Continued from inside

substantial decrease in drinking that appears to be associated with getting married. Research also indicates that divorce is associated with an increase in drinking.

Despite these associations, researchers are not sure how directly marital status and drinking are related. Drs. Carol Prescott and Kenneth Kendler reported on the association between marriage and drinking in a recent issue of the *Journal of Alcohol Studies*. They used information on drinking from 1,981 women who participated in the Stress & Coping Studies between 1988 and 1996. They found that the usual pattern was for drinking to peak during the mid-20s, then decrease through the 50s. As with previous studies, getting married was associated with reduced drinking before age 30.

The overall findings suggest that the influences of marital status are complex and cannot be limited to the simple idea that marriage causes decreased drinking. The association between divorce and drinking habits does not appear to be directly due to divorce. Instead, the factors that influence drinking behavior seem to exist before divorce occurs. It may be more likely that the association between drinking and marital status is partly due to family characteristics that influence both drinking and marital problems. For example, religious beliefs may lead to lower drinking levels and a higher chance of staying married.

Influences on the Use of Legal and Illegal Substances. Dr. Kenneth Kendler's study about the use and abuse of certain legal and illegal drugs continues. Funded by the National Institute on Drug Abuse, the study has the goal of learning about the ways some people cope with life stress. The research is focusing primarily on the use of substances such as caffeine, tobacco, alcohol, and other drugs, both prescription and recreational. Dr. Kendler and his colleagues expect to learn about the causes of drug use and the genetic and environmental influences that contribute to it. Specifically, they are trying to learn what influences a person's decision to use—or not use—different substances at different times in life. For example, they are studying how factors such as parent-child relationships and peer pressures influence a person's decision to use drugs. Study staff are currently recruiting and interviewing male-male twin pairs who participated in the Stress and Coping Studies in the past. They have interviewed about 500 pairs of twins so far, bringing them halfway to their goal of interviewing 1,000 twin pairs. For more information on this study, contact the MATR or the Study Project Coordinator, Karen Hough, at (804) 828-3594.

Young Adult Follow-Up Study. The Young Adult Follow-Up (YAFU) Study, which began in August 1998, is about halfway through its data collection phase. Dr. Judy Silberg and her research team plan to interview about 2,800 twins in all. The twins being contacted for this study were previously involved in the Virginia Twin Study of Adolescent Behavioral Development. These twins, who are now young adults, are being invited to participate in a telephone interview about the choices they made as they grew from adolescence to young adulthood. The interview covers features such as behavior, lifestyle, and personality. Dr. Silberg hopes that the results from the YAFU study will contribute to our understanding of the factors that contribute to good emotional health and those that lead to emotional problems. Study results also may provide information that can be used to help people with life stresses and eventually lead to better prevention and treatment of emotional difficulties and mental illness. The research team plans to conclude the interviews by the summer of 2002. For information on this study, please contact the MATR or the YAFU Project Coordinator, Terry Martin, at (804) 828-8761.

Seventh Annual Multiples Day—Fun for All

We had a great time at Multiples Day at Paramount's Kings Dominion on July 21st, 2001. More than 600 twins, family members, and friends attended the family picnic, where we took photographs and awarded prizes to the youngest and oldest twins there and the twins who had traveled the farthest. Some of the photographs from the picnic are included in this issue. We've posted photos from the picnic on our web site—look under "What's New" for the link to Multiples Day at www.matr.vcu.edu. We also will be mailing photos to the twins who posed for pictures. For those of you who like to plan ahead, the next Multiples Day will be the third Saturday in July 2002!

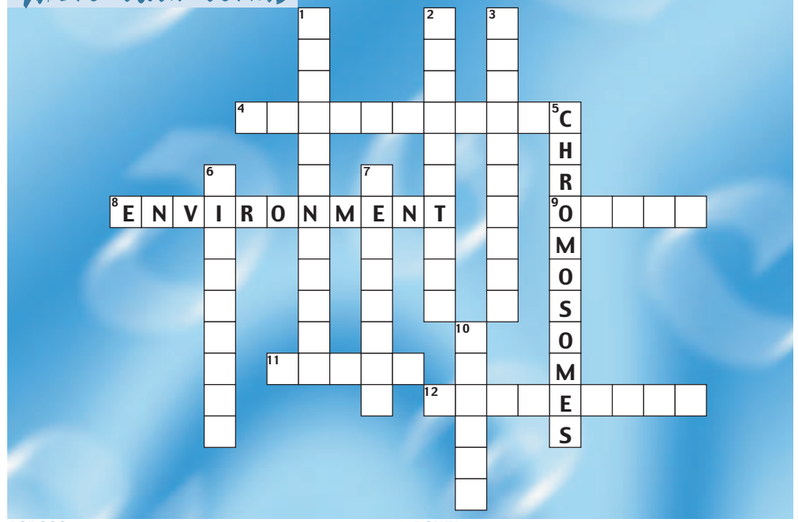
Address Changes/Questions/Comments

Please let us know if your address or phone number has changed or will change soon. This will help us get information to you more efficiently. Write, call our toll-free number or e-mail us (matr@vcu.edu) with your updates and comments.

Kids' Corner

Here's a crossword puzzle containing common terms related to twins. We've filled in two answers to help get you started. If you get stuck, an answer key is below.

More Twin Terms



ACROSS

4. Identical twins that come from one egg are known scientifically as _____.
8. When twins are raised together, the surroundings that may influence their similarities are called their shared _____.
9. Birth _____ refers to which twin was born first, and which was born second.
11. Identical twins share all of the same _____, which are the DNA building blocks of life.
12. Non-identical twins are called _____.

DOWN

1. The private words that twins use to communicate with each other are sometimes called _____.
2. People who are not twins are called _____.
3. In a multiple birth of seven babies, the babies are known as _____.
5. In our cells, _____ are where scientists find DNA.
6. The scientific word for fraternal twins is _____ twin.
7. When twins are separated at birth and reared apart, they can later be _____ when they are older.
10. _____ imaging refers to reversed physical features in some identical twins.

MORE TWIN TERMS PUZZLE KEY

ACROSS 4. MONOZYGOTIC 8. ENVIRONMENT 9. ORDER 11. GENES 12. FRATERNAL
DOWN 1. TWIN LANGUAGE 2. SINGLETONS 3. SEPTUPLETS 5. CHROMOSOMES 6. DIZYGOTIC 7. REUNITED 10. MIRROR

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MID-ATLANTIC twin REGISTRY
Medical College of Virginia of Virginia Commonwealth University
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Twin Matters

A Family Newsletter from the Mid-Atlantic Twin Registry Volume VII

In this Issue:

A Message From the Directors

We are looking forward to a busy fall and to some new projects in 2002. Things are always changing at the MATR, whether we are recruiting new participants, adding new members to our staff, or starting new research projects. Recent changes include a new Participant Coordinator. As some of you may know, our previous Participant Coordinator, Tim McCready, left us this summer to pursue a doctoral degree in clinical psychology. Our new Participant Coordinator, William Beverly, is a Licensed Clinical Social Worker and doctoral candidate in social work here at VCU. He enjoys working with people and is excited about working with the MATR because he wants to pursue his interests in health-related research.

William is working with a new team of research interviewers who are calling MATR participants to collect basic health information or to invite them to take part in studies. MATR interviewers are now calling twins who did not return the Adult Health and Personality Survey, to invite them to provide that information by telephone. If a MATR interviewer calls you, we hope that you will find the time to complete the interview. As always, the decision to participate is up to you. If you or your twin wants to take part in this survey and have not heard from us, please feel free to contact us at our toll-free number, 1-800-URA-TWIN (872-8946).

Some of you may be hearing from the MATR and specific research teams by phone or mail in the coming months, as new projects begin. We greatly appreciate your time if you can participate in any of these studies. Your willingness to participate is extremely valuable, especially in this era when so many of us seem to feel pressed for time. As always, we thank you for being in the MATR. We wish you a pleasant holiday season and a safe and prosperous new year.

Sincerely,

Lenn Murrelle, MSPH, PhD Linda Corey, PhD

Annual Study Update

In this issue of Twin Matters, we provide updates on past and ongoing research studies. If you would like more information on any study, please call the MATR at 1-800 URA TWIN (872-8946). We have also listed contact information for the Project Coordinators of ongoing studies so that you may contact them directly. Thank you to everyone who has participated.

Risk Factors for Epilepsy and Seizures. Dr. Linda Corey and her colleagues continue to enroll twins and their family members in the ongoing study of the factors that contribute to the risk for having a seizure or developing epilepsy. This study, which originally involved only MATR participants, has been expanded to include Norwegian and Danish twins and their families. So far, Dr. Corey and colleagues have been able to verify a history of seizures and classify seizure types in more than 2,600 people.

Initial analyses have found that the frequency of seizures/epilepsy is about the same across the three countries included in the study. Results also show that inherited factors are important in determining whether or not an individual is at risk for having seizures. It appears that other genetic or environmental factors influence the type of seizure experienced by people prone to seizures. Evidence continues to mount that inherited factors may be involved in determining whether a seizure will last more than a few minutes.

As many of you know, epilepsy is a complex disease that consists of many different types. Therefore, Dr. Corey needs a large number of participants to help identify the specific genes and environmental exposures responsible for the occurrence of this health problem. If you have ever had a seizure, or you are the parent of a twin who has had a seizure, and you are interested in participating in the study, please call William Beverly, the MATR Participant Coordinator, at 1-800-872-8946.

Updates on MATR Twin Research

New Study on Chronic Fatigue Syndrome is Underway. Chronic Fatigue Syndrome (CFS) is a rare but disabling condition that affects about 2 to 5 people out of every 1,000 adults. In the U.S., that amounts to a half-million people. Researchers have begun a study of CFS with the goal of better understanding the causes of CFS and its relationship to similar illnesses. Currently, diagnosis of CFS is difficult because no medical test can positively identify this condition.

Researchers from Virginia Commonwealth University (VCU) in Richmond, VA, and the University of Washington in Seattle, WA, are conducting the study. Information will be collected by telephone interview. Researchers need information from people without a history of CFS symptoms as well as people who report symptoms of CFS at some time in their lives.

Twins who appear eligible for the study will be contacted by the MATR with an invitation to take part in the study.

More details about the study can be found at the MATR web site, www.matr.vcu.edu, in the Research section. You also may call the MATR or the CFS Project Coordinator, Fran Davis, at (804) 828-8107.

Antisocial Behavior. Research has shown that many American children and teenagers take part in at least some minor form of delinquent or antisocial behavior (e.g., skipping school, lying to parents, shoplifting, etc.). However, few of them continue this behavior as adults. Recently, VCU's Dr. Kristen Jacobson and her colleagues completed research on how genetic and environmental influences contribute to antisocial behavior throughout life.

The study focused on three periods in the lives of identical and fraternal twins: before age 15, age 15-17, and age 18 and older. Researchers asked about these different periods to learn how genetic and environmental influences on antisocial behavior changed over time.

Results showed that environmental factors shared by twins from the same family were important in influencing antisocial behavior up to age 15. These factors include common community experiences, similar parental attitudes, and shared friends. After age 15, these factors became less important. In contrast, genetic influences on antisocial behavior became more important as the twins got older. For antisocial behavior in persons age 18 and older, genetic influences were the sole source of similar behavior in twins.

Researchers found that part of the reason why twins differ in antisocial behavior is that they have different environmental influences. Examples of unshared influences may include being treated differently by parents, having different groups of friends, or having different school and social experiences.

Dr. Jacobson and her colleagues found these patterns in both male and female twins. But in female twins, genetic factors were important before age 15. This was not the case in male twins. Since puberty starts earlier in females than in males, researchers think that puberty may be related to the "switching on" of genes that may influence antisocial behavior.

The findings from this research suggest that children and young adolescents engage in antisocial behavior primarily because of environmental influences. But it appears that both genetic and environmental influences are an important source of individual differences in antisocial behavior in late adolescence and adulthood.

A New Survey for the Mid-Atlantic School Age Twin Study. Many of you have participated in "The Mid-Atlantic School Age Twin Study" (MASATS) by completing a survey of the same name. This project, which began in 1998, seeks to improve our understanding of the causes of childhood and adolescent behavioral problems, focusing on the misuse of alcohol and other substances. There are very few research studies like it in the world.

Directed by Dr. Lenn Murrelle, the MASATS now involves the families of nearly 5,000 twin pairs aged 6-20. Dr. Murrelle thanks all of the teenage twins and their parents who participated in the past.

The National Institutes of Health have given funds to send the survey to more than 6,000 families of young twins. Many teenage twins and the mothers of 6- to 20-year-old twins will soon be invited to take part in this study for the first time. Others who already participated will be asked to share how they are doing now by completing a new survey much like the previous one.

As always, the decision to participate is up to each person in the MATR. If you have any questions about the project, please call the MATR or the MASATS Coordinator, Elizabeth Prom at (804) 828-8154. Please mention the MASATS when you call.

Affective Neuroscience. One of the major goals of Dr. Kenneth Kendler's Stress and Coping Studies has been to understand why people differ so much in their vulnerability to anxiety and depression. Some people are moody and react easily. A modest amount of stress—a traffic jam, a bad day at work, or a cold—can easily upset them emotionally. Other people's moods are pretty much the same day to day, and it takes a lot to get them upset.

When the Stress and Coping Studies began more than 10 years ago, the best way to measure vulnerability to anxiety and depression was to ask people about their current moods and their past reactions to stress. While this is a very good way to understand our own emotions, it is far from perfect.

A newly developed field called affective neuroscience (AN) provides a new way for researchers to learn about stress, moods, and behaviors. AN uses various scientific tools to help understand the human brain pathways that influence moods such as depression and anxiety— processes that we now know involve a small number of key brain circuits.

AN methods include a variety of approaches. These range from carefully recording people's facial expressions when they are exposed to items that stir emotion—such as photos of scary dogs or smiling babies—to recording how easily people can be startled while they are occupied with an activity on a computer.

Such measures appear to have an advantage in telling about a person's moods, as they may be more objective than people's own reports. Some researchers think that AN techniques could offer "direct access" to the brain circuits that influence people's response to stress. If this is the case, these methods could be quite valuable in providing information about the brain processes involved in people's moods.

Few studies using these measures with twins have been done. Before Dr. Kendler's research team can undertake a large twin study, they must first do some small studies to prove that these new research methods can be successful. While many of the AN measures have been worked out in controlled laboratories, no one has shown how well they would work in other settings—such as in someone's home.

Dr. Kendler's research team is currently conducting two studies—one with MATR participants who previously participated in the Stress and Coping Studies—and another with pairs of siblings from the Richmond, VA, area. If these studies demonstrate the success of the AN methods, Dr. Kendler and colleagues hope to include these methods in future large-scale studies. They hope that AN methods will help provide critical insights into how genes and the environment influence our vulnerability to anxiety and depression.

The Genetics of Depression. Depression is a common, complex, costly, and often impairing disorder that is twice as common in women as in men. By 2020, depression is projected to become the second leading cause of disability in the world. One in every five people will experience depression at some point in their lives.

Depression is a trait that is determined by both genes and environment. Any genes that cause depression might increase risk somewhat but will not always lead to depression. It is clear that environmental factors (such as stressful events like the death of a loved one) are important in the causes of depression.

Dr. Patrick Sullivan and colleagues at VCU have begun a research study to identify specific genes that increase or decrease risks for depression. The long-term goal of this study is to use molecular genetic techniques to identify the brain mechanisms that make people vulnerable to depression. The study will include people who report symptoms of depression as well as those who do not. Dr. Sullivan and his colleagues hope that this work will lead to better understanding and treatment for depression.

For more information about this study, please visit the MATR website, www.matr.vcu.edu, and click on "Research." You may also call the MATR or the Depression Project Coordinator at (804) 828-8135.

Marriage and Drinking in Female Twins. Studies of drinking in the United States have found that most people who drink alcohol consume the most during their early to mid-20's. After this time, the amount and frequency of drinking lessens gradually through adulthood. Some exceptions to this pattern are changes in drinking habits that occur when people change their marital status. Young men and women report a

Continued on back