# Mothers and children have their birthday in the same month more often than you'd think-and here's why 



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Do you celebrate your birthday in the same month as your mother? If so, you are not alone. The phenomenon occurs more commonly than expected, a new study of millions of families has revealed.

Siblings also tend to share month of birth with each other, as do children and fathers, the analysis of 12 years' worth of data shows, while parents are also born in the same month as one another more often than would be predicted.

Previous research has found that women's season of birth somehow influences that of their children. But this research, published today in Population Studies, is the first to show that women are more likely to have children in the same month as their own birth.

The researchers from Spain and the US analyzed official data on more than 10 million births. They looked all births in Spain from 1980 to 1983 and from 2016 to 2019, and all births in France from 2000 to 2003 and from 2010 to 2013. The records provided the child's month of birth, as well as those of their parents and the sibling that was closest to them in age.

Births in a particular country tend to follow a pattern, with more babies being born at certain times of the year than at others. This is known in academic literature as birth seasonality.

But when the researchers divided the birth data into groups based on the month of birth of the mothers, the births didn't follow the expected pattern. Instead, there was a spike in January births among the mothers who were born in January, a spike in February babies in the mothers who were born in February and so on.

Overall, there were $4.6 \%$ more births in which mother and child shared the same birth month than would be expected. This was true for both countries and all four time periods studied.

It was also the case for siblings (there were $12.1 \%$ more births than expected in which adjacent siblings had the same month of birth),
parents with the same month of birth (4.4\% more births) and when a child had the same birth month as their father ( $2 \%$ more births).

A second, less-detailed analysis of all the births in Spain from 1980 to 2019 and all births in France from 2000 to 2019 confirmed the result.

The phenomenon likely has its roots in relatives sharing sociodemographic characteristics: people of similar backgrounds are known to pair up and to be more likely to give birth at certain times of the year, say researchers Dr. Adela Recio Alcaide, of the University of Alcalá in Spain, and Professor Luisa N. Borrell, of the City University of New York in the United States.

In Spain, for example, a woman with a higher education is more likely to give birth in the spring than woman without a higher education. If she has a daughter, in addition to being more likely to be born in the spring, this daughter may be more likely to have higher education, since her mother has it. And thus, when this daughter has children, she will be more likely to have them in the spring too.

That is, this daughter will be more likely to have children in the same season in which she was born because she has kept her family sociodemographic characteristics-specifically the higher educationwhich make her more likely to give birth at a given time-spring-and as a result, the season-and even month-of birth is passed between the generations.

Factors that can affect the biology of fertility, such as availability of food and exposure to sunlight, can also vary according to a person's background.
"What could cause the higher probabilities of family members being born in the same season? The potential explanations seem to be both
social and biological," states Dr. Adela Recio Alcaide, an epidemiologist at the University of Alcala.
"The excess of children with a father and mother born in the same month seems to be due to social or behavioral causes prior to conception that relate to the choice of a partner born in the same month, as we have observed this excess with marriage statistics, with spouses being more likely to mate with someone from the same month."
> "This," adds co-author Professor Luisa Borrell, from The City University of New York, "may not be surprising considering things such as partnerships tend to be formed by people with similar sociodemographic characteristics."

"Moreover, biological factors that are known to affect birth seasonality -such as photoperiod exposure, temperature, humidity, and availability of food-also depend on socio-demographic characteristics, since different social groups are exposed to these biological factors to varying degrees," Professor Borrell, a social epidemiologist at the City University's Department of Epidemiology \& Biostatistics, Graduate School of Public Health \& Health Policy, says.

The study's strengths include the large number of births included in the analysis and the inclusion of data from different decades and different countries. However, one limitation is that the analysis assumes an "independence of outcomes but that might not be the case and, therefore, dependence of the outcomes within families may have affected findings." To adjust for this, the team repeated their analyses to account for dependency of outcomes within families and the results were very similar to those presented.

While this is a novel finding, further research is needed to confirm and deepen the results and their implications.

In conclusion, the authors outline the importance that the link between family characteristics and birth month is considered in any future research into how a child's month of birth affects their health, educational and other outcomes.

More information: Is there an association between family members? season of birth that could influence birth seasonality? Evidence from Spain and France, Population Studies (2023). DOI:
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