

## LOOK INSIDE FOR SOME PRELIMINARY RESULTS FROM OUR STUDIES!

- Relationship 2  
between  
cognitive  
activity and  
performance
- Different age- 2  
related trends  
for different  
cognitive  
abilities
- False memories 3  
for faces
- Relationship 3  
between  
aspects of  
writing and  
cognition
- Institute on 4  
Aging
- What some 4  
former  
Research  
Assistants are  
doing now

## Research Funded by National Institute on Aging

The current research at the Cognitive Aging Lab is supported by two grants from the National Institute on Aging, one of the National Institutes of Health, to Timothy Salthouse, the Director of the Virginia Cognitive Aging Project, and Brown-Forman Professor of Psychology. It is a great privilege to be supported this generously because federal funding for research grants involves a very competitive selection process. In fact, only the top 10-15% of the grant applications receive funding. The support these grants provide allow the Cognitive Aging Lab to

carry out a unique research endeavor, called the Virginia Cognitive Aging Project (VCAP). The purpose of one of the grants is to study cognitive



**A research participant and research assistant during a testing session at the Cognitive Aging Lab.**

aging within the same individuals by following them over a period of several years. VCAP is

therefore a unique project because it involves both a very wide range of ages (currently 18 to 97), and a broad variety of cognitive tasks, instead of just adults over the age of 65 and memory tests as in some other projects. As of November 2005, over 1800 people have participated from the Charlottesville area, and the lab plans to expand this number in the coming years. As part of this project, the lab will be inviting research participants back at intervals ranging from 1 to 5 years, so you may be hearing from us again soon!



## We have moved!

If you haven't participated with us for a while, you may not know that the Cognitive Aging Lab is now located at 1023 Millmont Street, behind the Barracks Road

Shopping Center. This is our third location in three years, and we hope to stay in our new home for at least several years. We are happier here because of the attractive facilities,

convenient location for community members, and plenty of parking! Detailed directions are available on the directions page of our website, [www.mentalaging.com](http://www.mentalaging.com).





Use it or lose it?  
Maybe, but using it  
certainly can't hurt.

## Role of Cognitively Stimulating Activity

Results from some of our take home questionnaires suggest that people who report that they engage in regular cognitively demanding activity, such as working crossword puzzles, have higher scores on many of the cognitive tests. The causal direction of

these results, however, is not clear. It could be that people with high levels of cognitive abilities choose to engage in cognitively stimulating activities, or it could be that this type of activity maintains or improves one's level of cognitive functioning. Despite this ambiguity,

the recommendation that follows from these results is to be cognitively active: it is often enjoyable, it has other possible benefits, and it may contribute to improvements in cognitive functioning.

### Want to learn more?

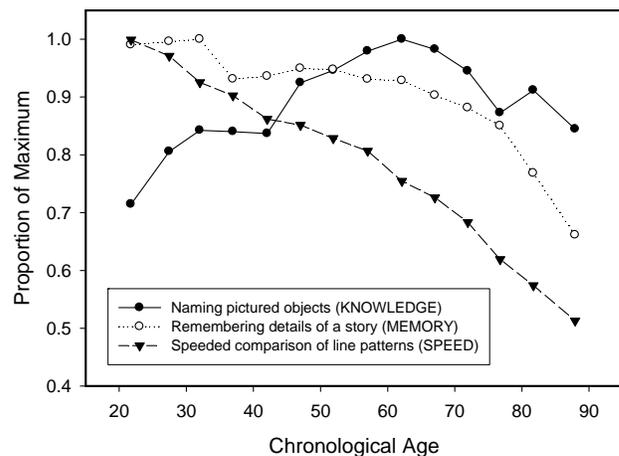
Detailed results can be found by reading articles published by lab members in technical journals. Copies are available by logging on to the publications section of the lab web page, [www.mentalaging.com](http://www.mentalaging.com). To access these papers, use "guest" as the username and "cogage" as the password.

## Different Age Trends for Different Cognitive Abilities

One of the major findings of our research, which is consistent with earlier research, is that there are different patterns of aging for different cognitive variables. This is apparent in the following figure which portrays the average performance at 5-year age intervals for three different cognitive variables. The vertical axis in the graph refers to the proportion of the maximum score across all ages, and therefore 1.0 refers to the highest average performance across all age groups. It is apparent in the figure that the age trends differ across these variables because adults in their 60s achieved the highest

performance for the measure of knowledge (i.e., an estimate of vocabulary based on correct identification of pictured objects), but the highest performance for the measure of speed (i.e., how quickly pairs of line patterns can be compared) was by adults in their early 20s. We were somewhat surprised to discover that although

many people complain about memory declines as they increase in age, this measure of memory for details of a story remained within about 10% of the maximum until about age 60 when it started to decline more rapidly. We are currently working on trying to explain these different patterns of cognitive aging.



## False Memories for Morphed Faces

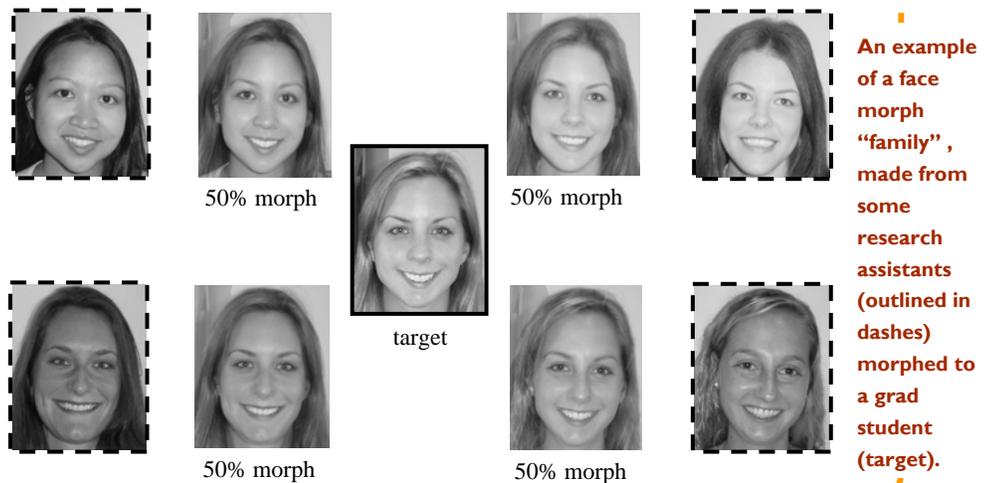
Some participants in our studies this past summer were presented with a task in which they were asked to look at a series of faces during a memorization phase. In a subsequent test phase, participants were asked to indicate whether faces they were shown had or had not been presented during the memorization phase. The faces in the task were actually related to one another in a unique way. These faces were created by using a morphing program which created 50% morphs between original faces (surrounded by dotted lines at right) and a target face (in the center at right). During the memorization phase, participants were shown the synthetic, morphed faces. When shown during a test phase the target face which

made up 50% of each morph, most people indicated that they had seen the target face before, even though they actually had never been shown that specific face.

These results indicate that memory can be deceptive, but an interesting finding from this study was that although the accuracy at distinguishing old from unrelated new items was lower with increased age, there

was no age difference in the tendency to make these types of false recognitions with similar faces. Similar patterns were found with words and dot pattern stimuli.

These results suggest that although several aspects of memory decline with age, this particular type of memory problem may not become more severe with increased age.

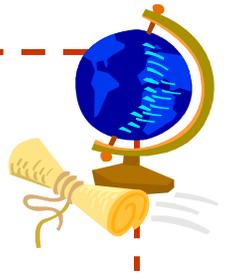


## Language Samples Show Relationships to Cognitive Factors

This past summer, some research participants were asked to provide a brief composition on the person they most admired and also to describe a picture. A considerable amount of time was required to transcribe the handwriting and type the essays into the computer so that we could use computer programs to analyze the content of these language samples. One interesting finding was that for the "admire" compositions, people most often wrote about their spouses and family members, historical figures, and Oprah Winfrey. Analyses of the

syntax, or the structure of the language that people used, are still in progress. However, one intriguing finding is that different cognitive abilities seem to be involved in different aspects of writing. To illustrate, people who performed well on tests of perceptual speed tended to write longer passages, and people who performed well on tests of vocabulary tended to use longer words and lower frequency words. Those relations might have been expected, but we were surprised to discover that people who performed well on tests of memory, such as

remembering lists of unrelated words, tended to write passages that were determined to have higher coherence in the sense that there was more referential (e.g., use of definite articles), temporal (e.g., use of words and phrases such as "before" or "and then"), locational (e.g., use of words such as "here" or "above"), and causal (e.g., use of words and phrases such as "before" or "and then") content. We hope to have an initial report of this research completed within the next several months.



**Updates on  
a few  
familiar  
faces:  
where some  
of our  
graduated  
Research  
Assistants  
are now and  
what they  
are currently  
doing.**

## Where are they now?



**KATIE KANE** (Research Assistant, Summer 2004 through Summer 2005)

Katie graduated from UVa in May 2005 with a degree in psychology and is now pursuing a master's degree in mental health counseling at Boston College. She hopes to use her degree to become a licensed mental health counselor and assist both veterans and Alzheimer's patients and patient caregivers preserve and maintain their mental health. She misses meeting interesting participants and entering data at the Cognitive Aging Lab, but she is using some of the skills she developed with our lab at the newly opened Center on Aging and Work at Boston College, where she is currently employed.



**LAMONT MITCHELL** (Research Assistant, Summer 2002 and Summer 2003)

After receiving his undergraduate degree from UVa in 2004, Lamont was accepted to the University of Virginia Law School's class of 2007. After graduation, he hopes to practice law in a private or government firm in the DC area, concentrating in intellectual property law. Lamont's favorite part of working in the Cognitive Aging Lab was the camaraderie he developed with other Research Assistants.



**LAURA ORBANN** (Research Assistant, Summer of 2005)

Laura graduated from UVa in May 2005. After working for the Cognitive Aging Lab for a summer and enjoying working with her fellow RAs, Laura accepted a job with the Louisa Department of Social Services as an Eligibility worker. For the past year and a half, she has also loved volunteering at the Senior Center in Charlottesville. Eventually, she hopes to go back to school for a masters in social work, which she would use to work with seniors.



**SARAH SHELLEY** (Research Assistant, Summer 2003 and Summer 2004)

After graduating with a degree in psychology and a minor in religious studies, Sarah accepted a job with the Virginia Institute of Autism (VIA) in Charlottesville. She works for VIA as an instructor and data programmer, a position which allows her to be involved at all levels of the development and fulfillment of educational plans for her students. She is currently applying to graduate programs in education.

## Interested in more events related to aging in the Charlottesville area?

The Institute on Aging at the University of Virginia is an organization that aims to be a resource for the community on age related issues. The Institute regularly hosts world

renowned visiting speakers on diverse age-related issues. For more information about the resources provided by the Institute on Aging, as well as a schedule of upcoming

Institute sponsored speakers in the Charlottesville area, visit their website at [www.virginia.edu/aginginstitute/](http://www.virginia.edu/aginginstitute/).