

Scholarship Information continued

Scholarships for Twins:

Sterling College	Northeastern
Lake Erie College	Oklahoma A&M College
Carl Albert State College	West Chester University of Pennsylvania
George Washington University	Randolph-Macon Women's College
Morris Brown College	

Virginia State Resident Scholarships

Ethel N. Bowen Foundation Scholarship-Virginia
Norfolk State University Special Incentive Grant
Norfolk State University Virginia Transfer Grant Program
West Virginia National youth Science Camp Scholarship
Commonwealth College President's Scholarship
Scholarship Fund of Alexandria
Scholarship Fund of Alexandria need-Based Awards
Consulting Engineers Council of Metropolitan Washington
AFOWC Scholarship Category II Virginia
Virginia Vocational Opportunity Grant

Other Scholarships

Scholarship availability, application procedures, and award amount change frequently. This directory of scholarships should be regarded as a reference guide and not as a binding document

Items that should be researched by the University/ College of Interest

Departmental Scholarships:

Ad Center Art History Business	Music / Theatre
Clinical Laboratory Sciences	Nursing
Economics	Painting & Printmaking
Education	Pharmacy
Engineering	Real Estate & Urban Land Development
Foreign Languages	Reserve Officer's Training Corps
Interdisciplinary Studies	Sculpture

Honors Scholarships

Fierro Italian-American Cultural Association of Virginia, 2004-05 Scholarship Application
VCU Affinity License Plate Scholarship Application, 2004-05
Barbara A. Roby Scholarship - for undergraduates with a qualified disability.

Veterans

The Airforce Aid Society	Navy-Marine Corps Relief Society
Army Emergency Relief	Coast Guard Mutual Assistance
Army ROTC	

Free Search Services

FastWEB ScholarAid	Student Advantage
Scholarship Resource Network Express	Wired Scholar

Other Sources for Scholarship/ Grant Information:

Bailey Family Foundation
Scholarship Coalition of Higher Education Assistance Organizations
Scholarship Council for Exceptional Children
Gates Millennium Scholar Program
Hellenic Society Paideia of Virginia Scholarship
Hispanic Scholarship Fund International
Students Scholarship Search
Jack Kent Cooke Graduate Fellowship Program
James Madison Fellowship
Foundation Recognizing Scams
Scholarships for Victims of Terrorist Attacks
Senior Citizen Tuition Waiver
September 11 Scholarship Alliance
Southside Virginia Tobacco Teacher Scholarship/Loan Program
United Negro College Fund
College Scholarship Assistance Program (CSAP) — State and federally funded grant that provides assistance to undergraduate Virginia residents.

Commonwealth Award (CA) — State-funded grant that provides financial assistance to Virginia residents.

Virginia Guaranteed Assistance Program (VGAP) — Need and merit-based program that provides assistance to full-time Virginia residents who are dependent.

Financial Assistance Programs

Grants | need-based awards that are not repaid

Scholarships | awards, usually based on merit, that do not need to be repaid

Employment | opportunities to earn money through work

Loans | money borrowed that must be repaid

Veteran's Benefits | benefits for those who have served in the military, reserves or National Guard (some spouses and dependents may be eligible for these benefits as well)

Installment Payment Plan | payment plan that spreads out university charges over 4 months for the fall and spring semesters

MULTIPLES DAY

Sponsored by Mid-Atlantic Twin Registry and Paramount

Place	Paramount's Kings Dominion, Doswell, VA (about 20 miles north of Richmond, VA)	Paramount's Carowinds, Charlotte, NC (near the NC/SC border)
Date	June 18th, 2005	July 16th, 2005
Time	10:30AM-10:00 PM	10:00 AM-10:00 PM
Picnic hours	11:30-1:00 PM	11:30 PM-1:00 PM
Park entry	\$24.00	\$24.00
Parking fee	\$8.00/car	\$8.00/car
Picnic Cost	\$10.75 ages 7 & up \$5.75 (3-6)	\$10.50 ages 7 and up \$5.75 (3-6)
Information	(804) 876-5561/5240 kingsdominion.com	1-800-888-4386 carowinds.com
Order by	June 10	July 8
Order methods	Phone/web orders	Phone/web orders

***\$24.00 Park Admission is for all ages (3 & up) two and under are free.

Promotional price code word: **TWINDAY**. For additional information please contact the park through their websites or call the Mid-Atlantic Twin Registry at 1-800-URA-TWIN or 1-800-872-8946.



<http://www.matr.vcu.edu>
1-800-URA-TWIN (872-8946)

P.O. Box 980003, Richmond, VA 23298

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Twin Matters

A Family Newsletter from the Mid-Atlantic Twin Registry

Volume XII



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MM3

Drs. Kendler and Prescott and colleagues have finished the interviewing for what has come to be called the “MM-3 project.” This title simply means the third wave of interviews with the adult male-male twin pairs who have been part of the Stress and Coping Study since around 1994. We are deeply grateful for all these twins and for their cooperation. In the end, we were able to complete interviews by phone with 1,793 individual twins and both members of 748 pairs. This study differed in several important ways from our prior interviews. Most importantly, we used a “life history” approach in which we asked rather detailed questions about a series of key time periods in each individual’s life. We started in elementary school and then asked systematically about friendships, social activities, parent-child relationships and the behavior of peers. We then went on to ask a similar set of questions about the time in middle school, high school, the immediate post high-school years (ages 18-22) and early adulthood. With this approach, we hope to be able to understand more about the development of each individual in the study. In addition, for the first time, we asked for permission to collect school records and were very pleased at the degree of cooperation we obtained both from the twins and from school districts. Data entry is now nearly completed (this step takes a number of months since we always enter it twice to make sure it is highly accurate) and the data analysis will start very soon. We have been working on this study longer than 6 years so we are excited about being able to examine the patterns of our findings. The Stress and Coping Study focuses on identifying factors that contribute to the decision to use or not to use psychoactive substances. We examine both legal substances, especially cigarettes and alcohol, and well as illegal substances. We also seek to identify which factors influence whether or not a person who chooses to use substances has problems with the substance or develops dependency. We know from our own and others previous works that genetic factors play a role. Also, we know that social factors such as peer groups in adolescence are very important. The major goal of this study is to figure out how genes and environment together influence vulnerability to drug use and drug-related problems and how this all happens over time as we grow up and mature. This is an especially challenging question of substantial importance in our society due to the increasing rates of substance use among teens and young adults.

Environmental Influences on Depression, Anxiety, and Alcohol Use

Drs. Prescott and Kendler’s study about the environmental influences on depression, anxiety, and alcohol use recently concluded its interview phase. This was an intense study as the research staff contacted ~ 150 pairs about participating. In all, 156 twins completed the study, including 39 pairs of female twins and 30 pairs of male twins. This study, which built upon and expanded the earlier work of the Stress and Coping Twin Project, focused in depth on life experiences and assessed the impact on individuals. The study also included measures of cognition, information processing, and personality. Once all the data has been entered into the computer, the researchers will analyze it to assess what roles life experiences, personality, and cognitive style play in affecting vulnerability to depression, anxiety, and alcohol use. The results will be reported in future issues of the newsletter.

Neuropsychological Assessments for Temperament

Data collection was recently completed on Dr. Kendler’s pilot project, with a total of 38 twin pairs participating. This study was quite different from the other Stress and Coping studies in that participants were measured on a number of physiological and neuropsychological tasks, which included wearing electrodes to record eye blinks, rating pictures of faces on a laptop computer, and taking brief tests of memory and knowledge. The purposes were twofold: First, to see if conducting such a study outside of a laboratory was even feasible (a lot of equipment had to be hauled to twins’ homes!), and second, to obtain preliminary data on the brain functions through which genetic factors influence temperament and vulnerability to negative and positive emotions. The next step is an analysis of the data, the results of which will be reported in a future issue of this newsletter. The broad scientific goal of this study is to determine whether we can learn more about how genes and environment influence our emotional health, by measuring certain aspects of brain functioning in combination with our more traditional approach of asking individuals about their current and past functioning.

Children of Twins Study

We have collected information by telephone from over 2,152 twins, 1,298 spouses and partners of twins, and 1,376 eligible children of twins. So far, our study has included 1422 female twins and 730 male twins, representing 713 complete twin pair families. Of these, 165 pairs are non-identical male-female pairs, 238 are identical, and 304 are non-identical male-male or female-female pairs. This level of participation makes this study the largest study of its kind in the world. We are now in the position of having enough twin families for conducting the first statistical analysis of these data. We hope to have our first paper about the study written for a scientific journal, around the time you get this newsletter.

The second component of the study, the home interview portion, is now beginning in earnest. Most of the families in the study are invited to take part in a more extensive interview in their own home (or over the telephone) with one of our trained project staff. Some families have already done this. One parent even called to ask when we were coming and to say how much they were looking forward to it! Over the next two years we hope to interview almost all the families. If one of our staff calls you, please think carefully about taking part in this stage. You don’t have to, of course, but it will make the study so much more valuable if you do. As you know, we go to great lengths to make sure any information you give us is treated with the utmost care and secrecy.

How do we analyze the data?

All the anonymous data is analyzed by computer using special programs written for the study. We start out by putting together answers to different questions to get a picture of what each person is like – their personalities, moods and behavior. We do this for parents and children. We also identify those things about each family that might affect the development of children, for example how parents get along with each other, how many other people live in the home, or how children relate to their parents.

We then look at similarities and differences (“correlations”) between family members, for example, between twin siblings, husbands and wives, or parents and children. Finally, we compare the patterns of similarity we actually see with predictions we made based on what we think the genes and environments are doing.

One of the really fun things about our study is that we get to look at unusual relationships that tell us a lot about genes and environment. Have you ever thought,

for example, that the child of an identical twin has the same biological relationship to their parent as they do to the aunt or uncle who is the identical twin of their parent? How similar would you expect children and their parents might be, compared with the children and their parents’ identical twins? The answer is that it depends on whether parents affect their children genetically or socially. If you are an identical twin, the person your child calls “aunt” or “uncle” is just like you genetically!

What are we finding so far?

It’s early in the study, so we probably only have about two-thirds of the families we need, but even using the telephone interview we are starting to see some of the patterns. Much of what we have found so far is confirmation of what we thought for some time. For example, we find that to some degree like tends to marry like for certain traits, such as anti-social personality, and not for others traits, like depression and anxiety. It really is not the case that “opposites attract”. We also find that many things we measure on parents tend to predict certain behavior in their children. Parents who are often depressed, for example, tend to have children who “act out” more frequently. In the end, we hope that the data you have given will take us beyond these basic observations and help us to separate out the genetic and social parts of these associations. At this stage, while we study more families, we are continuing the math and computer programming needed to answer these questions with the data.

Transitions to Adulthood in Female Twins

Drs. Judy Silberg and Kenneth Kendler have joined together in a new study through the MATR. The researchers are surveying families with 13-year-old female twins in order to understand how genes and environment affect the stages of adolescent development and transition into adulthood. The idea for this study developed from findings of the researchers’ previous studies in which they pinpointed the importance of this developmental period for how one functions in adulthood. The researchers are hopeful that findings from this study may help them identify factors that put children at risk for developing problems later in life as well as factors that contribute to healthy development.

Neuroimaging of Twins Discordant for Anxiety

For almost two decades the Stress & Coping Twin Project, co-directed by Drs. Kenneth Kendler and Carol Prescott, included interviewing twins in order to understand the genetic and environmental factors that may lead to the development of common emotional problems.

Now, Dr. Jack Hettema, is taking this research to another level by applying state-of-the-art research methods such as magnetic resonance screening (“MRI”) to directly examine the brain structure and function of our twin subjects.

This new study will involve a select group of twins who have participated in prior Stress & Coping interviews and will serve as a pilot for larger studies in the future.

A “Genomic” View of Twin Similarity

A number of studies use information from twins to examine the genetic and environmental contributions for a variety of physical and behavioral characteristics, including body mass index, temperament, anxiety, depression and drug use. These same techniques have recently been shown to be useful in helping understand the actions of individual genes at the cellular level.

A study by Dr. Timothy York, Dr. Lindon Eaves, Dr. Michael Miles, Dr. Kenneth Kendler and colleagues at Virginia Commonwealth University have measured the contribution of genetic and environmental factors to the expression of a very large number of genes in twins. Gene expression (or the “transcription” of DNA to mRNA) is an important step in understanding how a gene may have an effect on a human characteristic

Results from this twin study identified, 1) genes whose activation was due to environmental factors such as differences in diet or exposure to pathogens; and 2) genes whose expression depended for the most part on other genes inherited from ones’ parents. The researchers have also identified sets of genes where several are regulated by the same factor at the same time. The next stage of the project will be to compare gene expression in pairs of twins where one is a regular smoker and the other is not. The idea is to identify different patterns of gene expression that are associated with the effects of smoking and smoking related illnesses.

Scholarship Information

We know that the time of year for making that college decision is here. Below we offer some information that we hope will be of assistance. Much of this information is based upon availability in Virginia at the time of this writing. The first place one should search is the University/ College of choice, using its financial aid department.

Frequently Asked Questions:

Who should apply for financial aid?
All students should complete a Free Application for Federal Student Aid (FAFSA) to apply for financial aid. Almost everyone will qualify for some type of aid. Students may pick and choose from the aid offered. There is no penalty for not taking any or all aid offered on the award letter. The FAFSA must be completed each year.

What are the academic requirements for students receiving financial aid?
Students receiving financial aid are required to be making Reasonable Academic Progress (“RAP”) toward a degree. At a minimum, undergraduate students must earn at least a 1.00 cumulative GPA by the end of the first academic year and a 2.0 cumulative GPA by the end of the second academic year. Students must complete and earn credit for at least 67 percent of the coursework attempted, which includes all withdrawals, incompletes, repeated courses, continuing course grades, and “F” grades. Students receiving financial aid must complete their degrees before attempting more than 150 percent of the credits required for the degree, or the financial aid will be terminated. For more details on RAP, consult a financial aid counselor.

Does the size of a family or the number of students in college at the same time affect the amount of financial aid eligibility?
When there is more than one child in college (undergraduate) at the same time, your family contribution is generally prorated among the college students. You cannot include parents in the number of students in college.

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