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## Want More Innovation in Women's Health? Hmm, Perhaps Hire More Female Scientists?!?



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Fewer women hold biomedical patents, leading to a reduced number of patented technologies designed to address problems affecting women, say researchers from McGill University, Harvard Business School, and the Universidad de Navarra in Barcelona.

Biases that limit the number of women in science and technology are well known, but the consequences in the labour market extend beyond the gender gap, according to a study published in *Science*. Investigators found that demographic inequities in who gets to invent lead to demographic inequities in who benefits from invention.

“Although the percentage of biomedical patents held by women has risen from 6.3% to 16.2% over the last three decades, men continue to significantly outnumber women as patent holders. As a result, health inventions have tended to focus more on the needs of men than women,” says co-author John-Paul Ferguson, an Associate Professor at McGill University.

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Researchers analysed nearly 450,000 medical patents filed from 1976 through 2010 using machine learning to determine which inventions are female-focused, male-focused, or neutral. Patented biomedical inventions created by women are up to 35% more likely to benefit women's health than biomedical inventions created by men. They found that these patents are more likely to address conditions as well as diseases that disproportionately affect women, like breast cancer, postpartum preeclampsia, fibromyalgia and lupus. While inventions by women are more likely to be female-focused, such patents have been less common because so few inventors were women. In total, women were listed as co-inventors on just a quarter of all patents filed during the period and notably, female scientists are 40% less likely to commercialise their research ideas than male scientists.

“Our findings suggest that the inventor gender gap is partially responsible for thousands of missing female-focused inventions since 1976. Our calculations suggest that had male and female inventors been equally represented over this period, there would have been an additional 6,500 more female-focused inventions,” says Assistant Professor at Harvard Business School and co-author of the study, Rembrand Koning.

Inventions by research teams primarily or completely composed of men are more likely to focus on the medical needs of men. In 34 of the 35 years of the study from 1976 to 2010, male-majority teams produced hundreds more inventions focused on the needs of men than those focused on the needs of women.

Targeting diseases and conditions like Parkinson's and sleep apnea, male inventors tended to choose those which disproportionately affect men.

### **Other Potential Benefits of Female Inclusion**

For non-sex-specific diseases like heart attacks, diabetes, and stroke, researchers found that female inventors are more likely to identify how existing treatments can be improved and adapted for the needs of women and are also more likely to test how they effect men and women differently.

The authors encourage more efforts to influence the gender bias: “Our results suggest that increasing representation should address these invisible biases,” says Koning.

Source: [McGill University](#)

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Published on : Tue, 20 Jul 2021