Selected Findings from Twin Research Around the World

Twins around the world participate in studies on various healthrelated topics. Presented here are brief summaries of recent results from international twin research.

Australia: A study of Attention Deficit Hyperactivity Disorder (ADHD) found that twins were more likely than their non-twin siblings to have problems with speech and language. In addition, twins with speech and language problems were more likely to have problems with reading and to exhibit signs of ADHD. However, the study showed that hyperactivity is the rarest form of ADHD and is not associated with speech and language problems-a result that conflicts with previous findings and beliefs about ADHD. The study showed that heredity seems to play a stronger role in ADHD than it does in other behavior disorders. The study is continuing, with the purpose of determining if children with ADHD outgrow their difficulties and looking at changes that occur in their personalities as they age.

Denmark: Researchers studied more than 5,000 identical and fraternal twins to clarify the role of genetic and environmental factors in causing migraine headaches without aura (a visual sensation sometimes described as bright lights just before the headache begins). Researchers concluded that genetic factors play a role in this condition, with the genetic

contributions being similar for men and women even though migraines occurred more in women. Environmental factors were deemed to also play a role, but these factors were unique to the individual suffering the migraine.

Finland: A study of adult identical twins in which one twin in each pair was overweight and the other was of normal weight found that overweight was not influenced by genetic background. Researchers concluded that each twin in these pairs may have developed different living habits, which led to different eating patterns and body weight.

United States: Researchers in Missouri investigated how ethnic background, family religious affiliation, religious involvement, and other religious values contribute to the risk of alcohol and cigarette use in adolescent girls. They found that African American adolescent girls were less likely to become teenage drinkers or smokers and showed greater religious involvement and had stronger religious values in their daily living than adolescent girls of European or other ancestry. Religious involvement and values were found to be more heritable in African Americans than in youth of other ethnic descent.

Kids' Corner

Twins Born in Different Centuries!

Most twins share the same birthday, but some twins are born on different days and even in different years. At least three pairs of twins born in the United States at the turn of the year have separate birthdays in different centuries. In Enid, Oklahoma; Fairfax, Virginia; and Seattle, Washington, mothers gave birth to their first twin shortly before midnight on December 31, 1999, then delivered their second twin on January 1, 2000. Cool!

MATR WORD FIND

C	Q	A	E	T	W	I	N	U	R	E	P	Α	A	D	Hidden in the p	ouzzle are 14
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U	0	E	L	Α	C	I	T	N	E	D	I	0	X	I	Atlantic Twin R	
E	U	K	P	S	A	A	Н	E	T	L	V	R	Q	D	can appear hor vertically, or di	
K	T	Y	E	V	R	U	S	F	0	P	J	0	Í	N	may be spelled	
G	Н	G	A	0	F	P	F	R	W	E	F	0	В	K	forwards. Good	
Н	C	E	S	0	T	U	A	A	I	W	C	S	R	E		
0	A	T	A	L	I	C	0	T	M	Z	S	T	V	L	FAMILY	REGISTRY
E	R	Y	T	L	Н	M	Z	E	S	I	I	U	E	P	FRATERNAL	RESEARCH
A	0	D	P	T	T	A	J	R	I	G	L	D	K	I	HEALTH	SOUTH
N	L	M	R	G	U	Н	L	N	0	L	G	Y	U	T	IDENTICAL	CAROLINA
R	I	0	0	L	Н	C	R	A	E	S	E	R	J	L	JOIN	STUDY
W	N	F	V	C	A	A	0	L	R	A	R	W	S	U	MULTIPLE	SURVEY
A	A	L	S	Н	V	I	R	G	I	N	I	Α	E	M	NORTH	TWIN
N	D	R	E	G	I	S	T	R	Y	F	C	T	E	N	CAROLINA	VIRGINIA

Multiples Day at Paramount's Kings Dominion

It's time for the 6th Annual Multiples Day at Paramount's Kings Dominion Amusement Park in Doswell, Virginia. Twins, triplets, quadruplets, and other multiples and their families are invited to the park, located about 20 miles north of Richmond, on Saturday, July 22nd, 2000, for a day of fun and celebration. Reduced-price advance tickets are available: \$21.00 for ages 13 and up (save \$14.99 over regular admission) and \$17.00 for ages 3 to 12 (save up to \$18.99 over regular admission). Ages 2 and under are free. There will also be an all-you-can-eat picnic just for twins and their families. For more information, including how to order tickets for admission and the picnic, contact

Paramount's Kings Dominion Multiples Family Day P.O. Box 2000. Doswell. VA 23047-2000. (804) 876-5561

I dentical Twins Needed for Space Research

Identical twins age 20 to 45 who are in excellent health, do not smoke, and take no medications can earn \$100.00 per day for 36-42 days by participating in a study at the University of California, San Diego (USCD). This study will investigate the effectiveness of treadmill exercise with lower body negative pressure to prevent deconditioning of the musculoskeletal and cardiovascular systems, a condition that occurs in astronauts during spaceflight. Participants in this study must stay at the Clinical Research Center of UCSD's Medical Center for the duration of the study.

Study participants will rest in bed for 30 days with their heads tilted down 6 degrees. They will exercise for 40 minutes a day, 6 days a week on a treadmill while lying down with their lower bodies in a chamber that exerts a pressure equal to the force that gravity exerts on one's body while standing up. Researchers will test factors such as participants' muscle strength, sleep quality, ability to stand upright, and changes in daily weight. Weekly blood draws are required throughout the study.

For more information, contact the MATR at 1-800-872-8946 and ask about "the NASA study".



MID-ATLANTIC twin REGISTRY

http://views.vcu.edu/~twinreg 1-800-URA-TWIN (872-8946)

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Twin Maitters

A Family Newsletter from the Mid-Atlantic Twin Registry

Volume 1



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- NEW Kids' Corner

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- Twin Stories



A Message From the Directors

e are pleased to announce that, in addition to the Directors, we now have a Mid-Atlantic Twin Registry Administrator, a position made possible through funding from the W.M. Keck Foundation. Lisa Anderson joined our staff in August 1999. She is managing the daily operations of the MATR, including overseeing special projects and interacting with researchers and MATR twins and their family members. Lisa has a master's degree in public health from Virginia Commonwealth University, three years of research experience, and more than six years of management experience. Lisa is a great asset to the MATR



Currently, nearly 37,000 twin pairs are registered in the Mid-Atlantic Twin Registry, making it one of the largest twin registries in the world. We hope, through generous funding provided by the W.M. Keck Foundation, to increase the size of the MATR substantially by inviting many new twins from South Carolina, North Carolina, Virginia, and other states to join the MATR.



In this issue of the newsletter we'll tell you about some of the other twin registries around the world and report on results of some recent health-related twin research. As you read about these registries, you'll see that you are in good company as a contributor to research that may result in improved health for your community—and communities everywhere.

Lenn Murrelle, MSPH, PhD

Linda Corey, PhD

The MATR's Privacy Policy

The MATR is working with privacy consultants to develop an official privacy policy that will explain the steps we already take to protect the information provided to us by MATR participants. We realize that our participants may supply the MATR with sensitive personal information about themselves and their families, and we appreciate our society's increasing emphasis on privacy and confidentiality. The MATR privacy policy will explain your rights to privacy as a MATR participant and will describe in detail the safeguards we take to protect your information. Our research would not be possible without the data you provide. Be assured that we hold all information we receive in the strictest confidence. Look for the finalized privacy policy later this year on our web site.

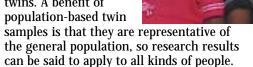
Value of Fraternal Twins to Research

Fraternal twins or their relatives often ask the MATR, "Aren't you only interested in identical twins for your research?" We are interested in both identical and fraternal twins (both same and opposite sex pairs). Although fraternal twins share about half of the same genes, similar to non-twin siblings, they are just as important to research as identical twins. For example, unlike non-twin siblings, fraternal twins are the same age, a great advantage since it is often important in medical research to study people of the same age. Because of their degree of genetic similarity, fraternal twins, when compared to identical twins, help researchers to determine the likelihood that a disease or condition is due to genetic factors. So, you see, we couldn't do it without you!

Twin Registries Around the World

There are generally two types of twin registries: population based and volunteer based. A population-based registry is

composed of twins from all segments of the population (e.g., ethnic origin, socioeconomic status) in their country or region. Such registries often rely on data collected by governments, such as birth records, to find twins. A benefit of population-based twin



Other registries may rely solely on volunteers, so there may be a participation bias in the data collected through these registries. For example, female twins volunteer more often for registries and for research than do male or male/female twin pairs, meaning that such registries would have a higher proportion of female participants than are in the general population. While many research studies require participants from all "walks of life" so that study results can be generalized to the entire population, this is not always necessary. Some registries, such as the Munich GOLD Project, lack large numbers of participating twins but have a wealth of data on those people who do participate. The Australian Twin Registry, one of the largest volunteer registries in the world, provides subjects for many research

studies that have made important findings about a variety of diseases and conditions. The Mid-Atlantic Twin Registry is the

largest population-based registry in the United States. Other registries focus on single states. The Missouri Twin Register is a register of all twin pairs born in Missouri from 1968 to the present. The Southern California Twin Register, based at the University of Southern California, was established to focus on the role of genes and environment in producing individual differences

in the behavior of adults and children. The Northern California Twin Registry, which enrolls twins 18 and older, and the

University of Washington Twin Registry, based in Washington state, are two recently established registries.

At least two U.S. twin registries focus specifically on people who have served in the

> military. The Viet Nam Era Twin Registry (VET) consists of approximately 7,400 male -male identical and fraternal twin pairs born between 1939 and 1955 who served in the

U.S. military between 1964 and 1975. Studies of VET members have focused on issues such as genetic vulnerability for drug addiction, Post-Traumatic Stress Disorder, and the effects of alcohol use on thinking processes. The National Academy of Science's Medical Follow-up Agency started studying World War II veterans in 1958, by identifying nearly 16,000 pairs of Caucasian male twins who had jointly served in the military during that era. Twins from this registry have participated in studies on topics such as smoking and respiratory function, personality traits, weight change and body fat distribution, Alzheimer's disease, and prostate disease. The Medical Follow-up Agency is now



establishing a registry that will draw from the Department of Defense. This registry of both genders will enroll military twins indefinitely and is being referred to as the Current Era Twin Registry.

The table below shows the location and number of twins enrolled in registries outside the United States:

Country and twin registry	Approximate of twin pairs	
Scandinavia		
The Swedish Tw	in Registry	70,000
The Danish Twin	Register	62,000
Finnish Twin Col	ort Study	48,000
The Norwegian 1	win Register	40,000
The National Ins	titute of	
Public Health Tw	in Panel (Norway)	4,000
Germany		
Berlin Twin Regi	ster	65,000
German Observa		•
Study on Adult T	wins	1,450
Munich GOLD Pr		•
(Genetic Oriente		
Longitudinal Stu		
Differential Deve		250
Australia	, ,	
Australian Twin I	Dogietry	29,000

Country and twin registry	Approximate number of twin pairs enrolled
Netherlands	
Netherlands Twin Re	gister 20,000
Italy	
Twin Epidemiological	Registry
of Rome (TERRY)	15,500
Registry of Italian Tw	in Athletes (RITA) 5,000
United Kingdom	
Twins Plus Register	15,000
St Thomas' Adult UK	Register 8,100
Institute of Psychiatry	y Volunteer
Twin Register	5,000
Child Twin Register	1,300
Belgium	
East Flanders Prospe	ctive
Twin Survey	5,000
Sri Lanka	
National Twin Registr	ry of Sri Lanka 2,000
•	•

Information in this table derived primarily from Boomsma, DI. Twin registers in Europe: An overveiw, Twin Research 1 (1998): 34-51.

Your Opinion Counts!

We're interested in your thoughts about Twin Matters. Please take a moment to tell us how the newsletter is meeting your expectations. Would you like to see more, less or the same amount of coverage of the following topics?

MOLE	LCSS	Same
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
	0 0 0	0 0 0 0 0 0 0 0

Return to Mid-Atlantic Twin Registry, P.O. Box 980003, Richmond, VA 23298-0003

Send Us Your Twin Stories and Photos!

Twins often have interesting stories to tell. Please write or call to tell us about your unique experiences as twins. We also love receiving your photographs, which we use, with your permission, in our publications and in our Twin Photo Album on our web site.