The debate of sex differences due to gender has a timeless history. Countless studies have been carried out to find out how different women and men really are, or if there are differences at all. It is such a popular and applicable topic in everyday life, yet its discussion also brings to light about issues of morality, gender equality and societal norms. Clearly there are anatomical differences between these two biological groups, however these differences extend not only behavior but also mental processes. The infinite fascination surrounding the human mind crosses even compasses the gender differences between species.

Through years of experimentation and research, scientists have concluded that the brain is in fact separated into different parts and each has its only specific function. Storage and recalling of memory is not limited to one part of the brain, but actually involves several regions of the brain. The parietal lobe controls temporary containment of auditory information. Similarly, the upper temporal lobes momentarily store visual images. The last component of short memory storage is the occipital lobes, which retains kinesthetic impulses. Long-term memory is stored in the hippocampus and in the cortex of the frontal lobes. In addition, the cortex of the temporal lobes is crucial to abstract memory [5]. In order for all memory to be retained the information that resides within the short-term memory components of the brain must be transferred to the long-term memory storage portions of the brain.

The brain has trillions of connections joining billions of neurons and each junction has the potential to be part of a memory. The memory capacity of a human brain is effectively infinite, providing it is store in the right way. The human memory is selective. Items of interest are retained better than those that are not; personal and meaningful memories can be held in billions while dry facts learnt at school may soon fade away [3]. A memory is created as the waves of neuron impulses are sent through the mind and leaves impressions upon the brain. Theoretically the more areas the neuron is able to reach the better chance that the thought will be remembered.

Many of these thoughts remain unconscious, which also dictates a large part of our behavior. Unconscious memories permeate the decisions that we make everyday. According to social psychologist Robert Zajonc “people generally prefer things they have seen before, even if they do not remember seeing them” [2]. Misinformation has the potential for invading memories when we talk to other people, when we are suggestively interrogated or when we read or view media coverage about some event that we may have experienced ourselves. After more than two decades of exploring the power of misinformation, researchers have learned a great deal about the conditions that make people susceptible to memory modification. Memories are more easily modified, for instance, when the passage of time allows the original memory to fade [5].

The mind is an intricate and complicated organ that has interested many scientists and researchers. One of the most interesting details about the brain consists of two hemispheres, however the two halves are connected by the corpus callosum, a band of tissue through which the two hemispheres communicate. In an actual experimentation it is proven that the corpus callosum is relatively large in women than in men. The anterior commissure, a more primitive connection between the two hemispheres that links the unconscious areas of the hemispheres is also thicker for females [3]. Some scientists have found that the right hemisphere cortex is thicker in male babies than in female babies, however the corpus collasum is undoubtedly larger in females than males. The corpus collasum is even smaller in individuals with autism, which could explain their superiority in verbal fluency [3]. The thickness of the corpus collasum may also be an integral part of memory.

The animal kingdom is full of examples of female leadership and dominance. They were the desired, respected, and the ones most sought after. They are superior. Contrastingly in the history of mankind, women have been deemed inferior. Many believed that women lacked the region of the brain in which “the intellect” was said to be located by citing the statistic that the men’s brains weigh 10%more. Craniologist G. LeBon claimed in 1879 that “the intelligence of women recognized today [is] that they represent the most inferior forms of human evolution and that they are closer to children and savages than to an adult, civilized man.” In fact the father of evolution, Charles Darwin also concluded that “at least some of the mental traits in which women excel are traits characteristic of lower races” [1]. Both scientists based their assumptions on the notion that the female brain was smaller in size, however this was disproved in the 20th century by Franklin Mall, who demonstrated that there is no difference between the relative sizes of the female and male brains. Since then devices such as the IQ test, which historically favors, ideas such as the vulnerability of females due to their excessive emotions have been used to shed a negative light on the female population [1]. However the validity and usefulness of the IQ test is debatable and in addition it has been proven in other trials that emotions may even enhance memory and recall. These ideas of inferiority have been fiercely condemned in the modern 20th century and were the subject of much experimentation.

The new technological advances of the late 20th century, enabled many to oppose previous notions of female inferiority. New techniques originally designed to better understand the functions of the brain, has also enabled others to study sex differences in brain activity, structure and chemistry. For example, Richard Haier of the University of California of Irvine and his colleague Camilla Benbow have used brain-scanning technology to obtain results showing sex difference in brain function. In the ended they have concluded that “Women and men with similar high-performance scores were using different regions of their brains to perform the tasks” [1]. This suggests that women and men use different part of the brain for memory and computations, but it also implies that the manners in which the two sexes use their brains also differ. The two sexes use different means to achieve the same goals, an idea supported by numerous other studies. The difference in ways of thinking can also be related to the different subjects each prefers. It is believed that women have superior verbal and linguistic skills, while the males have better spatial ability and reasoning than women on average [3]. The specializations between female and male brains places different selection pressures upon the two sexes. Sex differences suggest that men and women may have different occupational interests and capabilities, independent of societal influences [2].

Many studies have been conducted regarding the behavioral differences between men and women due to their anatomical dissimilarities. In very few of these experiments have significant and reliable results been produced. Although there has been few instances of concrete results, there has been traces of evidence that support the hypothesis that there is actually differences between the minds of the sexes. With environmental factors and lurking variables influencing the mind, it is hard to isolate the mind and study it. The greater conductivity between the female brain, due to the thicker corpus collasum, lends evidence to the premise that females may have an advantage in storing information. This may be just one of the numerous differences between the female and male mind.

Different sexes have specialties toward different subjects. Females are more advanced at linguistic and artistic areas, therefore girls should have an advantage over guys on subjects such as English and Art. Guys are better at spatial and reasoning areas, therefore males should be more successful on subjects such as Math and Science. However, primary preferences become compromised as the subject grows and matures due to their environmental conditions and influences, especially education. Therefore, it is hard to distinguish these preferences since the differences diminishes with age. In addition, studies show that females are more emotional than males, and humans are better at remembering and recalling information under stressful conditions. Therefore, girls should recall their memory more easily.

Gender differences of the brain affect many real life situations, not just in careers and professions but also in academics. If there is a difference between the brains of two sexes, then it would seem inappropriate to have the uniform education. The same teaching techniques and standard testing would be unfairly biased toward a certain gender. If through experimentation concrete evidence supporting an actual difference is found, then modifications regarding the education system should be implemented. This is just one aspect of society would be better benefited if more information concerning brain differences is acquired.

The sexes are different because their brains are different. The brain, the chief administrative and emotional organ of life, is differently constructed in men and in women; it processes information in a different way, which results in different perceptions, behavior, and thought processes.