

# Virginia Cognitive Aging Project

The **Virginia Cognitive Aging Project** is currently one of the largest longitudinal studies in the world focusing on age-related differences in cognitive functioning across all of adulthood. Our research would not be possible without your continued support and participation!

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In this newsletter, you will find interesting reports from the data we have collected, as well as stories about our participants and staff. We hope you enjoy reading about what we have been up to!

## It's on the Tip of My Tongue!

Everyone is familiar with the feeling—the word is *right there* on the tip of my tongue...I just can't quite recall it at the moment. Sure enough, it pops into your mind at a later time! Many people report that the tip-of-the-tongue phenomenon occurs more frequently as they get older and worry that this may be a sign of serious memory problems. This past summer, one of the coordinators in the Cognitive Aging Lab investigated how aging affects the tip-of-the-tongue (TOT) phenomenon as part of her undergraduate honors project. Three new tasks were added to our testing battery for 2012, in which participants were asked to name a noun from a definition, name a famous face from a picture, or name a famous person or place from a description. For example, you might read the following definition: "a medieval chemical science concerned primarily with the conversion of base metals to gold." The correct answer for this definition is 'alchemy'.

Word finding tasks such as these test one's ability to access a specific name using only semantic information. One very obvious example of word finding in everyday life is recalling the name of an acquaintance when you are presented with their face. On the surface, this process of reaching into your mind in order to recall a particular fact seems to be related to the process of recalling a specific memory. What we discovered, however, is that there is only a weak relation between TOT experiences and performance on memory tests. That is, while the frequency of TOT experiences increase with age and memory performance tends to decrease with age, these two phenomena seem to be distinct! These findings suggest that increases in TOT experiences should not be considered a sign of memory decline associated with mild cognitive impairment or dementia.

Another interesting finding is that although increased age was associated with more TOTs for proper names, such as "Ben Stiller" and "Yellowstone National Park," this is not the case for common nouns such as "spelunker." We suspect this is because proper names are inherently more specific, in that there is only one correct answer for someone's name, whereas many common nouns have synonyms or other ways in which they can be described.

Working in the Cognitive Aging Lab has many benefits, including gaining excellent research and professional job experience. But ask any of our research assistants and they'll say their favorite part of the job is meeting **participants like you!** Here's a look at a few of the many people like you we have had the wonderful opportunity to meet—from all different generations!

## Participants like YOU!

Erin Palombi first participated in the Virginia Cognitive Aging Project while still in high school. A native of Charlottesville, Erin has revisited the lab twice in the midst of her world travels. She studied German and film at The College of Wooster in Ohio and then spent a year as a Fulbright English Teaching Assistant in Germany. Erin currently resides in Charlottesville where she works in a bakery, enjoys running on the Rivanna Trail, and singing with the Oratorio Society of Virginia.



In addition to contributing to the body of research on cognitive aging, Erin has enjoyed learning more about the way she thinks. Erin feels that the lab's cognitive tasks have challenged her in a different way than the problems encountered in everyday life, and she has enjoyed the stress-free opportunity to test herself on a such wide variety of problems. She thinks that participating in the Project has given her an appreciation for the incredible processing power of our brains. Thank you for your continued participation, Erin!

Jeanne Vanderhoef has visited the lab to participate in the Virginia Cognitive Aging Project on multiple occasions. With a U.S. Cavalry officer for a father and an author of popular fiction for a mother, Mrs. Vanderhoef has led a very active life. Before moving to Charlottesville, she had lived in Germany, Poland, France, Thailand, and many towns around the United States. These travels led to a vast array of experiences including ballet lessons from the Imperial Meister of the Russian ballet and modeling for John Powers.

Mrs. Vanderhoef has followed in her mother's footsteps as a writer. Her two books reflect her experiences abroad and the people she has met along the way. *Gibbons in the Family Tree* is a memoir about her move from Bangkok, Thailand to Vienna, Virginia with two gibbons in tow. Her second book, *Hard Road to Heaven*, is a fictional story about an American ballerina in Poland. According to Mrs. Vanderhoef, the plot is an amalgamation of personal experiences and the stories of individuals she has met throughout her life.



Mrs. Vanderhoef enjoys testing her cognitive abilities at the Cognitive Aging Lab and seeing how they change over time. She has also enjoyed getting to know the research assistants throughout her testing experience. Thank you for your continued interest in our lab, Mrs. Vanderhoef!

## How valid are self-assessments of memory?

There has been a debate in the scientific literature about the degree to which self-ratings of memory reflect actual memory performance. In our project we asked participants questions such as “how often do names present a problem for you?” to determine how often they believe they forget things. By comparing responses on these types of questions to performance on objective memory tasks, we found that self-ratings of forgetfulness are only weakly related to actual memory performance. However, these ratings had stronger relations with measures of mood such as anxiety and depressive symptoms. In other words, people who were more anxious or showed more depressive symptoms said that they forgot things more often. We also asked participants questions about how serious they think their memory problems are, such as, “When you actually forget names, how serious of a problem do you consider the memory failure to be?” Interestingly, we found that there was no relation between these questions and actual memory performance, but there was still a relationship with our measures of mood. These findings suggest that while self-ratings of frequency of forgetting can provide a small amount of insight into a person’s memory ability, ratings of seriousness of forgetting are not a good indication of one’s actual level of memory ability.



## Matrix Reasoning

Many of the tasks used in our lab are adapted from well-known cognitive tests. Matrix Reasoning, a computer-administered task in which you are shown a 3x3 matrix with a missing piece and are asked to select the best completion of the missing cell, is one such task. The task is based on Raven’s Progressive Matrices, originally developed by John C. Raven in 1936 to measure general cognitive ability.

Raven’s Progressive Matrices (RPM) is sometimes considered one of the most basic tests of pure reasoning because it requires the identification of relationships among elements and extraction of a rule. Because it is an abstract test and is intended to minimize the contribution of prior knowledge or experience, different versions of it are used around the world. These abstract reasoning tests are different from most types of reasoning we carry out in daily life, which typically require some degree of specific experience and knowledge.

In our lab, we have found that the people who are most successful at solving matrix reasoning problems also tend to be successful at solving other tests designed to assess reasoning abilities. For example, one task involves series completion, in which the participant is asked to identify the next item that would logically continue a sequence.

These tests are included in our project to allow us to compare age-related changes in reasoning with age-related changes in memory and other cognitive abilities. For example, we hope to be able to determine the extent to which age-related changes in memory are associated with age-related changes in other cognitive abilities such as reasoning.

**A.**

**B.** B D G K P \_

Example of A) a matrix reasoning problem and B) a series completion problem similar to those used in the lab.

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To read lab publications and past newsletters, visit the “Publications” section of our webpage:  
[www.mentalaging.com](http://www.mentalaging.com)

### Jane Mendle (Research Assistant 2002)

Jane received her Ph.D. in clinical psychology from UVa in 2008. She joined the faculty of Cornell University’s Department of Human Development in fall 2011, following three years as an assistant professor in the Psychology Department at the University of Oregon. In addition to her role as a professor and researcher of adolescent development, she is also an accomplished author of three novels, two of which were published while she was still in graduate school.



### Andrea Soubelet (Post-Doctoral Fellow 2009)

Andrea is now an Assistant Professor of Psychology at the University of Nice in France. Her main area of interest is investigating why some individuals experience rapid rates of decline, whereas others experience smaller changes in functioning. Her research focuses on various factors—personality, stress, activity engagement, etc.—that contribute to individual differences in cognitive functioning and cognitive aging.



### Lauren Estes (Research Assistant 2011)

Lauren is currently working toward a Master of Music degree in Choral Conducting at Syracuse University. Although it may not seem like a related pursuit, she appreciates the many contributions her studies in psychology have made to her understanding of conducting. When not studying, she directs and arranges music for a local teen choir.



### Sara Wakefield (Coordinator 2011-2012)

After graduating with a B.A. in psychology from UVa in 2012, Sara now works in Arlington, VA as a Business Development Associate for Vorsight, a sales consulting and effectiveness firm. She hopes to pursue an M.B.A. from the Darden School of Business in the future. In her free time, she tries to take advantage of all that Washington, D.C. has to offer.



## Where are they NOW?

The Cognitive Aging Lab has employed over 20 research assistants every summer since 2001. Our research assistants have gone on to clinical psychology Ph.D. programs, law school, nursing school, and more! Here’s what a few of them have been up to recently.



To read bios on more of our research assistants, visit our website at [www.mentalaging.com](http://www.mentalaging.com) under “Lab Members”.

*The Virginia Cognitive Aging Project is an ongoing project which is able to continue because of your participation and support. We will most likely be contacting you in the future and hope that you will participate again!*

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