Study Update

As we head into our 5th year of Dr. Botteron’s MRI project, over 110 pairs of twins have participated to help us to learn more about brain structure and function. Many of you have given your time to come to St. Louis for our study (some even twice!), and we would like to take this opportunity to thank you for all the time you have devoted to our project. THANK YOU!

About the Missouri Family Studies Program

The Missouri Family Studies Program is an ongoing set of federally funded research studies of twins born in Missouri. For the past 8 years, the Missouri Family Studies Program has attempted to contact all twins born in Missouri between 1971-1995, approximately 10,000 pairs. There are between 10-15 different health-related studies that work in conjunction with the Missouri Family Studies Program. Dr. Kelly Botteron’s MRI study, in which you have participated at the Washington University School of Medicine in St. Louis, Missouri, is one of these studies.

Overview of the MRI Twin Study

Dr. Botteron’s project has been underway since 1997. She is interested in the brain structure and function of twins with and without major depression or attention problems. In older adults, there is evidence of brain changes in specific regions in individuals with major depression. Dr. Botteron and collaborators are trying to determine if these brain changes occur at younger ages. So far, we have found differences in brain structure between depressed and non-depressed individuals and twins. One of these brain changes occurs in a region called the subgenual prefrontal cortex, a very small region in the front and middle of the brain, about the size of an adult fingernail. Not much is known about the function of this region, but researchers believe it is involved in regulating emotions, including response formation to environmental information.

Below is a reconstructed picture of a person’s head and brain with the right and left medial prefrontal region highlighted. The subgenual is the top region colored in green and aqua.

The Future of Our Study

We are happy to announce that we received a new grant from the National Institutes of Health in early 2001. This means that we will continue our project for at least another 5 years. What does this mean for your participation? We may be calling you in the future to complete further follow-up portions of our study. We will keep you informed of any new findings that we have. We will also be adding some younger subjects to our project, at age 8 and above.

Interesting Twin Facts

1. A recent study looked at brain structure similarities in identical and fraternal twins and found that certain parts of the brain are very similar especially in identical twins. The brains of identical twins were found to be more similar than those of fraternal twins. (Sounds obvious, doesn’t it, that twins who look identical would have identical looking brains? However, not much study has been conducted in this area before, so this is really interesting twin news!)  

2. Identical twins exhibit almost identical brain folding patterns of brain cortex (also called sulci and gyri). This is the way the brain tissue folds over on itself in a specific design (see picture at left). Identical twins really are identical!

3. The modern world record for giving birth to multiples is held by Leontina Albina from Chile, whose 55 children included three sets of triplets, and 4 sets of quads. (If true, it means her 46 children included no singletons at all. Whew!)

Fun Twin Web Sites

www.twinsmagazine.com
www.nomotc.org
Missouri Twin Geography

Although all of the twins in our study were originally born in Missouri, many have since moved to other parts of the United States. Twins in our MRI study have traveled to St. Louis from the 18 states shown in color in the map below.

Where Are You From?
The map below shows all the places our participants have traveled from to assist with our research. Take a look to see how you fit into the big picture.

Request for Stories
We’d love to hear from you about items that you’d like to see in upcoming newsletters. Please call or write us at the addresses and phone number listed below. We look forward to hearing from you!

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Coming soon…our very own web site!!