

# Community Family Studies Newsletter

## Participants:

- **LTS (Longitudinal Twin Study) participants.** These are twins and siblings of twins who have been in the research project at the Institute for Behavioral Genetics since birth. Twins in this project are currently aged 14 to 20. Approximately 400 families with twins are currently enrolled and actively participating.
- **Community Twins.** These are twins and siblings of twins who were living throughout Colorado at the time of initial enrollment in the project. Participants have been interviewed by the Institute for Behavioral Genetics in the past. Twins in this project are aged 17 to 24. Approximately 1,000 families with twins have participated.
- **Community Families.** This group is composed of families who were living in Colorado at the time of their enrollment. We contacted families who had an adolescent in drug treatment, as well as matched 'control' families who lived in the same area and had a similar family structure. To date, over 3,636 participants have been interviewed from this group. We are currently conducting follow-up interviews with these individuals and their families.

## How Genes and Environment Influence Us

Genetic and environmental factors influence the way we behave, think and relate to the world around us. Genetic factors are traits that have been passed down in the genes, from our parents and their parents before them. These include physical features like height and eye color, and personality characteristics such as shyness, addictive behavior, and risk taking. These factors tend to remain relatively stable throughout our lives.

Environmental factors are elements outside of ourselves that we interact with on a daily basis. These include family, teachers, friends and neighbors, as well as our physical location and the effects of possible hardships we endure. Depending on our genetic makeup, we will deal with these environmental influences in different ways.

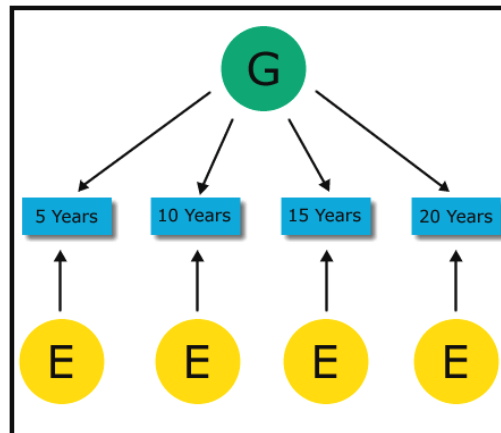
The figure below explains what we are finding regarding the influence of genetics and environment on our behavior. The G (genetic factors) tends to inform our behavior at every age, whereas the E (environment) is largely age specific. For example, let's say Jim goes to

Jim's intelligence (influenced by G) hasn't changed, but his environment (E) has.

At the Institute for Behavioral Genetics, we study many ways that environment and genetics influence our lives. We are particularly interested in the genetic factors that lead some individuals to become dependent on drugs or alcohol, whereas others are not as affected.

Our current research has shown that there are specific genes that are related to specific behaviors, especially addictive ones. We are continuing to look at how individuals with these genes may react differently to certain environments

compared with individuals who do not have genes related to addictive behavior. The hope is that this will lead to new ways to help identify and treat individuals who are at risk for developing problems with addiction.



a school that is very easy. He doesn't have to try hard and gets good grades. Then Jim's family moves to a new town with a more difficult school. Now Jim has to try very hard but doesn't get good grades.

## What to expect during your visit

Currently we administer two different interviews, depending on your age and past participation with us. Some of you have already completed one or both of these interviews.

In the first interview, a researcher will ask you questions about different aspects of your life, including health, activities, substance

use, and family relationships. This interview generally takes between 2-3 hours to complete, and includes several other short activities.

In the second interview, a researcher will guide you through a variety of tasks on a computer. These tasks measure memory and problem solving skills. This interview takes approximately 3-4

hours. In some cases, both interviews are administered.

For all interviews, our researchers will ask you to sign consent forms for your participation and will provide monetary compensation for your time. Please remember that your participation in these interviews is completely voluntary and confidential.

ibgwww.colorado.edu/cadd

INSTITUTE FOR BEHAVIORAL GENETICS  
UNIVERSITY OF COLORADO  
AT BOULDER

447 UCB  
Boulder CO 80309-0447

LTS Twins  
Phone: 303-492-2016  
Fax: 303-735-2741  
amy.ledbetter@colorado.edu

Community Twins  
Phone: 303-492-4473  
Fax: 303-735-2741  
wrightc@colorado.edu

Community Families  
Phone: 303-735-2644  
Fax: 303-735-2741  
jennifer.keith@colorado.edu

Several research divisions at the University of Colorado are involved with this project. These include the Institute for Behavioral Genetics, the Department of Molecular, Cellular and Developmental Biology, and the Division of Substance Dependence at the University of Colorado Health Sciences Center. Each department plays a unique and important role in the collection, analysis, and security of the data.

If you have any questions or comments about your participation, or about the general nature of our work, please call or email us at the addresses to the left. Also, you can visit our website at <http://ibgwww.colorado.edu/cadd> for more in-depth information or to request a copy of any of our publications. Thank you again for your contribution to our understanding of genetics and behavior.

### 2004-05 Research Project Highlights

- Conducted 2290 initial and follow up interviews.
- 89% participation rate on follow up interviews.
- 10 CADD papers published and 14 submitted or in press.
- DNA samples collected from over 98% of participants

## Adolescence and Alcohol: A Risky Mix

Study details potential problems associated with early alcohol use

Underage drinking rates continue to rise in the U.S., and recent advances in research technology have allowed scientists to more accurately study this phenomenon. Using data from this study as well as others around the country, researchers have found that alcohol use by adolescents can lead to a wide range of potential problems. Because adolescents are growing rapidly, both physically and emotionally, alcohol use can have impacts on all aspects of development. The table below lists some of the domains of functioning that may be impacted by early alcohol use. More research is currently being conducted at IBG on the physical, social and emotional impacts of adolescent and adult alcohol use and abuse.

Domain of Functioning	Behavioral Correlates
School	<b>Attendance:</b> truancy, suspension, expulsion, dropout <b>Academic performance :</b> decreased studying or grades, decreased comprehension <b>Behavioral problems:</b> conflict with authorities and peers
Family	<b>Withdrawal:</b> decreased contact and expressiveness <b>Conflict:</b> arguments, running away, lying
Social	<b>Behavior:</b> decreased communication, fights <b>Peer group:</b> change in friends, or peer alcohol, drug use <b>Sexuality:</b> earlier intercourse, high-risk behaviors, teen pregnancy
Activities	<b>Work:</b> Absenteeism, firing, walking off job <b>School activities:</b> decreased participation <b>Illegal behavior:</b> property damage, theft <b>Reckless behavior:</b> speeding while driving, driving under influence
Health	<b>Physical:</b> accidents, injury, withdrawal symptoms <b>Emotional:</b> anxiety, depression or anger, suicidal ideation, psychotic thoughts, decreased motivation

Brown, S.A., & Tapert, S.F. (2004). Health consequences of adolescent alcohol involvement. In: Reducing Underage Drinking: A collective responsibility. Washington D.C., National Academy Press. 383-401