Name(s)	Project Number
Shabnam Z. Eghbali	**S0410**

Project Title
The Effect of Age on Attention via Word and Color Recognition

Abstract

Objectives/Goals
Age progression is known to have adverse affects on the brain, but does it affect all aspects of the brain?
With this contemplation, I sought to determine the effect of age on attention via word and color
recognition.

Methods/Materials
Seven tests, the Stroop test and variations of the Stroop test, were used as a means of measuring attention
capabilities. Ten people (5 male and 5 female) in each of the 6 age groups were tested: preschool (3-4),
elementary school (8-9), middle school (12-14), high school (16-18), adults (21-55), and elders (63+). The
accuracy, time, and reading rate were determined for each person.

Results
In terms of the average reading rate of the tests among all the groups, the high school group performed the
best. The average reading rate (words/minute) for tests 1, 2, 3, 4, 5, 6, and 7, respectively were 61.2, 117,
140, 77.9, 130, 145, and 140. For the tests that required naming the color, the lines of the graphs were
steeper whereas the lines of the graphs for the tests that required reading the words were smoother. The
elder group had the greatest discrepancy among the tests.

Conclusions/Discussion
The results of the experiment partially support my hypothesis because the high school group in fact had
the fastest reading rate for all of the tests. The overall trend of the average reading rate for each of the tests
was increasing from preschool and peaking at high school and then decreasing thereafter through
adulthood and elder age, but the reading rate for the elder group never fell below the rate of the preschool
and elementary groups. This reveals that attention abilities are still developing during the preschool and
elementary school stages therefore making it harder for the younger children to complete the interference
tasks. Contrary to my hypothesis, the elders group had the greatest discrepancy among the tests. This is
because the elders group had high reading rates for tests that required reading because they have
experience and thereby more active neuronal pathways, but for the tests that required naming words and
extensive use of attention, the elders did significantly poorly due to the limited use of that segment of the
brain combined with water loss and decreased glucose use. Through this project, we have more
knowledge about the intricacies of attention at different age levels and we can adapt this knowledge to
improving our education system and attention capabilities.

Summary Statement

This project aimed to uncover the varying attention capabilities, via word and color recognition, at
different ages and determine whether age hinders or enhances attention capabilities.

Help Received

School officials at different educational institutions provided the students to be tested.