

10 Big Differences Between Men's and Women's Brains

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The differences between women and men are not only well-documented, but frequently at the heart of jokes, anecdotes, and good-natured (and not so good-natured) ribbing. Experts have discovered that there are actually differences in the way women's and men's brains are structured and in the way they react to events and stimuli. So the next time your wife, boyfriend, or parent starts telling you how you should have done something differently, then refer back to these big differences between men's and women's brains.

1. Human relationships. Women tend to communicate more effectively than men, focusing on how to create a solution that works for the group, talking through issues, and utilizing non-verbal cues such as tone, emotion, and empathy whereas men tend to be more task-oriented, less talkative, and more isolated. Men have a more difficult time understanding emotions that are not explicitly verbalized, while women tend to intuit emotions and emotional cues. These differences explain why men and women sometimes have difficulty communicating and why men-to-men friendships look different from friendships among women.

2. Left brain vs. both hemispheres. Men tend to process better in the left hemisphere of the brain while women tend to process equally well between the two hemispheres. This difference explains why men are generally stronger with left-brain activities and approach problem-solving from a task-oriented perspective while women typically solve problems more creatively and are more aware of feelings while communicating.

3. Mathematical abilities. An area of the brain called the inferior-parietal lobule (IPL) is typically significantly larger in men, especially on the left side, than in women. This section of the brain is thought to control mental mathematical ability, and probably explains why men frequently perform higher in mathematical tasks than do women. Interestingly, this is the same area of Einstein's brain that was discovered to be abnormally large. The IPL also processes sensory information, and the larger right side in women allows them to focus on, "specific stimuli, such as a baby crying in the night."

4. Reaction to stress. Men tend to have a "fight or flight" response to stress situations while women seem to approach these situations with a "tend and befriend" strategy. Psychologist Shelley E. Taylor coined the phrase "tend and befriend" after recognizing that during times of stress women take care of themselves and their children (tending) and form strong group bonds (befriending). The reason for these different reactions to stress is rooted in hormones. The hormone oxytocin is released during stress in everyone. However, estrogen tends to enhance oxytocin resulting in calming and nurturing feelings whereas testosterone, which men produce in high levels during stress, reduces the effects of oxytocin.

5. Language. Two sections of the brain responsible for language were found to be larger in women than in men, indicating one reason that women typically excel in language-based subjects and in language-associated thinking. Additionally, men typically only process language in their dominant left hemisphere, whereas women process language in both hemispheres. This

difference offers a bit of protection in case of a stroke. Women may be able to recover more fully from a stroke affecting the language areas in the brain while men may not have this same advantage.

6. Emotions. Women typically have a larger deep limbic system than men, which allows them to be more in touch with their feelings and better able to express them, which promotes bonding with others. Because of this ability to connect, more women serve as caregivers for children. The down side to this larger deep limbic system is that it also opens women up to depression, especially during times of hormonal shifts such as after childbirth or during a woman's menstrual cycle.

7. Brain size. Typically, men's brains are 11-12% bigger than women's brains. This size difference has absolutely nothing to do with intelligence, but is explained by the difference in physical size between men and women. Men need more neurons to control their greater muscle mass and larger body size, thus generally have a larger brain.

8. Pain. Men and women perceive pain differently. In studies, women require more morphine than men to reach the same level of pain reduction. Women are also more likely to vocalize their pain and to seek treatment for their pain than are men. The area of the brain that is activated during pain is the amygdala, and researchers have discovered that in men, the right amygdala is activated and in women, the left amygdala is activated. The right amygdala has more connections with areas of the brain that control external functions while the right amygdala has more connections with internal functions. This difference probably explains why women perceive pain more intensely than do men.

9. Spatial ability. Men typically have stronger spatial abilities, or being able to mentally represent a shape and its dynamics, whereas women typically struggle in this area. Medical experts have discovered that women have a thicker parietal region of the brain, which hinders the ability to mentally rotate objects—an aspect of spatial ability. Research has shown this ability in babies as young as 5 months old, negating any ideas that these abilities were strengthened by environmental influences.

10. Susceptibility to disorders. Because of the way men and women use the two hemispheres of the brain differently, there are some disorders that men and women are susceptible to in different ways. Men are more apt to have dyslexia or other language problems. If women have dyslexia, they are more likely to compensate for it. Women, on the other hand, are more susceptible to mood disorders such as depression and anxiety. While handedness is not a disorder, these brain tendencies also explain why more men are left-handed than are women. Men are also more likely to be diagnosed with autism, ADHD, and Tourette's Syndrome.

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