

UCI BROAD Lab

Biobehavioral Research on Adolescent Development

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Please email us at broadlab@uci.edu to update your info!

The Biobehavioral Research on Adolescent Development (BROAD) Lab is celebrating one year of recruitment here at the University of California Irvine and CHOC Children's Hospital! We would like to say a big "THANK YOU" to all of the of teens and families who have participated in our research, as well as all of our community collaborators who have helped spread the word! Without your help, this important research would not be possible!

The UCI BROAD Lab was established in 2017 and is a collaborative team of scientists, staff, and students from multiple disciplines. Our primary aim is to learn more about adolescent mental and physical health, behavior, and development, and to foster positive developmental trajectories as teens transition from adolescence to young adulthood. We anticipate that the findings from our research will help inform public policy and provide doctors and parents with additional tools and guidance to promote a positive future for their adolescent children.

We are currently conducting three research studies; Brain Development, Eating Patterns and Activity, and Life Skills. All three studies are funded by grants from the National Institutes of Health (NIH). Each study has a distinct focus and employs a variety of methods to identify the social, biological, and psychological factors that contribute to positive versus negative developmental trajectories in specific areas. For example, we use semi-structured interviews and



problem-solving tasks to assess mental health, biological samples such as saliva, hair, and blood to assess general physical health and stress levels, Magnetic Resonance Imaging (MRI) to measure brain structure and function, and more!

In the following pages, you'll read about the specific purpose of each study, as well as some exciting updates on recruitment and data collection. We hope that you have enjoyed your participation and/or collaboration with us, and we'd like to thank you again for your contribution to science and to helping future teens and families!

Brain Development Study Updates

The Brain Development Study aims to learn more about how depression manifests differently in the brain depending on one's prior experiences. Specifically, we are interested in identifying differences in brain structure and function in teens with depression *and* a history of abuse or maltreatment in childhood versus teens with depression and no history of abuse or maltreatment in childhood. The knowledge gained from this study will help promote more effective preventative and treatment measures for future teens who are suffering from depression.

This study uses a "2 x 2 design" which means we recruit participants into four distinct study groups:

- **Group 1:** No depression; No history of abuse
- **Group 2:** Current depression; No history of abuse
- **Group 3:** History of abuse; No depression
- **Group 4:** History of abuse; Current depression

We began recruitment just over one year ago (in January 2018) and we will continue to recruit for at least the next 2 – 3 years. Our goal is to enroll a total of 240 adolescents, with approximately 60 teens in each of the four study groups described above. To date, we have enrolled 64 adolescents (46 girls and 18 boys) ages 13 – 17. The average age of our adolescent participants is 15.8 years, and the racial and ethnic diversity of our sample is shown in **Figure 1**.

Participants complete 3 study visits for the Brain Development Study. At Visit 1, teens and a parent or guardian complete interviews and questionnaires, and teens provide a small blood sample by finger-

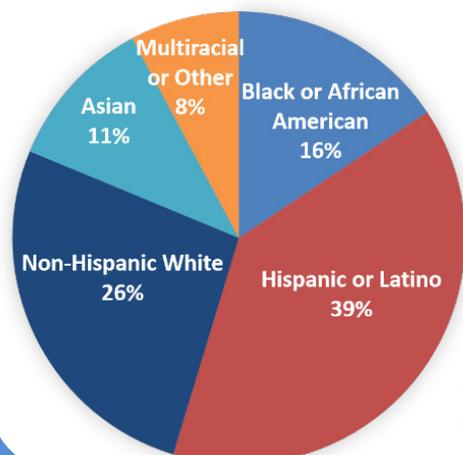


Figure 1: Racial and ethnic diversity of study participants



UC Irvine and CHOC invite you to participate in the...

Brain Development Study

Lead Researcher: Dr. Uma Rao

- The purpose of this research is to learn more about brain development in teens with depression and/or a history of abuse.
 - Your child may be eligible if s/he is 13-17 years old and:
 - May be suffering from depression
- AND/OR**
- Has a history of abuse prior to 10 years of age
 - 3 visits to UCI or affiliate locations (7-11 hours total)
 - You and your child will receive up to \$315 plus compensation for travel.

Call/Text: (949) 445-1232 | Email: BRoADLab@uci.edu



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prick. At Visit 2, adolescents complete some problem-solving tasks on and off of the computer, and at Visit 3, adolescents participate in a 1.5-hour MRI scanning session to take pictures of their brain. During some of the scans, teens play computer games by pressing buttons when certain images appear on the screen. The MRI is able to "see" which parts of the brain are working the hardest on completing those games, which tells us about the way the brain is functioning.

Thank you to all of the teens and families who have participated in our study! If you know anyone who may be interested in participating, please ask them to call or text us at (949) 445-1232. You can also share the flyer above, or direct them to our website at: <http://sites.uci.edu/broad/brain-development-study/>

Eating Patterns & Activity Updates

We want to thank everyone who participated in our Eating Patterns & Activity Study! This study aims to learn more about social and biological stress in relation to eating patterns and physical activity. We measure eating patterns and activity levels in the home environment as well as in a controlled laboratory setting. We also measure body composition and metabolic hormones. If our results confirm the influential role of stress, these findings will help develop interventions and advocate for public policy changes to address social and biological stress in addition to nutrition and exercise (the current focus of most programs).

We plan to recruit a total of 300 girls between the ages of 13 – 17 with approximately 100 girls in each of three racial and ethnic groups: African-American or Black, Hispanic or Latina, and Caucasian or White. To date, we have enrolled 68

Visit 1 Parents and teens participate in interviews, questionnaires and a discussion task. Teens are asked to provide a hair sample and a small blood sample by finger prick

Visit 2 Teens wear a watch-like device for 7 days, collect saliva samples for 2 days at home, and participate in phone interviews about their eating patterns

Visit 3 At either visit 3 or visit 4, teens are asked to participate in a blood draw and a scan that measures body composition. Teens are given breakfast and asked to relax for about 3 hours watching pre-approved movies, then they participate in a 15-minute task (either relaxation or presentation)

Visit 4 Teens are given breakfast and asked to relax for about 3 hours watching pre-approved movies, then they participate in a 15-minute task (either relaxation or presentation)



UC IRVINE AND CHOC INVITE YOU TO PARTICIPATE IN THE...
EATING PATTERNS STUDY

Lead Researcher: Dr. Uma Rao, Department of Psychiatry & Human Behavior



- Help us learn how stress influences eating patterns and activity!
- Girls who are 13 to 17 years old may be eligible if they identify as
 - African American or Black
 - Hispanic or Latina
 - Caucasian or White
- 3 visits to UCI or affiliate locations, plus some assessments completed at home (17-20 hours total)
- You and your child will receive up to \$420 plus travel compensation

Call/Text:
(949) 445-6254

UCI BRoAD Lab
 Biobehavioral Research on Adolescent Development

Email:
broadlab@uci.edu

participants with an average age of 15.7 years, and have been successful in recruiting approximately an equal number of participants from each racial/ethnic group as planned (see **Figure 1**).

Thanks to everyone who recommended the study to family and friends! If you know anyone else who may be interested, please share the flyer on the left, or ask them to call/text us at (949) 445-6254, or email us at BRoADLab@uci.edu.

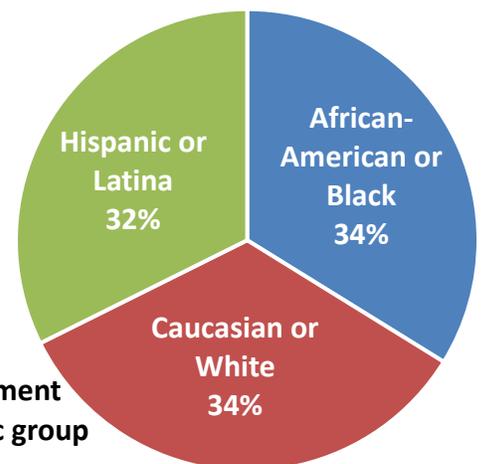


Figure 1: Enrollment by Racial/Ethnic group

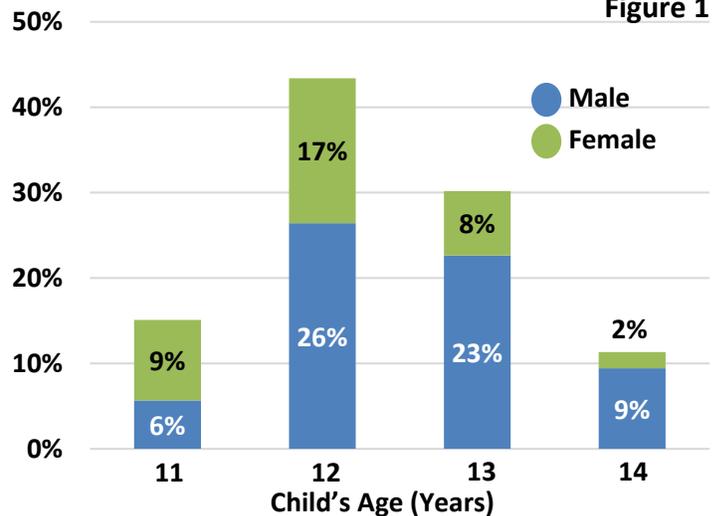
Life Skills Study Updates

Thank you to everyone who participated in our Life Skills Study over the past year! The Life Skills Study seeks to understand brain changes in response to a family-based intervention program called Pathways to African-Americans' Success (PAAS). PAAS is a 6-week intervention program that was created by Dr. Velma McBride Murry for the benefit of Black/African-American youth in order to overcome challenges faced during adolescence and to promote communication between youth and parents/guardians for a shared goal of positive long-term outcomes.

Participants complete 4 study visits, plus the PAAS Program. At Visit 1, children and parents complete questionnaires to learn about family communication, child behaviors, etc. At Visit 2,

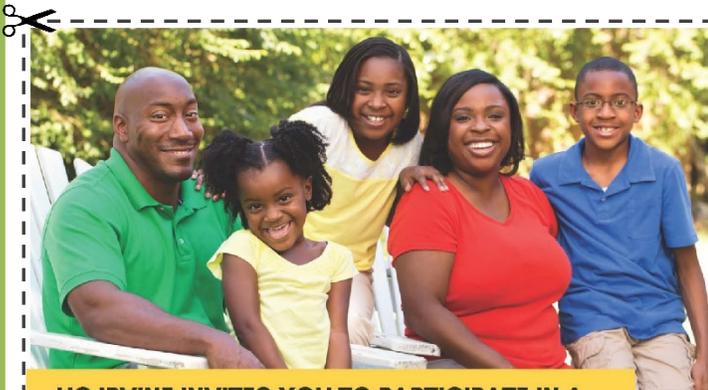
youth have the chance to practice in a pretend MRI scanner before participating in a real MRI scan to take pictures of their brain. Participants are then randomly selected (like a coin-flip) into either the PAAS program or the waitlist group. After 6 weeks, youth participate in a second MRI scan (Visit 3). Participants then take a 3-month break, after which time they complete another set of questionnaires (Visit 4). Once Visit 4 is completed, families in the wait-list group also have the opportunity to participate in the PAAS program!

Figure 1



Our goal is to enroll a total of 128 Black/African American children (50% male, 50% female) by the end of this 5-year study. With the help of our community collaborators, we have enrolled a total of 53 families over the past year from all over Southern California including Orange, Los Angeles, San Bernardino, and Riverside Counties (see **Figure 1** for gender and age distribution). To date, 19 families completed the PAAS program and of these, 94% of families reported that they found the information helpful and 92% reported that they enjoyed the sessions. Youth have also reported that they enjoyed the MRI scans and computer games!

We're also excited to present a new video which will help children learn about what to expect at their MRI visits. To watch this video and read more about our study, please visit <http://sites.uci.edu/broad/life-skills-study/>. If you or anyone you know is interested in participating in the Life Skills Study, please share the flyer to the left, or call/text us at (949) 441-0271, or email us at BRoADLab@uci.edu.



UC IRVINE INVITES YOU TO PARTICIPATE IN A...

FAMILY-CENTERED YOUTH PROGRAM

A RESEARCH STUDY DESIGNED FOR THE BENEFIT OF BLACK AND AFRICAN AMERICAN YOUTH!

- You and your child may be eligible to participate if you both identify as African American or Black and if your child is between the ages of 11 - 14 years
- You and your child will receive up to \$655 for your time and effort, plus compensation for travel
- 4 study visits at UCI or other affiliate locations and a 6-week computer program totaling 18-20 hours over 2-5 months
- The purpose of this study is to learn more about how a family-based program helps promote a positive future for youth by helping them make good decisions when faced with difficult situations. Dr. Uma Rao of the Department of Psychiatry and Human Behavior is the Lead Researcher.

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