

# Virginia Cognitive Aging Project



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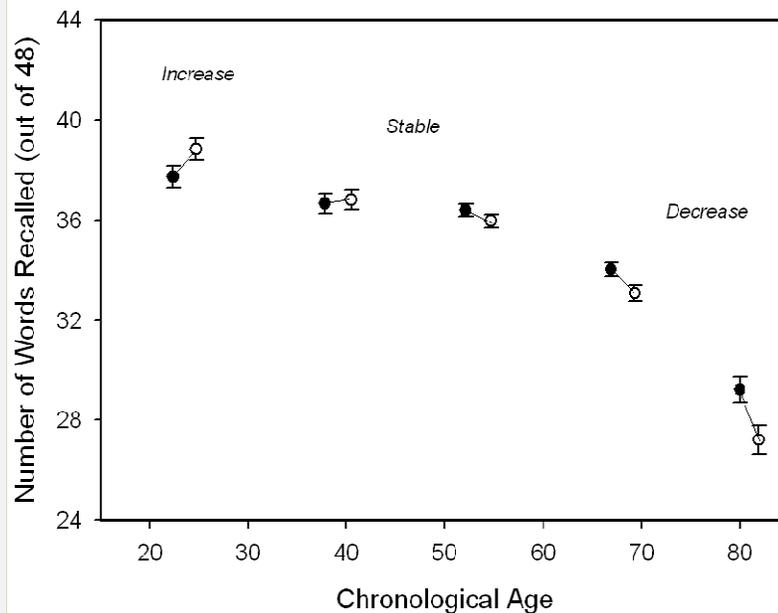
*This research would not be possible without your continued interest and participation.*

## How well are people's memories doing over the years?

The Cognitive Aging Lab has been working with participants since 2001, and many of the individuals have returned for a second test between 1 and 7 years after the first occasion. We are therefore able to examine the relationship between age and memory, or other cognitive abilities, in both cross-sectional (different people at different ages) and longitudinal (same people at different ages and different times) comparisons. The figure below illustrates some of the results from these comparisons in the word recall test in which you were asked to remember a list of 12 unrelated words on four successive lists. If someone was able to remember all 12 words on each of the four lists his or her score would be 48, but it is noteworthy that this only happened once or twice among the over 3000 people who have participated in our project.

The filled circles in the figure represent average performance on the first test occasion, and the open circles represent average performance on the second test occasion, an average of almost three years later, for the same individuals. Comparisons of the filled circles correspond to a cross-sectional contrast, and those data suggest that there is a slight decrease in memory performance from about 25 to 55, followed by a steeper decrease beyond about 60 years of age. The lines connecting the filled and open circles correspond to a longitudinal contrast, and it can be seen that those data suggest that people under the age of 40 tend to have somewhat higher performance on the second occasion, but that after about age 50 performance is somewhat lower on the second occasion than on the first occasion. These data therefore indicate that the answer to the question of when memory starts to change is complicated, and depends on the types of comparisons that are made (i.e., cross-sectional or longitudinal), and also on

*The Cognitive Aging Lab would like to thank you for your time and participation!*



characteristics of the individual because these are average trends and there are large individual differences in the trends..

Over the next several years we plan to extend these observations by asking more of our participants to return for additional occasions, and also examine these patterns with some of the other cognitive tests that were performed on each occasion.



Want to learn even more about our study?

Detailed results can be found by reading articles our lab members have published in scientific journals.

Copies are available by logging on to the publications section of the lab's web page: [www.mentalaging.com](http://www.mentalaging.com)

To access these papers, use "guest" as the user name and "cogage" as the password.



## How cognitively demanding are your activities?

One of the questionnaires we use in our study asks about how cognitively demanding you find certain activities in your daily life.



The table below shows how about 3000 participants over the past several years have rated the cognitive demands of different activities. High numbers mean that people found the activity to be more cognitively demanding. As you can see, activities such as handling finances and reading nonfiction are rated the highest level of cognitive demand.

In contrast, leisure activities such as gardening and watching television are rated low in cognitive demand.

We hope to use this information about rated cognitive demands, and reports of the frequency of engaging in each activity, to evaluate the role of cognitive stimulation on age differences and changes in cognitive functioning.

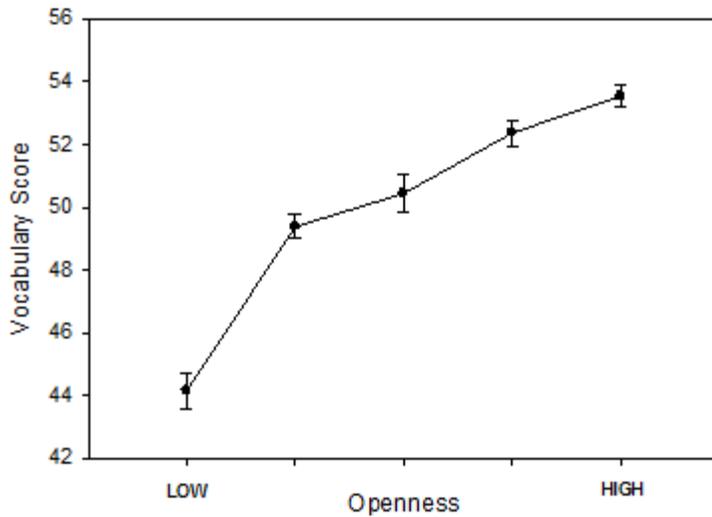


*Note: Ratings are from 1 for "absolutely no cognitive demand" (as in sleeping) to 5 for "high cognitive demand" (as when completing a tax form)*

Activity	Cognitive Demand
Handling finances	3.45
Reading nonfiction	3.20
Using a computer	3.19
Writing	2.90
Working on crossword puzzles	2.65
Socializing with friends	2.56
Reading novels	2.55
Shopping	2.18
Hobbies and crafts	1.94
Volunteering	1.83
Housework	1.99
Watching television	1.93
Gardening	1.51

# Does personality affect cognition?

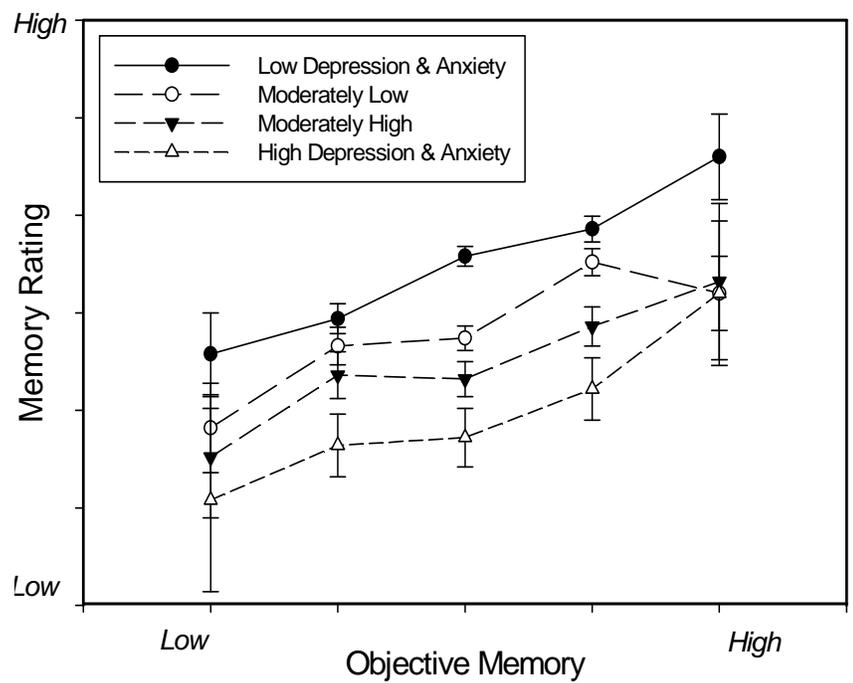
We have started to examine relations between aspects of personality and measures of cognitive functioning based on some of the questionnaires you completed at home. The strongest relationship we have found thus far is for people higher on the personality characteristic of “openness” to have higher scores on tests of vocabulary. How often people agree with statements that they prefer variety, are inclined to try new activities, and are intellectually curious determines their level of openness in this questionnaire. We found a similar relationship in people of all ages, and it is illustrated in the figure below for all of the participants in our project.



Because this is a correlational result, there are several alternative interpretations of the relation. One possibility is that people who are more open are exposed to more opportunities to acquire new information, and therefore openness is the driving force in the relation. A second possibility is that people become more open when they have greater knowledge, as reflected in vocabulary, in which case level of vocabulary would be the driving force in the relation. Still another possibility is that some third factor, such as type or quality of education, is responsible for both aspects of personality (i.e., openness) and aspects of cognition (i.e., vocabulary). Because these various possibilities are often difficult to distinguish, researchers frequently use the phrase “correlation does not imply causation”.

## Depression and Cognition

Although the figure on the right appears rather complicated, the results are actually fairly straightforward. Each point represents the average subjective rating of memory (vertical axis) for a given level of objective memory performance (horizontal axis). As you can see, people with higher levels of performance on the actual memory tests tend to rate their memory performance higher (i.e., the lines increase from left to right). What we found particularly interesting in the data was that there were also systematic effects of feeling depressed or anxious on self-rated memory performance. This is reflected in the four different lines in the figure, which indicate that although everyone exhibits the same general pattern, people who reported being more depressed or anxious rated their level of memory lower than people who had fewer reports of depression or anxiety. These results suggest that beliefs about one’s memory functioning may be influenced as much by mood as by objective memory performance.



Ever wonder what happened to that charming lab member that worked with you?

Here are some updates on what some of our lab members are up to these days.



## WHERE ARE THEY NOW??



**Janani Sundar** (Lab Coordinator, 2006-2007)

After working as lab coordinator for two years, Janani graduated from the University of Virginia and is currently attending Boston University School of Law. She plans to graduate in 2011 with her JD in the concentration of business law.



**Lauren Malone** (Research Assistant, 2006)

Following her work as a Research Assistant, Lauren pursued a Master of Arts in Organizational Management at George Washington University. In June 2008, Lauren joined the Corporate Executive Board as a Senior Research Analyst with the Compliance and Ethics Leadership Council. Lauren resides in Arlington, Virginia and tries to visit Charlottesville and feast on Bodo's bagels as often as possible.



**Ashley Howard** (Research Assistant, 2006-2007)

Ashley graduated from the University of Virginia in May 2008 with a BA in psychology. She is currently working for AmeriCorps as a College Guide and is based in Louisa County High School for two years to improve the number of students going to college. She lives in Palmyra, VA at Lake Monticello with her husband.

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## INTERESTED IN PARTICIPATING AGAIN?

Our research continues to grow in large part to your continued participation. We are not currently collecting data to allow us to have time to analyze our data and publish the findings.

However, we will resume data collection in May of 2009. Keep an eye out for more information at that time.

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