

# Differences in the brains of men and women

Within psychology today, the brain has become one of the most prominent areas in which many neuropsychologists have taken the fascination towards studying, remarking the different abilities that both men and women seem to possess in relation to the brain. When we come to think of the brain, we generally seem to assume or have the basic understanding that men and women do seem to be fundamentally the same apart from specific areas such as the reproductive organs. We as men and women have wanted and fought for stable rights and opportunities within society, and for women this clearly has not always been an area which we have been successful in. Therefore, this had caused a detrimental result. This has led us to assume that there are stereotypical suggestions that the sexes may just well differ from one another.

The hemisphere has become one of many areas in which neuropsychologists have taken the opportunity to analyse both between men and women. In relation to both sexes, it has been acknowledged that men tend to process better in the left hemisphere of the brain whereas women are capable of processing equally between the two hemispheres. Therefore, this difference does seem to reflect upon how men generally seem to be stronger with left brain activities and problem-solving from a task-orientated perspective. It can be acknowledged that men have greater brain hemisphere separation which does contribute to explain their skills for abstract reasoning, including theoretical ways of thinking as well as visual-spatial intelligence.

Men will tend to give their full concentration and awareness when resolving the task whereas women will typically solve problems more creatively, and have the tendency to consider others' feelings when communicating. Women are seen as having larger connections and frequent more interaction between their brains' left and right hemispheres. This can be seen as a way of building steady relationships and finding new effective ways to respond to the task in ways which are interesting and far from being most simplistic. Therefore, this does account for a women's ability of having better verbal skills and intuition.

Furthermore, it can be acknowledged that there are connections between the hemispheres which indicate differences towards the sexes. The area of the anterior commissure is thought to be a lot larger in women, researchers have had the ability to study that the corpus callosum is larger in women. The corpus callosum is established as a broad nerve that connects between both hemispheres. Therefore, it can be stated that the larger area of commissure allows better communication between hemispheres which can initially differentiate the way in which men's and women's brains work.

It can also be established that there does seem to be difference both in men and women towards the part of the hemisphere which is mainly accountable for speech and hand movements. This is where there are known to be two major areas that are purely devoted to speech, these are found in the frontal lobe and the other at the back. Therefore, in women the frontal region is seen as most important rather than the area at the back as this allows fluent communication. This is seen as an important trait which allows the brain functioning of women to be simple and easy when socialising and communicating with others. If the frontal region was damaged within the brains of women, this would certainly have a detrimental and major impact on the ability for women to be able to speak and come into contact with others. In men, the lobes are mainly seen to contribute equally towards each other which even out communication as well as problem solving abilities.

Furthermore, it can also be portrayed from an evolutionary perspective that both men and women are genetically programmed to function differently in relation to their job statuses. Although these life conditions have changed within society today, there will always be a view that men and women will follow their biological programs shaped by evolution.

This is based around the notion and understanding of the view of men being the hunters and women being the gatherers. Men will tend to hold and retain a firm sense of direction and stability, this allows them to trace a particular purpose such as catch food, hunt it and find a way home whereas women will have a peripheral vision which helps them achieve their role of being alert to the things happening within the family home, they will quickly respond to approaching danger and notice changes in children's appearance and behaviour. As men's brains are instinctively programmed for hunting this does seem to account for their narrow range of vision while women are able to depict a wide range of information from being able to do various jobs around the family home all at once.

It can also be recognized that men will tend to look for exits which estimate possible threats and will find ways to escape them. On the other hand, women will pay more attention to guests faces and find out about their feelings and how they feel. This can be based on the notion "nature vs nurture". Women will be more nurturing and will automatically program to show love towards others whereas men will go out and do the hard days work which is expected of them. Therefore, this can account for women having a sharper ear which allows them to be able to use more words while talking hence being able to complete tasks independently.

In relation to the brain and the differences that define men and women, it can be known that men do have the capacity to be able to sort out information and archive it in their head whereas women will tend to rewind the information over and over again until it is processed. Therefore, the only way women can sort out this information and overcome it is by using communication by finding one to listen to her. Therefore, this does give us some possible indication that women's brains will function within ways that are inventive

and inspired whereas men will function in a very uncomplicated and undemanding manner.

Therefore based on these particular evolutionary responses between the sexes, we are able to distinguish some psychological divisions which can counter for how men and women's brains are different in the way in which they operate.

From a very original evolutionary perspective, we can distinguish that men and women do tend to have different sources of satisfaction and approval, for women this is valuing her major strengths in life such as the family and children whereas in men it is strongly based on their career and prosperity levels. This particular difference can be associated with the idea of men being the builders and creators whereby in which they take risks and are free to experiment. On the other hand, women will select the most valuable knowledge that they possess and pass it to the next generation such as within family.

It can also be suggested that as women tend to consider others well-being and feelings, this does allow us to differentiate that women tend to be more willing, by following the ideas suggested by other peers or associates. Men will be more independent in their own thoughts and actions, so will function slightly different as their actions are driven by motivation to succeed.

Pain has also been a further fact which has been able to account in the brain differences between both men and women. It is perceived that men and women experience pain differently. Studies have shown that women will require more morphine compared to men to simply reach the same constant level of pain reduction. As women are seen to be able to be able to be able to communicate more, women will vocalise their pain and seek possible treatment for their pain than in men. This can be explained by establishing the area of the brain the amygdala is activated during pain, and researchers have discovered that in men the right amygdala is activated. Therefore, as the right amygdala is activated, it is identified as having more connections with areas of the brain that maintain and monitor external and internal functions. Whereas, in women it is known that the left amygdala is activated during times of severe pain. This can initially explain the reason why women perceive more pain intensely and vigorously rather than in men due to the extended connections which are regulating in the brain. Howard Fields, MD, PhD, a leading expert on the brain mechanisms of pain and pain treatment specialist states "The problem of gender differences particularly in response to opioid drugs is extremely important and widely under- appreciated, There may be classes of drugs that are particularly effective in women that don't have the side effects of currently available potent drugs, it may be true for a lot of drugs and we just don't know it because we haven't looked. Drug companies might be throwing away a perfectly good drug because it doesn't work in males."

Therefore, this does seem to evidentially support the notion that women are simply more prone to suffering from pain and men are able to be able to be able to find ways to cope with it rather than simply relying on drugs. This is simply due to the way in which

the male brain and its connections are functioning at the time, and this minimizes any potential pain that could be ongoing.

The reactions to stress have also clearly implied that the brains of men and women do differ which allow us to separate the ways in which the sexes seem to function and respond to stressful situations or predicaments. This is something that we as a society today may not have even considered or taken into account. Men will tend to have a “fight or flight response” to nerve-racking and tense situations whereas women will approach these dilemmas with a “tend and befriend” strategy. The fight or flight response can be defined as the way in which our body’s automatic, primitive, and inborn response either prepare the body to fight the situation or flee it from any perceived harm or threat. This can be related to the notion that men will try to protect themselves whereas women will try to cope with the situation in a calming and comforting manner.

Further evidence supporting this particular difference between the sexes can be supplied by Psychologist Shelley E. Taylor. She identified the phrase “tend and befriend” after realising and being able to recognise that during times of stress women will tend to take care of themselves and “tend” to their children and be able to form strong group bonds and connections known as “befriending”.

In association to this, one particular reasons can be distinguished is through biology emphasising the role of hormones. Within stressful situations, our biology naturally is able to release the hormone oxytocin both in men and women. However, the result of estrogen enhances and develops the oxytocin flow in women, resulting in women being calmer and nurturing towards the dilemma. Whereas, in men the hormone testosterone will produce higher levels of stress, reducing the effects of oxytocin causing men’s behaviour to have detriments and higher levels of anger and frustration.

Further evidence supporting this specific difference can be inferred by Dr. Jean- Claude Tardif a Universite de Montreal Professor and Montreal Heart Institute Researcher. According to her “The physiological response to stress in women and older men is linked to this desire of maintaining self-esteem and securing social bonds. The sense of belonging is a basic human need.”

In conjunction with this, this implication does suggest that socialisation and that belonging to a group contributes to the survival of our ancestors such as our family and children. Without the survival of this factor, it is possible to state that people view social exclusion as a threat to their survival. Therefore, a strong defensive reaction can be identified as essential as a way of maintaining one’s self esteem when posed with a particular or potential existing threat. This does seem to explain how men are known to react within a very suspicious and cautious eye when countered with a harm or threat to show persistence, and explains how women emphasise the sense of belonging to a closely related group i.e. family helps them as a basic need when dealing with stress.

One particular establishment that can be closely related to the levels of stress is emotion especially in women. Women tend to have a typically larger deep limbic system than men. Therefore, this allows women to become more in touch with their feelings and the way they choose to express themselves, which emphasises bonding with others. This specific ability today can clearly be implied to explain how many women tend to serve or have the given role as a caregiver to a child.

However, one particular downfall with the women's limbic system is that it does tend to make women more vulnerable to depression especially during stressful periods associated with hormonal shifts such as the menstrual cycle or after childbirth. This can clearly be associated with mental well-being. It has been recognized that women are diagnosed with depression twice as often as men; this can be closely related with the levels of the neurotransmitter serotonin. If there an imbalance in serotonin levels, this may influence mood in a way that leads to depression. As a neurotransmitter, serotonin is used to help relay messages from one part of the brain to another. The wide distribution of its cells is mainly believed to help influence variety of body functions. As there are around forty million brain cells, most of these cells are influenced either directly or indirectly by serotonin casing related functioning to mood, sexual desire, appetite, sleep and social behaviour's.

Therefore, this can mainly account for the susceptibility to disorders that men and women seem to possess. This is because as both sexed seem to use the two hemispheres differently with functioning, it can be inferred that this does account for some of the disorders that the sexes face differently. Men will be more likely to suffer from dyslexia or have specific other language problems or possible impairments. Women who may have been diagnosed with dyslexia will be more likely to be able to compensate for it.

However, on the other hand, women do seem to be more susceptible to mood disorders including depression and anxiety. Therefore while handedness is not a particular disorder, this does allow us to explain that the brain tendencies do seem to portray how men are more left handed than in women.

Likewise, men will be more likely to suffer from autism, Tourette's syndrome, dyslexia, attention-deficit disorder and early-onset schizophrenia. Further supporting evidence can be inferred from Margaret McCarthy of the University of Maryland In Baltimore. According to her she believes that "hormone-like substances called prostaglandins, which help masculinise the male brain around the time of birth, may be partly to blame." Therefore, this does clearly show that the sexes do seem to extremely differentiate one another even from the simplest of biology through the explaining the different hormones that contribute to how the brain effectively operates. This clearly does indicate hormones in men and women are clearly not simple mechanisms. Although men and women may have similar systems to some extent, it is clearly evident that men's hormones act on different organs to produce testosterone instead of estrogen produced in women. Testosterone and estrogen can be identified as having completely different

effects on the brain. Therefore, these differences of hormones both flowing in the blood stream of men and women clearly suggest that they will respond differently with stimuli. By clearly implying that men and women are similar would clearly be naïve and irrelevant, so we respond to this by recognizing neither sex to be better or superior, but simply identifying them as wildly different to each other in their own special ways.