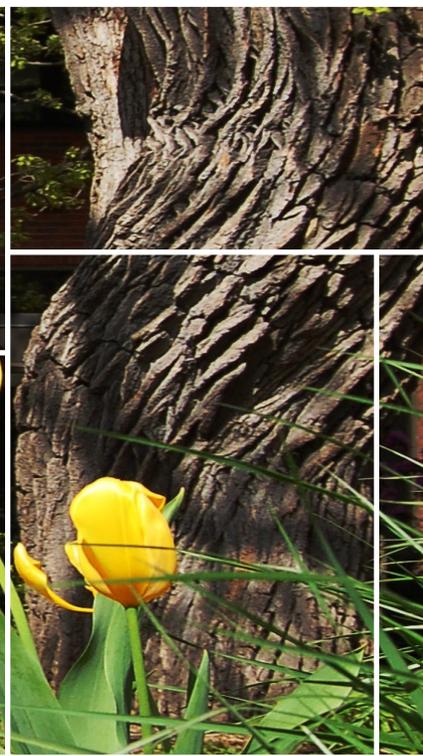


MCTFR *update*

minnesota center for twin and family research spring : summer : 2011

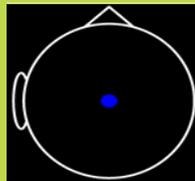


MEET THE STAFF

Learn more about our Administration [page 2](#)

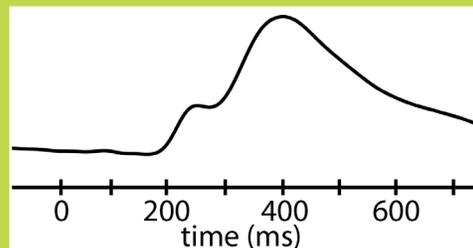
“ROTATED HEADS” AND THE P300 BRAINWAVE: A DEVELOPMENTAL PERSPECTIVE

If you have been through the lab portion of an MCTFR visit, you have done the “rotated heads task.” Let us refresh your memory: most of the time you see a circle with a dot in the middle, but sometimes you see a head, with a nose and an ear. When you see the



head your job is to push the button that corresponds to whichever side the ear is on. Sound familiar? We thought it would.

This type of task is commonly used when recording Electroencephalogram (EEG) from the scalp. When you make a choice as to whether the ear is on the left or right, your brain waves change. What we see overall is something like this:



We call this a P300 wave, P because it goes up - or “positive” - and 300 because it occurs around 300 milliseconds (less than half a second) after you make your response. The P300

wave was discovered in the 1960s and it is currently thought to be related to both attention and processing of new information. In the case of the “rotated heads task,” most of the time you see a plain circle, but a small percentage of the time you see a head. When you are presented with this new stimulus, a P300 is generated because you are seeing something new. An interesting aspect of the P300 is that it can also work in reverse. If instead of the head, we just showed a blank screen, you would also generate a P300. This shows that it isn’t necessarily stimulus specific, but a reaction to something new. In this case, that “nothing” was presented when you were expecting something. Using the “rotated heads task” allows us to look at both attention (a change from a circle to a head) as well as processing information (which side the ear is on and responding accordingly).

The MCTFR and other researchers have examined the P300 in various ways. Current findings suggest that it is heritable. That is, genetics play a role in some of the differences in P300 we see between individuals. We have found that identical twins’ P300 are more similar than fraternal twins’ P300. We would expect to see this if genes played a moderate role because identical twins share 100% of their genes, while fraternal twins share about 50%.

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READ

Books about twins and adoption [page 2](#)



IN THE NEWS

Twin Study data featured on MPR [page 3](#)



TRAVEL

A special offer from the Holiday Inn [page 4](#)

This issue was made possible through the collaborative efforts of the following MCTFR staff: Genevieve Ryczek, Sara Penney, Allie Savella, Kadie Johnson, Rachel Satterlee, Kristen Harne, Jon Klaphake, & Shannon Thornblad. Thank you for your hard work and creativity!

Summer Reading List

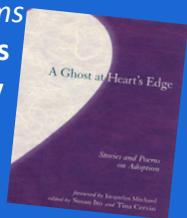
Learn more about twins and adoption with this recommended reading:



Someone Else's Twin, by Dr. Nancy Segal, tells the story of two twins separated at birth because

of an accidental switch with a non-twin infant at the hospital. Available August 2011. Also recommended: Dr. Segal's books *Indivisible by Two* and *Entwined Lives*.

A Ghost at Heart's Edge: Stories and Poems of Adoption is an anthology featuring a wide range of stories about adoption.



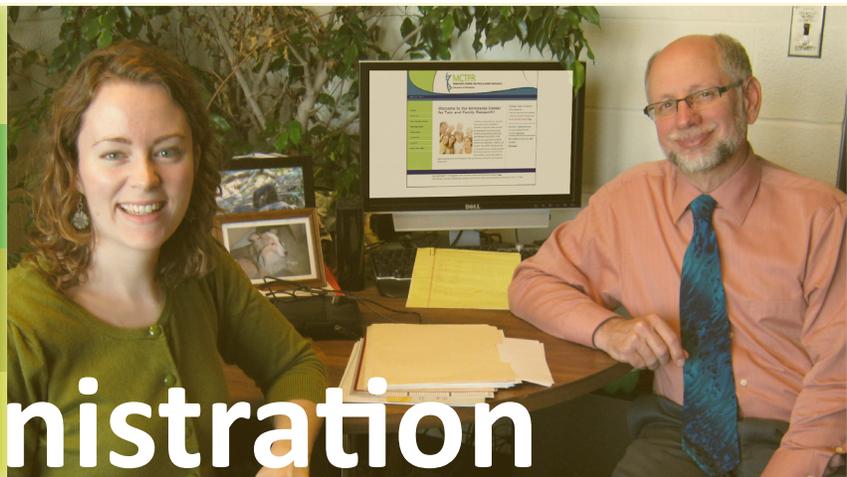
Contributors include Isabel Allende and Joni Mitchell. Edited by Susan Ito and Tina Cervin.

Emotionally Healthy Twins, by Joan Friedman, helps parents understand each

twins' emotional needs. It outlines key concepts to raising two unique individuals. Dr. Friedman is an identical twin, a psychotherapist, and a mother of five, including fraternal twins.



Meet the staff: Administration



The Minnesota Center for Twin and Family Research (MCTFR) is made up of a few different committees that are each responsible for a certain aspect of our research: Administration, Consensus, Data Management, Interviewers, Psychophysiology, Psychophysiology Analysis, Recruiters, and the Executive Committee.

WHO IS IN THE ADMINISTRATION COMMITTEE?

Director Kevin Haroian and Assistant to the Director Rachel Satterlee.

WHAT DOES THE ADMINISTRATION COMMITTEE DO?

Keep the grants going! The MCTFR currently has six major grants from the National Institutes of Health (NIH). These grants allow the MCTFR to pay participants, buy supplies, pay staff, and analyze the data that we collect. Ultimately, grants allow us to publish scientific papers on our research findings. The Administration committee oversees the submission of progress reports every year and renewal proposals every five years to NIH for each grant. NIH reviews our progress and accomplishments and re-evaluates our funding. We have been lucky to have NIH support our research for over 40 years! This extended funding allows us to follow participants over many years, capturing data that reflect the subtle changes that occur with development.

At your visit: Ever wondered who writes your checks or who delivers your pizza when you visit? It's the Administration team! If you call our main phone line, Rachel is the person who answers the phone. She also talks with many community members who are twins, who are adopted, or who would like more information on our research.

Manage expenditures: We place orders for lab supplies, snacks, and interviewing supplies like envelopes and paper. We compile justifications for the expenditures, we distribute charges to appropriate grants, and we keep an eye on our budget balances.

Track publications: The ultimate goal of our research to make conclusions about how genes

and environment shape development. The Administration committee tracks our researchers' publications as they are printed in books and scientific journals. We share these publications on our website (www.mctfr.psych.umn.edu) and submit each publication to NIH's free open-access database, PubMed Central.

Update the website: Administration keeps our website updated with news, new staff members, and new research. We also collaborate with other committees to add new pages to our website, such as the new About Us page.

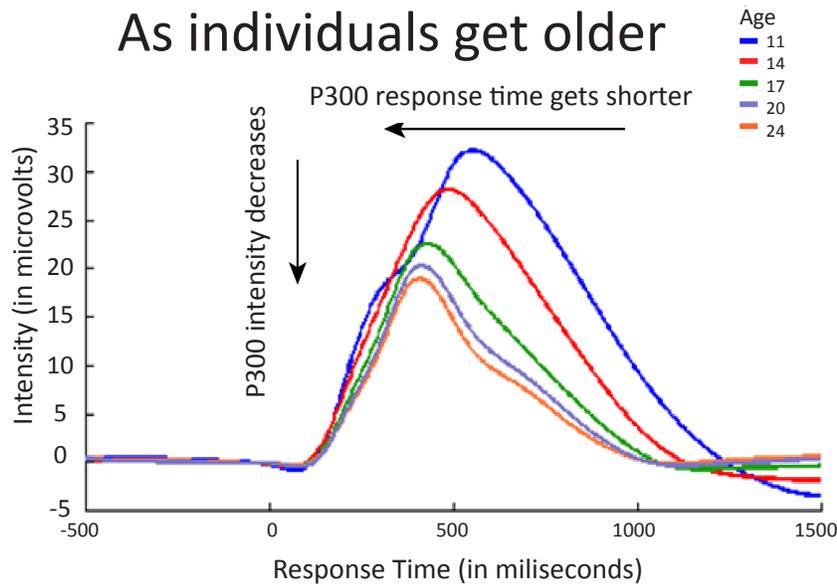
Oversee general operations: Administration comes to the rescue when office furniture needs fixing or replacing, when the copier and printers need toner or repairs, when software needs to be purchased or installed, when conference calls and travel need to be set up, and when postage runs low. It's always good news when postage is low, because that means you are mailing back your paperwork, which is like gold to us!

This past spring: Director Kevin Haroian designed a piece of computer software to monitor the MCTFR's progress with real-time data, including recruitment statistics, budget balances, and publication totals. We submitted it to the University of Minnesota's 2011 Quality Fair, a U-wide networking event designed to share best practices, and it won the 2nd place award! The software allows us to see the larger picture of our progress and to make sure projects are moving according to plans. See the About Us section of our website to read more about this news: <http://mctfr.psych.umn.edu/aboutus>

WHAT MAKES THE ADMINISTRATION COMMITTEE HAPPIEST?

1. When you cash your check! We appreciate your participation and want to be sure you're reimbursed.
2. When you know about our latest news and research! Visit the About Us and Research pages of our website: <http://mctfr.psych.umn.edu>
3. When you enjoy your visit! We look forward to seeing you again soon.

As individuals get older



**continued from page 1.*

It has also been noted that the intensity (or amplitude) of the wave decreases as individuals age. Studies that have looked at P300 in children and adolescents see higher amplitudes than in adult participants' P300 waves. The MCTFR is lucky in that many of our participants visit about once every three years. If you have, then you have most likely done the rotated heads task at different ages,

from adolescence to adulthood.

Because of this, we can study the P300 in a developmental way. In other words, we can look at the P300 in the same individuals at various ages and see how the P300 changes over time. When we do this we see two things: the intensity of the P300 decreases as people get older and the P300 wave doesn't last as long. You can see these two examples in the figure on the left. We don't know exactly why we see the changes in the P300 wave from adolescence to adulthood, but we are in a position to investigate how aging and experience may play a role in those changes.

We would like to thank you for the time you have spent in the lab, looking at circles, heads and ears, over your many visits. Your participation allows us to better understand how people's brains develop over a period of great change (adolescence) as well as what roles genes and the environment play on that development.

TWIN STUDY DATA IN THE NEWS

Recently, Minnesota Public Radio featured a broadcast entitled "Studying Marriage: What Women Want and How Men Behave," which featured former University of Minnesota Clinical Psychology graduate Dr. S. Alexandra Burt. Her study features data from the MTFS male sample over the period from adolescence into adulthood, and examines the relationship between antisocial behaviors (i.e., risky, untruthful, or illegal behaviors) and marriage. The question Dr. Burt asked in her research is whether marriage tames risky behaviors in men or if the men who tend to get married already exhibit less rebellious behaviors in the first place. According to the study, both of these factors are present. Men who reported less antisocial behavior at all ages (even before marriage) were more likely to get married than the more rebellious men, but after marriage, these behaviors were even further decreased.

To hear more, listen to the podcast at:

<http://minnesota.publicradio.org/display/web/2011/01/28/midmorning2/>

Link to
Minnesota
Public Radio
to hear more
about this
research!





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75 East River Rd.
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Address Service Requested

PLANNING A VACATION IN MINNEAPOLIS THIS SUMMER?

Holiday Inn Minneapolis Metrodome
extends a special offer to
MCTFR participants!



The Holiday Inn Minneapolis Metrodome partners with the MCTFR to provide accommodations for some of our traveling participants. They would like to invite *all* MCTFR participants to take advantage of a “Double Your Value” offer this summer. *How it works:*

1. Ask for the “Best Flexible Rate” when you make your reservation. Go to www.metrodome.com or call 877-531-2703.
2. Upon check-in, request a “Double Your Value” card.
3. Use the card for Buy-One-Get-One-Free offers, including:

- Meals in the restaurant
- Beverages in the lounge
- Movies
- Priority Club points (if you are not yet a Priority Club member see the front desk for details.)

Offer good until September 30th, 2011.

Please note: Parking and Gift Shop are owned independently of the hotel. Regrettably, we are unable to extend this special to purchases made from entities not controlled by the hotel. This offer is good for stays beginning by September 30, 2011. Offer good only at Holiday Inn Minneapolis Metrodome and may be suspended at discretion of hotel.

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