Research or Family: How Does Becoming a Parent Affect Academic Productivity

Olof Ejermo

SNS

Summary

The gender imbalance in research is considered problematic for various reasons, primarily because women's talents are not fully utilized. Over the past few decades, political efforts have been directed toward increasing the number of female professors through gender-balancing goals for promotions. There is substantial reason to believe that the proportion of women in academia is influenced by early career events. This report highlights how early career stages coincide with parenthood and examines its consequences.

A researcher's career is significantly affected by the quantity and quality of their publications. The publication rate is therefore often crucial for promotions to higher positions and also impacts the ability to secure research funding.

This report studies how researchers' publication rates are affected by becoming parents and whether there are differences between men and women in this regard. Utilizing a unique database, the report links first-time parents working at Swedish higher education institutions between 1996 and 2012 with publication levels. It examines who has children, at what age, the types of positions they hold, and the research fields in which mothers and fathers are active. The report also investigates whether it is more or less common for women or men to leave academia after becoming parents.

The report reveals significant differences in publication productivity after researchers become parents, to the disadvantage of women. Most university and college researchers become parents during the early stages of their careers, typically at the doctoral or postdoctoral level. This timing is natural, as many researchers are around thirty years old

when they complete their doctorates, coinciding with the age at which many have children. Doctoral and postdoctoral positions, however, are not permanent, hitting researchers in vulnerable career situations at the same time as they become parents. Just before birth, mothers and fathers exhibit different characteristics, with women generally being younger than men. Women's publication rates are generally slightly lower than men's before having children and, on average, they have not advanced as far in their academic careers. For example, it is much more common for fathers than for mothers to hold permanent lecturer positions.

The so-called child penalty literature examining the consequences of parenthood clearly shows that women pay a higher price through slower wage growth. This is true in Sweden and other Scandinavian countries, even though earnings losses are lower here than elsewhere, coinciding with a stronger position for women in the labor market. The report shows that within academia, women also experience a short-term wage loss after their first child. However, the biggest loss is a decline in publication rate. One possible explanation for why women publish less after having children is that they are more likely to leave their academic careers upon becoming parents. The report confirms that women are slightly more likely than men to leave academia after their first child, but the differences are small. Comparing male and female researchers who remain in academia after becoming parents shows that women's publication rates are about forty percent lower than men's two years after the child's birth. This gap increases to eighty percent nine years after the first child's birth. The results further show that the gap arises because women's publication rates stagnate while fathers continue to publish at an increasing rate compared to before having children. An exception is within the natural sciences, where women publish at a lower rate than they did before their first child. The gender gap is strong and pronounced for those who were doctoral students before the child was born, and even stronger for postdoctoral researchers. However, for lecturers with permanent positions, the publication gap does not widen.

Hypothetically, the gender gap in publication rates might decrease over time if parental leave is shared more equally between men and women. The report thus includes an extended analysis of how publication outcomes correlate with the development of parental leave.

The analysis shows that, over time, the number of parental leave days taken (measured as gross days) has decreased for mothers and increased for fathers. Mothers' leave days have decreased from about five times that of fathers in 1996 to twice that of fathers in 2016. Mothers' use of parental leave has not changed much in the year the child is born but has significantly decreased one year after the child's birth.

To investigate if the use of parental leave correlates with the publication gap, two methods are used. One examines if the gap is larger for those who take a lot of parental leave, and the other examines if the gap has changed over time. The results show no clear differences in the gender publication gap between mothers and fathers who take a lot or a little parental leave. For mothers, there are no clear differences in whether those who take a lot of parental leave publish more or less after their first child compared to those who take relatively little leave. However, fathers who take more parental leave tend to publish more than those who take relatively little leave. The second analysis divides the data based on the period when they become parents. The analysis shows no signs that the gender gap is decreasing; if anything, it appears to be increasing over time. Overall, the report demonstrates that the gender gap in publication rates increases significantly when researchers become parents and that the trend towards more equal parental leave does not seem to be the miracle cure needed to create more equal academic structures.

Author

Olof Ejermo, professor of economic history at Lund University.