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## **Video Games Make Women's Brain Function Like Men's**

### *When it comes to spatial and navigational skills*

Men and women come from different planets. That's a scientifically proven fact: male brain is better when it comes to navigational and spatial skills (like reading a map in a car or visualize objects in three dimensions or read maps, labyrinths and diagrams, mentally rotating objects, judging line angles and distances) while women overcome men in verbal dexterity tests (word fluency), reading facial expressions and remembering the placement of objects (location memory). But a new University of Toronto research comes with a big surprise: sex differences on some tasks that require using spatial skills could be annulled after both sexes play a video game for just a few hours. The discovery could serve in improving our spatial skills that are crucial for everyday life (such as reading a map, driving a car, assembling a barbeque) or in developing math abilities. "Our first experiment discovered a previously unknown sex difference in spatial attention," said lead author Jing Feng, a psychology doctoral student. "On average, women are not quite as good at rapidly switching attention among different objects and this may be one reason why women do not do as well on spatial tasks. But our second experiment showed that both men and women can improve their spatial skills by playing a video game and that the women catch up to the men. Moreover, the improved performance of both sexes was maintained when we assessed them again after five months.", Feng added. Another explanation the team provided was that regarding some dormant genes that women possess. "The action video game experience may cause the expression of previously inactive genes which control the development of neural connections that are necessary for spatial attention. Clearly, something dramatic is happening in the brain when we see marked improvements in spatial skills after only 10 hours of game playing and these improvements are maintained for many months.", said Professor Ian Spence, director of the engineering psychology laboratory in the Department of Psychology. "One important application of this research could be in helping to attract more women to the mathematical sciences and engineering. Since spatial skills play an important role in these professions, bringing the spatial skills of young women up to the level of their male counterparts could help to change the gender balance in these fields that are so important to our economic health", he added.