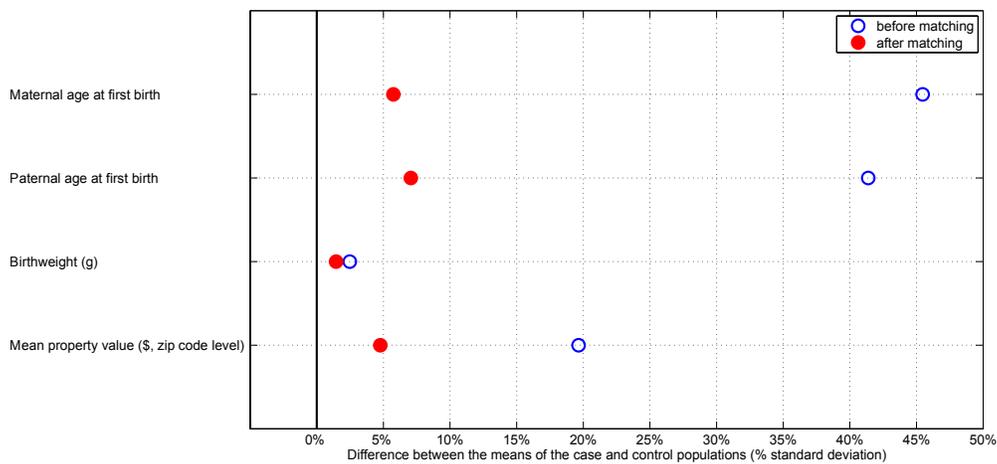


Fig 7. Achieved balance of continuous variables.

Robustness Check: Event History Analysis

Below, we outline our strategy and results from event history analyses, which use the same population of matched cases and controls and the weights described in the main text, and point toward the same results as those indicated in the body of the article. Given that event history analysis censors cases when they exit the observation window, here we did not restrict ourselves to the population of mothers whose first children were born between 1992 and the end of 2003.

Operationalizing Timing of First Suspicion

Autism does not express itself uniformly over the early developmental life course, and signs of autism can sometimes be detected significantly earlier than when parents start to seek a diagnosis (Saint-Georges et al. 2011). Given the fact that the true distribution of the timing of symptom recognition as well as the timing of when these symptoms are linked to autism is unknown, we assign a uniform date to children with autism receiving services from the DDS. We consider different ascertainment dates ranging from six months to 48 months in six-month-long increments. This strategy is a coarser strategy than the one used in the main article, but it follows the same logic.

Modeling Strategy

We set up simple event history models using a piecewise exponential hazard function (Friedman 1982) to estimate the effect of autism's onset on the timing of second conceptions taken to term. We let the baseline hazard of second conception vary over time in six-month-long intervals from the timing of first birth through 54 months (four and a half years). In other words, our modeling strategy accounts for the fact that the probability of a second conception after the first birth changes over time, and exhibits an upside down u-shape. In a well balanced, case-control study, one could use, along with the dummy variables that account for the temporal variation in baseline risk, a single variable to mark the treatment—in our case, the autism status of the first child. In each model, this variable “switches on” at the appropriate hypothetical suspicion date.

All mothers who gave birth to a first child are at risk of a second conception taken to term. All mothers who turn 55 before a second conception are censored. As our observation period for births ends in 2007, all mothers who did not give birth to a second child before the end of 2007 and have not turned 55 earlier are censored as well. All mothers who conceive and give birth to their second child in California before 2007 “fail” at the time of their second conception.

Results

We present our results in Figure 8. The x-axis displays the age of the firstborn child at 6, 12, 18, 24, 30, 36, 42 and 48 months of age, and the y-axis displays odds-ratios with their 95 percent confidence bounds. First, we show estimates that compare all cases with their controls. Second, we run the same models for children with autism

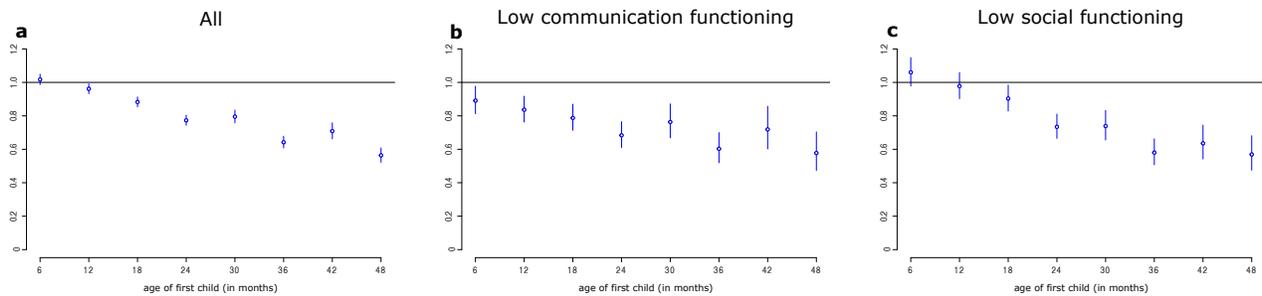


Fig 8. Odds ratios and 95 percent confidence intervals of the effect of the autism status of the first child on second conceptions taken to term.

with low communication and social functioning at first evaluation by the DDS and their respective controls.

When comparing mothers whose first children were diagnosed with autism to otherwise similar mothers whose first children were not diagnosed with autism, the order of magnitude of the estimate of autism's effect on subsequent fertility depends on when ascertainment occurs. Figure 8 shows that if suspicion occurred very early, within the first year, its effect is not statistically significant. We observe a statistically significant effect of suspecting autism at older ages of the first child. For example, if ascertainment is correctly modeled at 24 months, we can conclude that mothers whose first children were later diagnosed with autism would be 44 percent less likely to have a second conception taken to term relative to similar mothers whose first children were not diagnosed with autism ($or = 0.77 = p/(1 - p)$).

Figure 8, Panel (b) presents a different picture, in harmony with the results presented in the main article. The logic of the figure is the same as before, except that it refers to the subpopulation of mothers whose first child was later diagnosed with autism with low communication functioning and their respective controls. These results indicate that, no matter when ascertainment occurs, the likelihood of proceeding to a second conception taken to term is significantly decreased.

Figure 8, Panel (c) follows the same logic as the two other panels with the exception that the results refer to the subpopulation of mothers whose first child was later diagnosed with autism with low social functioning. This subpopulation does not appear to be very different from the general population. If suspicion occurs early, stoppage is not statistically significant. If it occurs later on, it significantly decreases the likelihood of second births.