

Cognitive Power of Women

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Abstract:-For ages together, men and women were considered to be different in biological and social terms due to which men enjoyed superiority over women. In the current scenario, this idea is fading due to the sense of equality. However, it is a controversial issue regarding whether differing or equal that made people research about the innate aspects of both the genders. It is ironical that though men and women are the same species they differ in their perceptions and deeds. This paper restricts to the discussion of mere cognition processes of both the genders. It compares and contrasts the thought processes of woman to that of men and the gender brain myths. In this paper, woman's brain power is identified and the impact of physiological and sociological factors on woman is highlighted.

I. INTRODUCTION:

**“Women are from Venus and men are from Mars” -
John Gray**

This is what is generally referred when men and women are compared with respect to their thinking.[7] In fact, the truth is that their brains really are wired in a different manner.[10] In this paper, we are going to discuss why the woman thinks the way she thinks and the gender brain myths. The fundamental problem here is simple: men and women are different. Not better or worse – **just different**. Scientists, Anthropologists and Socio-biologists have known this for years, but they have also been painfully aware that to express this knowledge publicly in such a politically correct world could turn them into social pariahs. Society today is determined to believe that men and women possess exactly the same skills, aptitudes and potentials – just as science, ironically, is beginning to prove they are completely different. [9] Most people are intrigued by the thought processes of the opposite sex. Despite rumors to the contrary, men and women are from the same planet. However, there are many differences and myths between the brains of men and women which we will discuss in the later part of the paper. [8]

Evolution Vs Environment – Same species yet different.

Why? :

Once upon a time, a long, long time ago, men and women lived happily together and worked in harmony. The man

would venture out each day into a hostile and dangerous world to risk his life as a hunter to bring food back to his woman and their children, and he would defend them against savage animals or enemies. The family depended on him to carry out his job description as a lunch-chaser and protector – and nothing else.

The woman's role was equally clear. Being appointed as the child-bearer, directed the way she would evolve and how her skills would become specialized to meet that role. Her ability to bear children was considered magical, even sacred, for the alone held the secret to give life. She was never expected to hunt animals, fight enemies or change light bulbs. Things were simple: He was the lunch-chaser; she was the nest-defender. [9] This was the way for hundreds of thousands of years.

Didn't expect it to be like this:

The family unit is no longer solely dependent on men for its survival and women are no longer expected to stay at home as nurturers and home-makers. Our modern social structure usually provides a basic level of subsistence through social security, national health, consumer protection laws and various Government institutions. We need to learn a new set of rules in order to discover how to be happy and survive emotionally intact into the 21st Century. [9]

II. Women BRAIN POWER:

The father of sociobiology, Edward O. Wilson, of Harvard University [4], defines as “females tend to be higher than males in empathy, verbal skills, social skills and security-seeking, among other things, while men tend to be higher in independence, dominance, spatial and mathematical skills, rank-related aggression, and other characteristics”.

This states that women are better than men in human relations, recognizing emotional overtones in others and in language, emotional and artistic expressiveness, aesthetic appreciation, verbal language and carrying out detailed and pre-planned tasks. [3]

The University of Cincinnati, USA, Canada, presented morphological evidence that while men have more neurons in the cerebral cortex, women have a more developed neuropil, or the space between cell bodies, which contains synapses, dendrites and axons, and allows for communication among neurons. [6]

According to Dr. Gabrielle de Courten-Myers, women are more prone to dementia (such as Alzheimer’s disease) than men, because although both may lose the same number of neurons due to the disease, “in males, the functional reserve may be greater as a larger number of nerve cells are present, which could prevent some of the functional losses.”

Dr. Bennett A. Shaywitz, a professor of Pediatrics at the Yale University School of Medicine, discovered that the brain of women processes verbal language simultaneously in the two sides (hemispheres) of the frontal brain, while men tend to process it in the left side only. [2]

Some Facts about Physiological & Social Influence on Female [1]:

- They develop right side of brain faster than male; leads to talking, vocabulary, pronunciation, reading earlier, and better memory.
- Girls are more interested in toys with faces than boys who play with stuffed animals and dolls.
- Women use both hemispheres of brain; corpus callosum is thicker in women.
- Girls use more terms of endearment than boys.
- Girls tend to talk about other people; secrets in order to bond friendships;
- Teenage girls talk about boys, clothes and weight. Age 12-18: biggest event for girls: have a boyfriend.
- This carries into adulthood when women talk about relationships, people, diet, clothing, physical appearance.

- Women value love, communication, beauty and relationships.
- A woman’s sense of self is defined through their feelings and the quality of their relationships. They spend much time supporting, nurturing and helping each other. They experience fulfillment through sharing and relating.
- Personal expression, in clothes and feelings, is very important. Communication is important. Talking, sharing and relating, is how a woman feels good about herself.
- For women, offering help is not a sign of weakness but a sign of strength; it is a sign of caring to give support.
- Women are very concerned about issues relating to physical attractiveness; changes in this area can be as difficult for women as changes in a man’s financial status.
- When men are preoccupied with work or money, women interpret it as rejection.
- Women are more intuitive, holistic, creative and integrative.
- Women tend to be much more sensitive to sounds and smells than men are; and women as such, tend to place a greater emphasis on “atmosphere”.

How women got this way:

Research shows that we are more a product of our biology than the victims of social stereotypes. We are different because our brain is wired differently as shown in figure below. This causes us to perceive the world in different ways and have different values and priorities. [9]

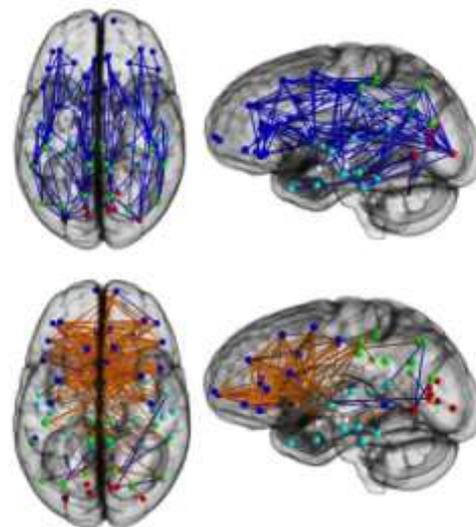


Figure-1: Brain networks of male (upper) and female (lower). [10]

Credit: Ragini Verma et al, University of Pennsylvania.

The above figure shows that the brain networks are significantly increased in intra-hemispheric connectivity in males (Upper) and inter-hemispheric connectivity in females (Lower). Intra-hemispheric connections are shown in blue, and inter-hemispheric connections are shown in orange. [10] "On average, men connect front to back [parts of the brain] more strongly than women," whereas "women have stronger connections left to right," said the study leader, Ragini Verma, an Associate Professor of Radiology at the University of Pennsylvania Medical School.

Brain imaging studies have shown that women have a higher percentage of gray matter, the computational tissue of the brain, while men have a higher percentage of white matter, the connective cables of the brain. But few studies have shown that men's and women's brains are connected differently. [10]

Is the female brain innately inferior?

There are many Gender Brain Myths on Female brain, to name a few we are highlighting some Myths in this paper:

Gender Brain Myth #1: Brain size matters

The male brain is typically about ten percent larger than the female brain. Although the extra mass does give males more processing power, this doesn't make men more intelligent. Rather, science believes the reason for the increased brain mass is to accommodate the bigger body mass and muscle groups of the male (human).

Gender Brain Myth #2: Women and men have different brain hemispheres

Many men are sharply left-brain dominant, while women tend to be more evenly balanced between left and right-brain processing. Women are therefore thought to be slightly more intuitive and sometimes better communicators. Men are often less socially adept, and are more task-oriented thinkers than females. [8]

Gender Brain Myth #3: Men are naturally better at math

The inferior-parietal lobule, which controls numerical brain function, is larger in males than in females. On standardized tests, men often score higher on mathematical tests than women. [8]

But perhaps the most damning myth, which has even been espoused by a former president of Harvard, is that men are innately better at math and women are naturally better at verbal tasks. The logic is that gendered differences in math and verbal scores on standardized tests must result from intrinsic, biological differences in the brains of women and men. According to Parvizi, this logic is flawed: "Differences

seen in cognitive tests do not necessarily provide direct evidence that those differences are in fact innate."

Gender Brain Myth #4: Women are more emotional & stress than men

When faced with stressful situations, men usually employ 'fight or flight' tactics, while women use a 'tend or befriend' response that is rooted in their natural instincts for caring for their children and establishing strong group bonds.

Since women tend to have a larger deep limbic system than men, they're more in touch with their feelings and are better at expressing their emotions. This makes women better at connecting with others, but unfortunately also more prone to different types of depression.

The difference between being & becoming:

If women and men do not have dissimilar brains, why do they seem so different? Dr. Parvizi says "**the brain is molded by experience.**" Even if the hard wiring of the brain remains unchanged, the function of the hardware is constantly altered by experience. As the brain replicates the same signals over time, the networks through which they are sent become progressively stronger, as repetition reinforces both the networks and brain synapses. [10]



For instance, it is a commonly known fact that the blind develop superior hearing, in order to compensate for the lack of visual stimuli. Due to the brain's ability to adapt, this difference becomes a part of the brain structure (especially for those who are born blind); neuroimaging has found that many blind individuals use parts of their *visual* cortex to process sound. [10]

III. Conclusion:

Scientists see the differences in the development of men and women brains, this doesn't mean that these differences are

innate and unchangeable. The brain exhibits significant neuroplasticity, as it is able to make structural and functional changes in response to environmental inputs. For example, girls are good at language and communication with others; it follows that the networks of the brain associated with language could become more efficient in women.

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