Who Are We?

In the Research on Adolescent Depression Laboratory (RAD Lab), we are a team of researchers dedicated to conducting research about adolescent mental health. Our research aims to advance understanding of (a) how the adolescent brain develops; (b) how depression, self-injury, and suicide risk emerges in the teenage years, and (c) how new investigational treatments may work to restore health in young people.

Katie Cullen, Primary Investigator
Bonnie Klimes-Dougan, Primary Investigator
Ifeluwu Olayinka, Study Coordinator

What is the BRIDGES Study?

BRIDGES stands for Brain Imaging Development of Girls’ Emotions and Self. This is a study funded by the National Institute of Health. We recruited 168 adolescents who were identified as female at birth to participate in this 3-year longitudinal study. We are examining developmental change across multiple domains (emotion, cognition, self-understanding) in the brain and body in teenagers with and without self-injury.

Where are we now in the study?

In December 2020, we completed all data collection for Year 1 for all participants! Since then we have begun to analyze the data we have, and once all of the data from Year 3 is complete, we will be able to analyze all of our data.

What changed with the COVID-19 pandemic?

- All in-person visits were paused March -July 2020
- All interviews switched over to zoom
- MRI scans resumed August 2020 with safety precautions
- Speech task visits restarted as zoom visits in December 2020
- We received a grant from the medical school to invite all BRIDGES participants to complete additional surveys to learn more about their experiences during the pandemic

When will the study end?

We expect to complete final data collection in the summer of 2022.
Presented in National and International Scientific Meetings

**Presented in National and International Scientific Meetings**

- **Pre-pandemic** brain activation relates to teens’ perception of stress during the pandemic. *Presented at the Society of Biological Psychiatry.*

- **Greater brain** flexibility relates to better mood in the BRIDGES participants. *Presented as a Hot Topics at the American College of NeuroPsychopharmacology.*

- **Brain volumes** and adverse childhood experiences relate suicidal thoughts and behaviors among adolescents. To be presented at the Society for Research on Adolescence by Andrea.

- **Self-injury** is found to be linked with behavioral, structural, and functional cognitive control measures. To be presented in the 2022 Society of Biological Psychiatry Annual Meeting.

Published in Scientific Journals

- **We studied** how self-injury relates to how the body responds to threat. We found that the severity of self-injury in teens relates to specific patterns of stress hormone responses during stress, brain connection patterns and brain activation to fear and angry faces. *Published in Developmental Psychopathology.* This paper has gotten some press!

- **Greater parents**’ supportive responses to their teen’s negative emotion relates to lower severity of self-injury in teens. [Published in Research on Child and Adolescent Psychopathology] Based on these results, our team is collaborating with Drs. Kristina Reigstad and Meredith Gunlicks-Stoessel to test if a parent intervention to boost parent’s supportive responses to teen’s negative emotion to help reduce teen self-harm.

- **Support from** family is a key factor in determining whether adolescents persisted with NSSI during the pandemic. [Published in Journal of Affective Disorders]
A round of applause to our MRI scanners:
Zeynep Başıgozı, Kate Carosella, Dawson Hill, Laura Padilla, Donovan Roediger, and Justin Roemer

Update on other current RAD Lab projects

Creativity Camp Study - Starting Phase 1 this winter, Phase 2 Summer 2022
Sexual and Gender Minority Study - Phase 1 in progress; Phase 2 starting in February 2022
N-AcetylL-Cysteine for self-injury in adolescents and young adults - completing Phase 1 this Spring
Bioenergetics in Depression in Young Adults - Starting this Spring
Mindful Breathing and Neuromodulation for Depression in Young People - in data analysis
Transcranial Magnetic Stimulation for Adolescent Depression - in data analysis

Check out this link to see if you are eligible to participate in another study

What is next for BRIDGES?
In the coming year, we will finish up all the BRIDGES data collection, and analyze all of our data. We are excited about the many discoveries that this data will tell us about adolescent brain development and mental health. We can't wait to share these discoveries with you in our 2023 newsletter!!!

Other updates from RAD Lab

- We contributed to an international expert review on the neurobiology of adolescent Self-Injury: "Advancing a temporal framework for understanding the biology of nonsuicidal self-injury: An expert review."
- We wrote a chapter for an Oxford Handbook
- We wrote a commentary

Sincerely,
Katie Cullen and Bonnie-Klimes Dougan

We could not have done any of this without YOU!!! It is hard to fully express how deeply we appreciate your contributions to our research. THANK YOU for your time, your energy, and your support.