Association between children conceived via infertility treatments and education and mental health outcomes

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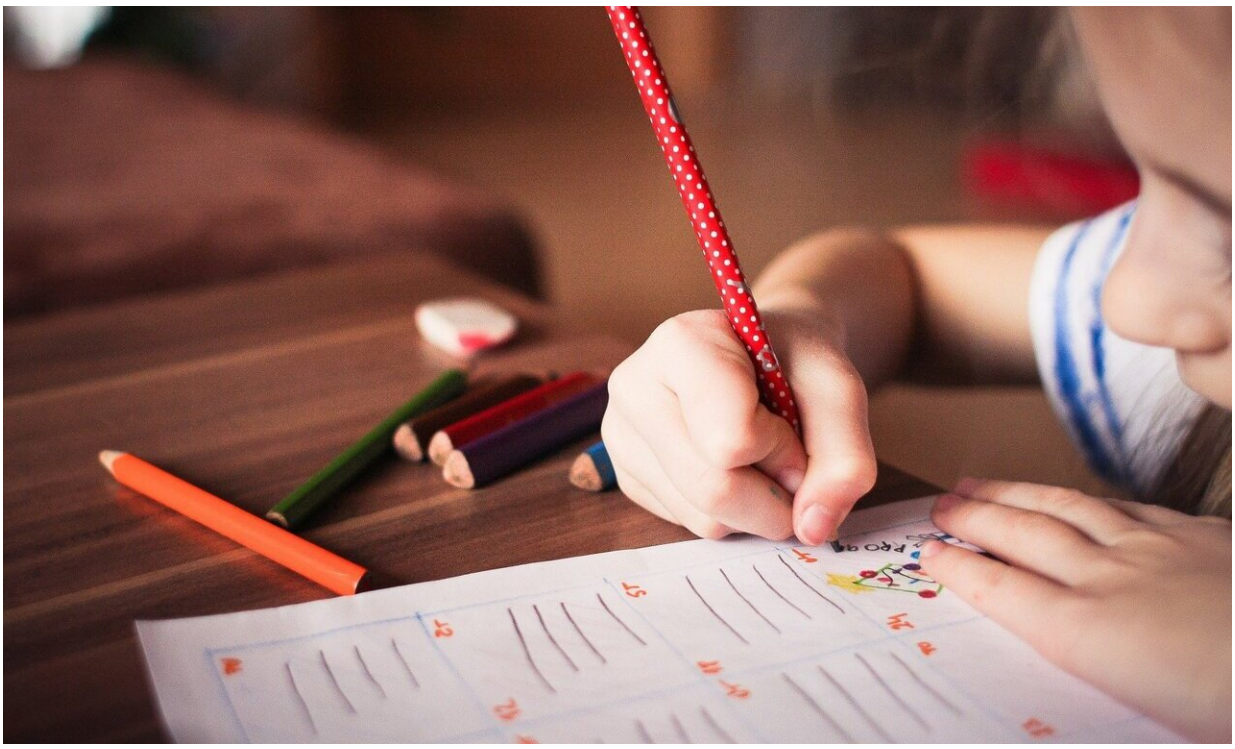

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Children conceived through medically assisted reproduction (MAR) fare better at school but are slightly more likely to have mental health problems by their late teens, finds a new study led by researchers at UCL

and the University of Helsinki.

The researchers say the correlation for mental health is *only* observed when the social demographics of children's families are taken into account, and that there is *no* evidence to suggest the MAR treatment itself is the source of association for mental health.

Published in the *European Journal of Population*, the observational study explores the link between MAR—including techniques such as IVF treatment, artificial insemination and ovulation induction—and young people's educational outcomes and mental health.

The researchers used administrative records on 280,682 Finnish children born between 1995 and 2000, and compared a range of educational and mental health outcomes among adolescents aged between 16 and 18 who were conceived naturally (266,925) and through MAR (13,757).

The researchers found that adolescents conceived by MAR performed better in school, were less likely to drop out and were at a lower risk of not being in education or employment or leaving home early compared to naturally conceived adolescents. These differences mostly disappeared when family circumstances were accounted for, suggesting that socioeconomic background is an important factor in explaining this advantage.

The researchers also found that adolescents conceived via MAR were not more likely to experience mental health problems. However, after accounting for family circumstances, the study revealed that they were at an increased risk of developing a mental disorder—particularly anxiety or depression—with around 10 percent of MAR conceived adolescents compared to nine percent of naturally conceived adolescents receiving a mental health diagnosis between ages 16-18.

Researchers say, while small as a percentage, this difference in risk is comparable to the difference between children of secondary and tertiary educated parents. Although modest, the findings based on several indicators of mental health were consistent. Nonetheless, there is *no* evidence to suggest MAR is the source of association—other family characteristics could explain it.

This increased risk was also present when comparing adolescents conceived through MAR with their naturally conceived siblings, a finding that researchers say adds robustness to the study, as the team were able to control for family characteristics which are otherwise unobserved.

Co-author Dr. Alice Goisis (UCL Centre for Longitudinal Studies) said: "We explicitly put a lot of focus on the social demographics of families who conceived through medically assisted reproduction—and our findings underscore the importance of integrating this perspective in studies of medically assisted reproduction and its consequences.

"What we're seeing here is mostly reassuring; children conceived through medically assisted reproduction do better overall and are in fact not more disadvantaged in terms of mental health outcomes. However, the fact that we observe an increased risk of mental health disorders once we account for family characteristics could be a cause for concern and merits further attention in future research."

The study is thought to be the first to examine links between mode of conception and mental health and social outcomes in adolescence for the same group of children; while previous research has focused on birth and early life outcomes of MAR children, less is known about what happens when they grow older.

The authors note that MAR children are more likely to come from better

off families who may provide children with resources (financial, time and emotional) that benefit their educational outcomes. However, they could also suggest that difficulties conceiving may expose parents to mental health issues, which could have impacted their children by putting them at greater risk of psychological distress.

Lead author, Dr. Hanna Remes (University of Helsinki), said: "Whilst we don't have the data to explain why those born by medically assisted reproduction are at slightly higher risk of mental health disorders, we believe that this may be due to different mechanisms.

"The fact that MAR-conceived children tend to be the first-born—around 60 percent of the children in the study—explained some of the excess risks. It is also possible that because of the process they went through, parents of children conceived by IVF, for example, may have been exposed mental health problems, such as depression and anxiety, which may, in turn, have put the children themselves at higher risk of having mental health problems.

"Alternatively, they may be more apprehensive about their child's welfare and more likely to make sure their child attends hospital or visits the doctor—and therefore these children may be more likely to get a diagnosis for certain conditions."

The researchers note that, as the oldest child conceived by IVF is now 43, this area of research is relatively new and underexplored. They stress that, given the rise in the number of children being conceived via MAR for various reasons, it is vital that we understand the longer-term consequences on children and young people.

More information: The well-being of adolescents conceived through medically assisted reproduction: a population-level and within-family analysis, *European Journal of Population / Revue européenne de*

Démographie (2022).