

Free literature review on brain size correlation

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Brain size correlation

Literature Review

Research by scientists tends to show that there is disproportionate and sudden growth of brain during a person's early years and autism. This seems to suggest that rapid excessive growth will likely prevent a child from making the necessary connections that guide one's normal behavior. This research also indicates that adolescents and children who have Attention Deficit Hyperactivity Disorder (ADHD) have brains that are smaller in percentage when compared to those without ADHD (Haier et al. 2005). Science tends to support the phenomenon that with age, brains shrink. This however may not affect cognitive functions. With this widely accepted, questions are bound to arise as how this can be possible. This has led to the urge of understanding the link that exists between a big IQ and a big brain. With this as the background, many scientists have set out to find this link. It is crucial to think that there must be an enhanced fashion to lead to more talented and smarter people.

Research carried out shows that there is a correlation between people with bigger brains and smarter people. This means that people with smaller brains are less smart. What this statement seems to support is that men should be smarter than women because they have bigger brains. In a research carried out in 2007, Einstein found out that averagely, males had 3.63 IQ points higher than those of females (Sternberg et al. 2005)). There is a probability that this study was biased and influenced by other factors since it used up to 10000 more females when compared to males. There are high chances that this could affect the average. However, the author's believe

was that people with bigger brain tissue have great ability in the cognitive process.

Studies on twins have also tended to support this conclusion. Tests on twins have showed that there is a link between the amount of one's gray matter and intelligence. Gray matter found in the frontal lobes was especially important to these studies. Genetics control frontal lobes. This leads to conclusions that genetics plays a role in passing the level of intelligence. On the other hand, another category of scientists argues that brain size plays no role in determining intelligence (Prasad et al. 1999)). They argue that there are several factors that may promote the growth of the brain tissue. For instance, research showed that the brains of cab drivers in London enlarge as they learn routes that are complicated. Drivers that have navigated the city for a long time have significant structural changes. They developed a large posterior hippocampus, with their front hippocampus reducing in size. Although this perspective contradicts the argument established earlier, it plays an essential role in explaining the differences that exist in opinion.

Several factors determine the connection between intelligence and brain size. Age is the first factor. In practice, the weight of the brain decreases as one gets old, starting from the early adulthood. Within the interval of between 30 and 90 years, there is a significant lose of brain weight (Iscoe et al. 2004). Several MRI studies have sought to assess the changes that take place in cerebral or intracranial volume in relation to old age. Most of these studies turned positive, with only one showing a negative correlation between the variables. This is a good prove that old age affects an

individual's intelligence.

There is a lot of debate as to the extent to which gender determines one's intelligence (Iscoe et al. 2004). Scientifically, men have a larger mean brain size as compared to women. This calls for analyzing the sexes differently. This approach has several complications. For instance, there is a risk of an interaction between age and sex on brain size. Research has it that men experience a faster decrease of brain due to old age than women (Rushton et al. 2003). Because of this, it would be important to argue that gender plays a big role in influencing one's intelligence.

Much of the information available on this issue is contradictory, meaning it is difficult for one to make important conclusions. The urge to find the real facts on the ground on what determines intelligence cannot be ignored. With the the role of technology and science, more and more people are joining the science industry in order to understand the real position of the issue.

Because of the availability of a lot of information on how sex and age determine intelligence, it is essential to analyze other factors. This study intends to determine the extent to which external factors such as environment and education shape a person's intelligence. There is uncertainty on this issue. Although children from better schools generally perform well than those from poor schools, there are exceptions. At times, children from poor schools perform better. This research seeks to analyze the situation and give the real position of the issue. It is expected that results will point out that the surrounding environment to which one is exposed plays a role in shaping their character and intelligence. The debate between nature and nurture gives a hint that the place where one is raised

determines the kind of people they will be in the society. With taking all other factors as constants, the research will give the true position of this.

References

- Haier, R. J., Jung, R. E., Yeo, R. A., Head, K., & Alkire, M. T. (2005). The neuroanatomy of general intelligence: sex matters. *Neuroimage*. doi: 10.1016/j.neuroimage.2004.11.019
- Iscoe, I., Williams, M., & Harvey, J. (2004). Age, Intelligence, and Sex as Variables in the Conformity Behavior of Negro and White Children. *Child Development*. doi: 10.2307/1126708
- Mahdizadeh, A., Hosseini, S. M., & Mehdizadeh, G. (2010). Identify the relationship between emotional intelligence and performance. doi: 10.1109/ICAMS.2010.5553085
- Prasad, M. V., & McCarthy, J. F. (1999). A Multi-Agent System for Meting Out Influence in an Intelligent Environment.
- Rushton, J. P., & Rushton, E. W. (2003). Brain size, IQ, and racial-group differences. *Intelligence*. doi: 10.1016/S0160-2896(02)00137-X
- Sternberg, R. J., Grigorenko, E. L., & Kidd, K. K. (2005). Intelligence, Race, and Genetics. *American Psychologist*. doi: 10.1037/0003-066X.60.1.46