The aging brain essay

War, Intelligence

Many people observe subtle changes within their cognitive capabilities as they become older. As a result, it might take longer when thinking about a problem or making a calculation because the memory might be affected (Wood, Wood & Boyd, 2005). There are reports that older adults tend to have increasing difficulty when it comes to short-term memory like being forgetful of where they placed their car keys. Although these changes happen to some level in almost everyone, they do not necessarily mean a grave medical condition like Alzheimer's disease (Wood et al., 2005). In line with these cognitive changes are are physical changes, which take place inside the brain such as the shrinking of the brain size while brain cells (neurons) in some areas get lost or turn out to be faulty. Although these age-related alterations are most likely liable for various declines within cognitive abilities, the mechanisms as to how this happens are not yet clear thereby being the topic of much the present research (Wood et al., 2005).

Cognition denotes mental processes applied for thinking, perceiving and remembering. According to John & Fredda (2010), cognitive abilities happen to be the highest when people tend to be in either their 30s or 40s. Cognitive abilities remain almost the same till the late 50s or even early 60s whereby the start declining, but to only in a small level; however, in most cases, the impacts of cognitive changes get unnoticed till the 70s and over.

Different facets of cognition get affected in distinctive ways eventually; one gauge of cognitive ability happens to be intelligence, which is commonly categorized into fluid and crystallized intelligence (Carol & Elizabeth, 2011). Fluid intelligence is the capability of thinking and reasoning, and it entails the speed of analyzing information that is attention, along with memory

capacity. In contrast, crystallized intelligence happens to be accumulated information, together with vocabulary obtained from school, as well as everyday life; this includes the application of skills together with knowledge of solving problems (Carol & Elizabeth, 2011). Fluid intelligence tends to deteriorate with age compared to crystallized intelligence, while crystallized intelligence might continue to advance with age. The majority of continue to get expertise and skills in certain areas throughout life. Conversely, there are certain cognitive changes that take place due to older age since there is a high possibility of being attentive to a limited quantity information at a specific time (Carol & Elizabeth, 2011). Furthermore, mental processing, as well as reaction time slows down with age while memory also gets affected by age; however, this differs from one person to the next.

The brain also goes through some physical changes due to the advancement of age; there is a high possibility that these physical changes are responsible for at least a number of the noticeable cognitive changes (Wood et al., 2005). The brain has many structures with each of them having nerve cells or neurons, together with supporting cells referred to as glia. The nerve cells are responsible for transmitting electrical, as well as chemical signals while this transmission of signals amongst neurons triggers cognition. Therefore, the functioning of the brain is dependent on a complex interaction amongst the brain regions. Physical changes, which occur in the brain, have an effect on some areas whereas leaving others together (Wood et al., 2005). As a result, some of these physical changes include brain shrinkage, plasticity, lost of connection and theoretical links.

According to John & Fredda (2010), there is a vast difference in the aging

patterns of the brains of women and men, with the men’s age being more susceptible to age effects than women. However, diseases like hypertension, diabetes and heart disease tend to be a more critical factor when it comes to brain aging than gender.

References

Carol K., Elizabeth A. (2011). Life-Span Human Development. Texas : Cengage Learning.

John C., Fredda. B.-F. (2010). Adult Development and Aging. Georgia : Cengage Learning.

Wood S., Wood E., Boyd D. (2005). Mastering the World of Psychology 4th ed. NJ: Allyn & Bacon: Upper Saddle River.