

WISCONSIN TWIN RESEARCH NEWSLETTER



Spring 2001, Vol. XVII

Published by: UW Twin Center

Preliminary Wisconsin Twin Project Findings

Dear Parents of Twins,

As I look back over the past 8 years of working on the Wisconsin Twin Project, I am amazed at the extraordinarily rich information on twin development that together we have collected. This information is invaluable to science, and will certainly influence the field of developmental psychology for years to come. We made a commitment from the beginning to conduct this project to the best of our ability. To report accurate findings, we need information on a minimum of 300 pairs of twins for each measure at each age. It is important to have a large sample to try to represent all types of children in our study. This also means that after 8 years of work, we are still waiting to publish many of our exciting findings in scientific journals. In the meantime, we are busy discussing preliminary results at conferences throughout the world. Below are three findings that I am particularly excited about.

Emotional Development Result

Historically, scientists have argued whether nature or nurture—genes or environment—is more important for child development. Some investigators claimed that genes determined who we are and that environment meant nothing, whereas others claimed that the environment determined our characteristics. In a famous quote, the psychologist John Watson in 1925 said, “Give me a dozen healthy infants and I’ll take any one of them and train him to become any type of specialist—doctor, lawyer, artist, merchant, chief, beggar-man, thief.”

Today, we know that both nature and nurture—both genes and environment—influence our unique characteristics. A twin study is an ideal design for teasing apart genetic and environmental influences on behavior. In our study, we found that environment has a large impact on emotions during infancy and toddlerhood, and this influence gets smaller as children grow up. In addition, the positive emotions expressed through smiling and laughter have a larger environmental

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Practical Research Article for Parents

Ways to Keep Swimming Fun and Safe

--By Nicci Schmidt

At what age are swimming lessons appropriate?

The American Academy of Pediatrics recommends swimming lessons for children age 4 and up. For children under 4, “water enrichment” classes are beneficial. Toddlers may adapt to the water, but parents are warned not to fall prey to a false sense of security. “Children under 4 are limited by their physical capacity,” says Eric Small, MD. When selecting a swimming program, Lynne Stark of the American Red Cross suggests parents make sure the instructor has official Red Cross certification in the following: Lifeguard Training, WSI (Water Safety Instructor), First Aid, and Community CPR. Find out how long the instructor has been teaching and register for a class that has a teacher-student ratio or one to six or better.

Ensuring water safety

All pools should have safety fences. Many people also purchase safety covers and pool alarms as well. The personal pool alarm secures around a child’s wrist and goes off when immersed in water. The gate to the pool should remain locked and be protected with an alarm that produces sounds when the door is unexpectedly opened. The Injury Prevention Program (TIPP) offers these tips:

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Dear Parents - From Page 1:

influence during infancy than the negative emotions such as fear, anger, and sadness. These findings are based on questionnaires completed by parents of twins. How are these findings important? They are important because they help us understand how emotions develop. Once we understand how emotions typically develop, we will best be able to help children whose emotions develop in atypical ways, such as children with autism.

Biological Result

In addition to behavior, we also collect information on hormones, brain electrical activity, and heart rate. We want to determine the connections between our biology and our emotional expressions. Today we know that hormone levels, heart rate and even our brains are very flexible and adaptable and they can change depending on the environment. For example, infants have many more connections between brain cells than adults do. Depending on your experiences during childhood, you lose unnecessary connections while important connections are strengthened. Also, whenever you learn something, new connections grow between brain cells. So our brains influence our behaviors, but also our behaviors influence our brains.

Behavior Problem Result

Why do some children become depressed, anxious, or have difficulty focusing on their work or controlling their behaviors? Behavior problems are very common in children, with about 20% of children having one or more in the United States. These characteristics cause problems for children and interfere with important aspects of their development such as making friends and doing well in school. A twin study is a powerful way to examine behavior problems. We have found that those environmental factors that influence emotions are different from those that influence behavior problems. On the other hand, the genetic factors that influence our emotions also influence problem behaviors. These results are based on questionnaires completed by parents.

How are these results helpful? Well, they support the use of programs to change inappropriate behavior (for example, teaching children how to focus on their work or regulate their excessive behavior). The genetic influence is not deterministic, so changing the environment should be able to decrease the inappropriate behavior.

These findings are dedicated to you, the families who have shared your twins with us, who patiently completed many questionnaires, welcomed us into your homes, bundled up your children and sometimes drove through snow to keep your appointments. Your generosity will never be forgotten.

Thank you—Kathy Lemery, Ph.D.

Water Safety – from page 1:

Tips for Water Safety

- Remove all toys from the water after use so children aren't tempted to reach for them.
- Avoid air-filled "water floats" because they are not a substitute for approved life vests.
- Always keep basic lifesaving devices such as a pole, rope, and personal flotation devices (PFDs) by the water and know how to use them.
- Anyone watching young children should learn CPR and be able to rescue a child if needed.
- Maintain constant supervision, no matter what skills your child has acquired and no matter how shallow the water.
- Never assign a child to watch a child.

Profile for drowning victims and submersion incidents:

- 69% of children were not expected to be at or in the pool, but they were found there.
- 46% were last seen in the house.
- 75% drown in their own swimming pools
- 75% of the time the attributed cause is poor supervision and no water barrier.
- In 77% of child drownings, the child was out of sight for 5 minutes or less.
- Most children under age 6 were being supervised by one or both parents.

A child can drown in the time it takes to answer the phone, so let the phone ring.



Fun Summer Ideas...

With summer quickly approaching, now is a good time to start thinking about activities for your children. For those of you in the Madison area, the *Wisconsin State Journal* (March 4, 2001) featured a special insert to help parents choose and plan summertime activities for their children. Some of the ideas included...

- Recreation and playground schedules
- Community and teen center programs
- Summer camps
- Arts and dance classes
- Sports from A to Z

For families outside of the Madison area, check with your local school district, city parks department, and organizations in your area that focus on children. Places such as these may be a useful resource for fun and educational activities throughout the summer.

Book Review

“Entwined Lives: Twins and What They Tell Us About Human Behavior”

By Nancy L. Segal, Ph. D.

-- By Penny Biersach

There are many books that talk about twins and twin research, but this one goes a step further by going into more depth than other books, and Dr. Nancy Segal does this in a manner such that it is fairly easy to understand, amazingly interesting, and a lot of fun to read.

In this book, Dr. Segal covers nearly all twin-related subjects, ranging from twin-typing, physical abilities of twins, twins' special relationships, adoption of same-age children, to twins found outside of the human race. I found her zygoty chapters especially interesting since she covered many different possibilities that can occur in twin-types, and not just how zygoty is determined. An entire chapter talks about identical twins that do not appear to be identical, with accompanying pictures to help illustrate the differences. In this chapter, Dr. Segal discusses mirror-image twins who differ in handedness or hair whorls, as well as cases where the internal organs of the twins are on opposite sides.

In another chapter she talks about fraternal twins that can be strikingly different because of the arrangement of genetic makeup. For example, one twin may be more like the father, and the co-twin is much more like the mother. Other examples of behavioral, physical, and genetic differences that can occur are discussed.

As parents of twins, you may be wondering if your twins are even going to want to speak to each other after they are all grown-up. Being a twin herself, Dr. Segal knows firsthand what it is like to grow-up as a twin. Being that twins know of nothing different, most of them embrace their twinship as something special and unique as they grow.

I found *Entwined Lives* to be a valuable resource for twin-related information and I learned something from every chapter. Although the book can get scientific at times, information from earlier chapters is not needed to comprehend other chapters, so you can skip around or choose to read what you are interested in. In my opinion, this book can be valuable to every family who has the wonderful opportunity to be “doubly blessed.”



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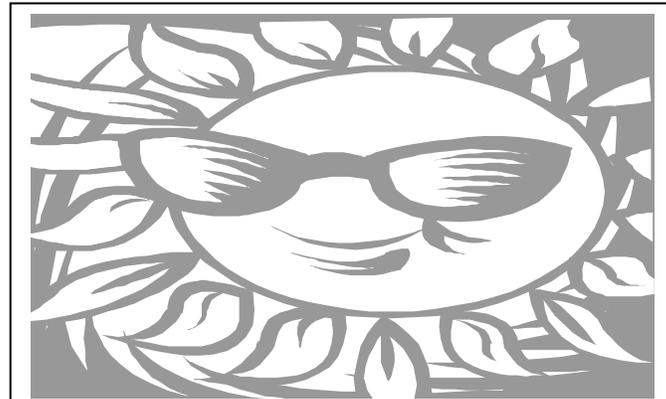
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Please help us stay in
touch with you!
Let us know if your
address or telephone
number changes.



Looking for Twins with Autism

We estimate that there are approximately 40 – 50 pairs of twins under the age of 18 years in Wisconsin in which one or both twins has autism, or some other form of pervasive developmental disorder (PDD-NOS or Aspergers Syndrome). We have great personal and scientific interest in this disorder and are considering the feasibility of conducting a research study using twins to help understand this complex disorder.

The feasibility of this research depends on our being able to document that a sufficient number of parents of twins with autism would be willing to participate. Thus far, we have located 15 pairs of twins in which one or both has autism or a related challenge. However, this is an insufficient number to do our planned research. We would appreciate a phone call or email message (see p. 3 for contact information) from the parents of any twin with autism (identical or fraternal, boy or girl, regardless of whether the co-twin has any disorder or not) living anywhere in the state of Wisconsin. We need to hear from these individuals as soon as possible, but the research would not begin until later in 2001, at which time full details of the study will be available.

We would appreciate newsletter readers mentioning our efforts to other parents of twins with autism spectrum disorders who might qualify. All we want to know at this time is the age and diagnosis of the twins, as well as contact information for the future.

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