

VOLUME 1 • OCTOBER 2020

THE BABLAB NEWSLETTER

UNIVERSITY OF CALIFORNIA, LOS ANGELES

GREETINGS FROM DR. CALLAGHAN

The Brain and Body Lab Team studies how early life experiences influence development of the brain, mind, and body, contributing to our emotional health. We want to thank all of the families, children, and adults who have helped us this year, and who will continue to do so in the future.

This year was very busy! The lab officially opened in July 2019. We launched our big longitudinal study 'Mind, Brain, Body' in November 2019, and just a short few months later in March 2020 we decided to ramp-down our research operations due to COVID-19. We know that the past 6 months have not been easy on anyone, especially not on families. Parents have been balancing working from home, school closures, and child care, and some families have also been dealing with job or income loss, as well as anxiety about COVID-19 and its impact both now and in the future. Today's children and teens have been the first modern generation to deal with social distancing to this extent, and a transition from in-person to online education. Our research team want to acknowledge the difficulties you are facing, and assure you that we are doing our best to learn how we can support children, teens, and parents during this time.



DR. BRIDGET CALLAGHAN, PHD

This newsletter includes updates on our research studies, including the Mind, Brain, Body Study, and its transition into an online format, as well as our Parenting Under Pressure and Inside Out studies, which are now completed and helped us to understand how COVID-19 was influencing young adults, children, teens, and families. At the end of the newsletter, we will also point you towards resources specific to COVID-19, as well other emotional and family support services. There are also some fun activities for your children and teens as well!

Again, we thank you for your support of the Brain and Body Lab, and we hope to see you in the future waves of our research.

A handwritten signature in black ink, appearing to read 'Bridget Callaghan'.

Dr. Bridget Callaghan



MIND, BRAIN, BODY



BY DR. BRIDGET CALLAGHAN

Have you noticed that we often use our stomach to talk about our emotions? “I just felt it in my stomach”, “my stomach dropped”, “I have butterflies in my stomach.”

Why do we do that? We designed the **Mind, Brain, Body Study (MBB)** to find out!

It has long been known that our physical and our mental health go hand-in-hand. This is especially true for gastrointestinal health. Take irritable bowel syndrome (IBS) for example. In adults, anxiety disorders are 5-times more likely in people who have IBS than in non-IBS sufferers (e.g., Lee et al., 2009).

Lots of children experience aches and pains in the stomach (Plunkett et al., 2005). Recently we showed that stomach aches and pains in children were associated with more anxiety (Callaghan et al., 2019). In that study, we also showed that children who have had past caregiving disruptions (children who were internationally adopted from institutions) tended to have both higher anxiety and more gastrointestinal pain.

The bacteria which live in and on the body play an important role in our emotional development, and in our gastrointestinal health. We often refer to those bacteria as the ‘microbiota’. We hope that the microbiota can eventually tell us more about how it supports our brain and emotional health. We aren’t there yet, but one day we hope that we can use the microbiota to help kids who are struggling with their emotions. This won’t be a silver bullet, but together with other treatments and lifestyle factors, it could one day help.

In the Mind, Brain, Body (MBB) study we are working with families who have children (aged 6-9 years old) and adolescents (aged 13-16 years old). It is a longitudinal study, so we are following the families over time (once a year for 3 years). By the end of the study, we will have information covering all ages between 6-18 years.

In the MBB study we are looking at the development of the microbiota, emotions, and the brain in children and teens. We are studying the microbiota in the mouth and gut. We are also looking at things like stress hormones stored in hair. To look at emotions, we get kids and teens to complete surveys and computer games. To look at the brain, we use a technology called magnetic resonance imaging (MRI) – what a mouthful! MRI is a very safe and radiation-free technology that uses magnets to take photographs of the insides of our bodies (in this case, the brain!). We do the MRI scan in Wave 2 (which is one year after your first session).

The MBB study was originally done in-person. But since COVID-19, we have transitioned the study to be online! If you are interested in being involved in the MBB study online, or you know someone who might be, please contact us. We would love to have you!

You might have already participated in the MBB study and are waiting for us to contact you about Wave 2. If so, thank you! We can’t wait to update you about the results of the study when we have the first wave of data collection completed. Stay tuned!

CITATIONS

- (1) Lee et al (2009) Alimentary Pharmacology & Therapeutics
- (2) Plunkett et al., (2005) Journal of the Royal Society of Medicine
- (3) Callaghan et al., (2019) Developmental Psychopathology

To participate in the MBB Online study call:
(310) 909-7083 or email bablab.ucla@gmail.com





"PUPDATES"

BY DR. BRIDGET CALLAGHAN

The recent COVID-19 pandemic has drastically affected daily life. This is especially true for families, who are dealing with working, schooling, and parenting from home. Although kids and teens are at least at risk from the disease itself, COVID-19 is clearly impacting family life. We started the Parenting Under Pressure (PUP) study to understand what this time is like for families and how society can help.

Parenting Under Pressure (PUP) was an online survey which was completed by 377 families across the world. We had English and Spanish language versions of the survey available. Children in the study were between 6-17 years old. Parents were asked about parenting stress before and after the pandemic hit, as well as their fear of the virus.

INITIAL STUDY FINDINGS

Parents reported experiencing a big increase in parenting stress after the pandemic hit their country. Importantly, having younger children in the home, and more children in the home exacerbated parenting stress at this time. However, we saw that stronger parent-child relationships decreased the stress parents were feeling.

For kids, we saw that the more sources of virus-related threat information in their environment (e.g., at school, on the news, from parents) the more children feared the virus.

Importantly, for parents who reported confidence in regulating their child's distress, we saw that child fear of the virus was lower, even when children were exposed to lots of virus-related information in the environment. This is good news! It shows that parents can be powerful **buffers** against children's health fears during the pandemic. Nice work parents!

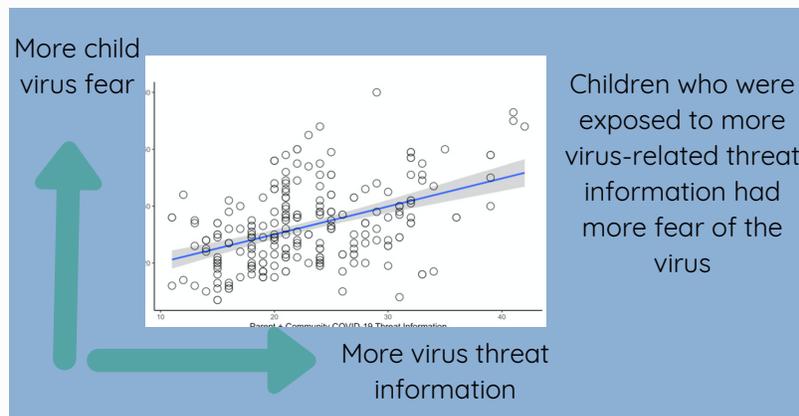
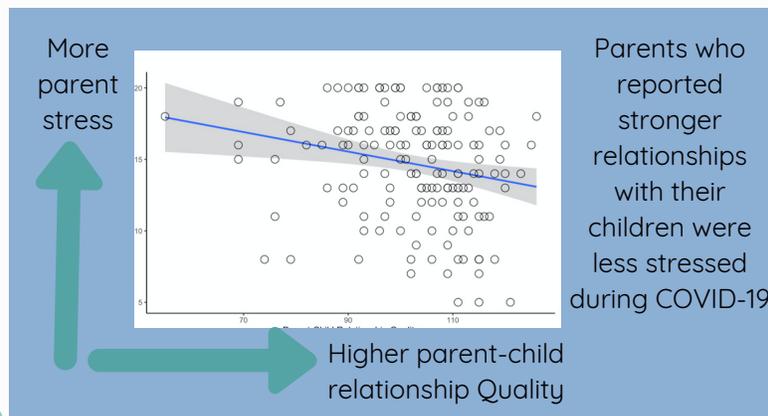
In another part of the study, we asked parents and children to write about how COVID-19 has impacted them and their family. For children, the most common concerns were missing out on school social life.

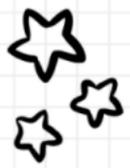
Parents were mostly concerned about balancing work, childcare, and school.

We also saw that lots of parents and some children expressed gratitude for what they had. Importantly, **parents who expressed gratitude in their writing showed a decrease in negative emotions across the survey!** Rather than this experience being universally negative for families, we saw that many families were finding resilience in this difficult time.

The results of Parenting Under Pressure will help us to support family wellbeing during the pandemic.

We sincerely thank all of those who participated in the Parenting Under Pressure study for their time and important contributions to science!





THE BRAIN AND BODY LAB AT UCLA PRESENTS

INSIDE OUT



UPDATES FROM INSIDE OUT...

BY ALYSSA WIEAND

The term “gut feelings” is used widely in commonplace conversations, but have you ever stopped to wonder whether or not there is actually a connection between our emotions and physical symptoms, particularly gastrointestinal symptoms? In Inside Out, we are examining how an emotion inducing event such as the COVID-19 pandemic might play a role in physical symptoms and stress in young adults.

Past research during the 2006 SARS epidemic found that stress during the quarantine period was associated with later post-traumatic stress disorder in a group of health care workers (1). Additionally, during that same epidemic, research showed that adults reported more feelings of being supported by friends and family than before the epidemic (2). Hence, there are both negative and some positive outcomes associated with past health crises.

In the Inside Out study we wanted to examine how the pandemic was affecting the emotional (e.g., loneliness and depression) and physical (e.g., gastrointestinal distress and headaches) health of college age students.

In a second part of the study, which will take place when COVID-19 precautions have ended, we will

invite these participants back to examine how gastrointestinal function is related to emotional responses. To do that, we will measure stomach muscle contracts with a machine called an electrogastrograph (EGG) while participants are watching scary, sad, and neutral movies.

The first part of the Inside Out study is complete and we are currently analyzing the data.

Initial Results

We have seen that depression levels increased in young adults from before COVID-19 levels. We hypothesized that the number of virtual social interactions participants had would help people cope with COVID-19. Unfortunately that hypothesis was not supported as we saw the same increases in depression symptoms both for people who engaged in lots of virtual (i.e., online) social interactions, and for those who did not.

In our next set of analyses, we will examine whether the increase in emotional distress was accompanied by an increase in physical distress in these young adults.

We hope that the findings from the Inside Out study will help to inform how young adults can better look after their physical and mental well-being during this challenging event.

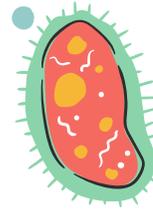
Citations

- (1) Bai Y et al (2004). *Psychiatr Serv.*
- (2) Lau JTF et al. (2006). *Jour of Infection.*



ADDRESSING THE MOMENT

BY FRAN QUERDASI, BABLAB PHD STUDENT



BaBLab COVID-19 Statement

Like many other organizations around the world, the BABLAB has adapted our work in response to the local and global covid-19 pandemic. In this time, the safety of our participants, lab members, and communities is our top priority. In order to promote safety and reduce risk for everyone, we are now conducting all data collection remotely, including for our largest study, Mind, Brain, Body (MBB), which has transitioned to online delivery. If you and your child are interested in playing games, answering some questions, and helping science, are still looking for new participants!

SOCIAL BUFFERING: HOW CAREGIVERS CAN HELP CHILDREN COPE WITH STRESS

This is an incredibly stressful time for many people across the world. Caregivers may be concerned about how their children feel when they hear about events such as the spread of COVID-19 or during periods of social unrest. Along the same lines, caregivers may also be wondering how they can support their children in dealing with these and/or other sources of stress. To this end, we wanted to share some scientific research on how caregivers can help children cope with stress.

Close, supportive relationships can be powerful buffers for stress. Social buffering happens when the presence of another person reduces emotional and physiological reactions to stress in a threatening environment (1). Research has found that caregivers can function as social buffers for children. Furthermore, when children are very young, a strong and nurturing relationship with a caregiver lays the foundation for buffering by friends and partners when the child is older (2). Caregiver social buffering has been found in infancy and through childhood (3,4). Friends may begin to play a stronger social buffering role for teens after puberty, but more research on this is needed (5). A number of biological systems - including those that are responsible for the production and release of stress hormones, the cardiovascular system, and circuits in the brain related to control of fear responses - can be buffered from stress by caregivers (1, 6).

What is the take home message? **You are a powerful source of comfort and support for your child!**

COVID-19 RESOURCES FOR FAMILIES

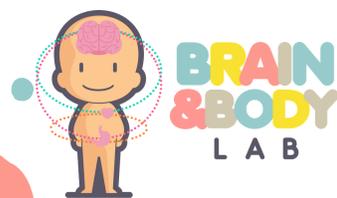
[LINKED HERE](#)

SHARE YOUR THOUGHTS ON COVID-19

[CLICK THE LINK HERE TO
LET US KNOW WHEN YOU'D
FEEL COMFORTABLE COMING
TO THE LAB.](#)

References.

- (1) Gunnar MR (2017). *Persp on Psychol Sci.*
- (2) Bowlby J (1973). *Attachment & Loss.*
- (3) Sumner MN et al (2010). *Archives of Ped & Adol Med.*
- (4) Hostinar CE et al. (2015). *Dev Sci.*
- (5) Doom JR et al (2015). *Psychoneuroendocrinology.*
- (6) Gee DG et al (2014). *Psychol Sci.*





BABLab members during a weekly zoom session

WHATS GOING ON IN THE BABLAB?

PRIOR TO THE PANDEMIC, THE BABLABBERS HAD SEVERAL COMMUNITY EVENTS ACROSS LOS ANGELES, WHERE WE MAY HAVE MET YOU! FOR THE SAFETY OF OUR PARTICIPANTS AND OUR TEAM, WE HAVE TRANSITIONED OUR LAB TO WORK REMOTELY, CONNECTING VIRTUALLY. READ ON FOR SOME BABLAB NEWS!

VIRTUAL PSYCHOLOGY CLASS!

MARCH 14 & MARCH 16 2020

BABLab Team members **Kristen Chu, Aileen Gozali, Chloe Schwartz, and Grant Grech** held two Virtual Psychology Classes with the students at the **Creative Learning Place!** The BABLab Team helped educate students on Psychology topics of Brain structure, Theory of Mind, muscle memory, and the brain-gut connection.



CLICK FOR A PODCAST!



Dr. Bridget Callaghan was interviewed on the podcast: **Who You Needed**, hosted by Helen Garcia



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The Brain and Body Lab at UCLA



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CLICK TO CONNECT!

@WHYCOMMUNITYCOLLEGE



Our very own **Nicole Fonacier** has created an online **Instagram** platform to support **transfer college students!**

BABLAB ON THE MAP



CA STATE FOSTERS

OCTOBER 2019

Dr. **Bridget Callaghan** presented a talk at the California State Foster Parent Association's 43rd Annual Conference.



KIDDIE CITY WINTER WONDERLAND

DECEMBER 2019

BABLab Manager **Eason Taylor** managing the BABLab sponsored Jumping House at the Kiddie City Winter Wonderland Party.



The BABLab team at the Farmer's Market Playa Vista helping to educate the community about brain-body science!

PLAYA VISTA FARMERS MARKET

December 2019

UNDERGRADUATE RESEARCH PROJECTS



MICHAEL TO
Research Intern

My research focuses on somatic symptoms, health anxiety, and media use and how they are related to each other in a post-COVID-19 world. Somatic symptoms are physical symptoms like fatigue, headaches, or irritable bowels that don't have a full explanation, while health anxiety is an obsessive worry of catching or having a serious illness. When you have more health anxiety, generally, you might also have more somatic symptoms and vice versa. Media use can increase health anxiety, helping to continue the cycle. By understanding how these topics relate, we hope to be able to provide guidelines for you to protect your physical and mental wellbeing



ALYSSA WIEAND
Research Assistant

My research project examined the impact of early life stress on the retention of emotional memories of children and adolescents. We expect to see better emotional memory for youth who have experienced early life stress than those who have not. While the study is still ongoing, early analyses have shown that children and adolescents who experienced early life stress do exhibit better retention of emotional memories.



NICOLE FONACIER
Research Assistant

Nicole's research focused on the development of alexithymia, a trait defined as the difficulty in identifying and describing how one feels. By looking at children who had been exposed to early life stress and children who had not been exposed to early life stress, she sought to explore the connection this has with the trait's development. Nicole found that there was a higher rate of alexithymia in the group of children who were exposed to early life adversity, and is continuing her research by looking at how subsequent positive caregiving experiences can promote more emotion understanding in children



ALYSSA ORTEGA
Research Intern

My research study examines if transfer student mental health is related to the interpersonal and intrapersonal risk factors they experience, exploring whether utilization of campus resources alter the relationship between transfer student mental health and risk factors they encounter. Data on transfer mental health, risk factors, and utilization of campus resources was gathered through an online questionnaire. Data from transfers and non-transfers were compared and will be used to determine if transfer students are at heightened risk for mental health issues.



SHIR ATIAS
Research Intern



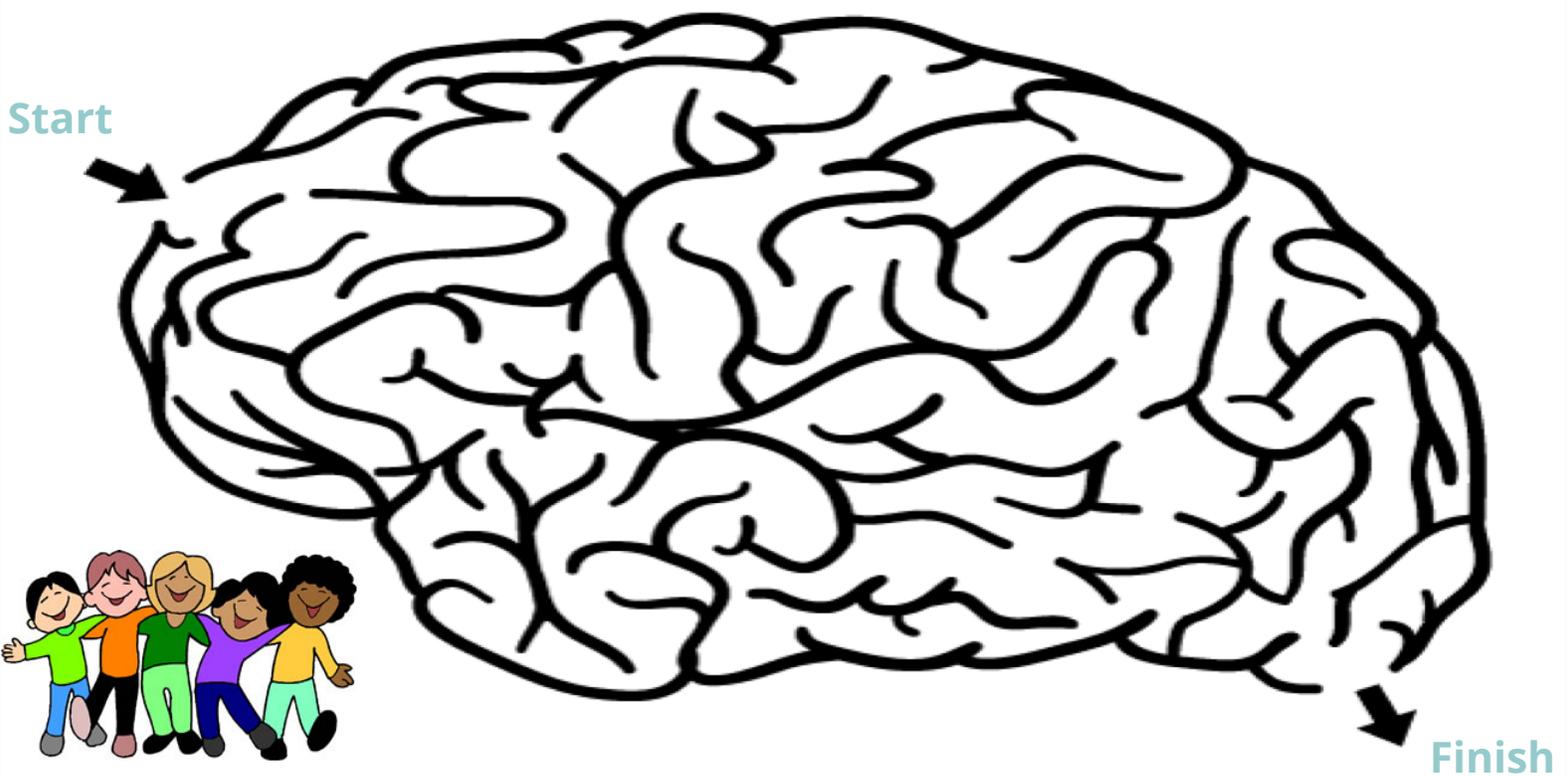
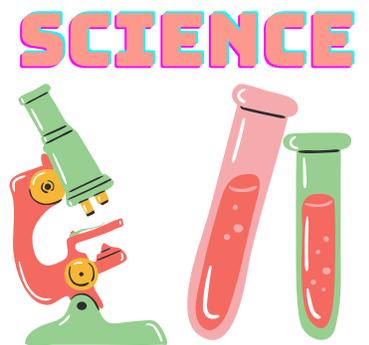
SAPIR YONA
Research Intern

In our research, we wish to explore the effects of occupational 'calling' on the development of post-traumatic growth in young adults who have experienced adverse events in childhood. We will answer this question through studying soon to be enlisted, and actively serving soldiers. Being former soldiers ourselves, we encountered countless cases of soldiers who came from broken homes and traumatic childhoods. Through the meaning, responsibility, purpose, and altruism they adapted in their service, they not only overcame their traumatic past, but also grew from it.

CHILD ACTIVITY SHEET (PRINT ME!)

L	E	T	H	O	M	R	C	E	C	L	A	B	S
R	O	C	E	O	F	E	Y	O	N	N	N	M	I
N	O	C	B	I	A	E	S	C	T	R	R	O	Y
B	R	R	O	E	F	A	M	I	L	Y	R	Y	I
L	H	C	R	A	E	S	E	R	N	N	Y	E	H
A	E	E	C	B	S	N	O	D	E	N	G	N	D
A	S	Y	I	O	A	Y	E	C	H	L	O	E	N
F	G	D	M	C	E	E	N	B	C	A	L	T	O
N	O	O	N	E	O	E	E	C	A	I	O	S	R
E	A	B	F	I	I	B	R	A	I	N	H	A	U
I	O	E	E	C	S	R	D	Y	N	N	C	L	E
G	A	E	S	C	P	U	B	L	Y	R	Y	A	N
E	N	I	H	E	A	L	T	H	G	R	S	B	N
I	E	A	T	I	Y	N	Y	O	B	N	P	Y	D

BRAIN
SCIENCE
FAMILY
HEALTH
RESEARCH
MICROBE
LAB
BODY
PSYCHOLOGY
NEURON



BABLAB DRAWING COMPETITION!

Directions:

1. Design a logo for our **Mind, Brain, Body Study** below! This study looks at physical and mental health, emotions, and memory. If you would like more guidance on this study, read more on the Mind, Brain, Body Study Updates page of this newsletter.*
2. When you are finished, have your parent help you scan your design (or send in a picture if you do not have a scanner) and send it back to us via email at bablab.ucla@gmail.com
3. If your drawing is selected, you can win some fun **science activity packs!**

**Please note: You do not need to participate in our Mind, Brain, Body study to enter this drawing competition! We will select the winner with the best Mind, Brain, Body Logo design and contact them by email!

USE THE SPACE BELOW TO DESIGN YOUR MIND, BRAIN, BODY STUDY LOGO:

MY NAME: _____

MY AGE: _____



THANK YOU!



MEET OUR OTHER BABALABBERS:



MARIA CALDERON, SENIOR RA

Maria is interested in how early life experiences affect developmental outcomes and how our relationships with others influence our well-being.



CHARIS STANEK, SENIOR RA

Charis is interested in the intersection of clinical, developmental, and social psychology, more specifically centering around how environmental stress, identity, and stigma all impact people's experiences with mental illness.



GENESIS FLORES, RESEARCH ASSISTANT

Genesis is interested in understanding the neural, biological, and behavioral mechanisms that underlie social/emotional development and how they interact to influence developmental outcomes in clinical and typical populations.



KEEGAN BUCH, RESEARCH ASSISTANT

Keegan is interested in how substance use in parents/guardians can affect the development of their children, as well as in how to assist vulnerable communities in handling substance use.



LETI HERRERA, RESEARCH ASSISTANT

Leti is interested in investigating the impact diet and stress have on the microbiome and its role on neurodevelopmental disorders and brain development.



GRANT GRECH, RESEARCH ASSISTANT

Grant is interested in the relationship between gastrointestinal distress and mental distress and how these findings contribute to exploring the brain-gut axis.



DAISY RAMIREZ, RESEARCH ASSISTANT

Daisy is extremely interested in learning more about the interaction between early childhood experiences and mental and physical health.



REESE WIX, RESEARCH ASSISTANT

Reese is especially interested in the study of human behavior and how our mind and body interact.



KRISTEN CHU, LAB MANAGER

Kristen is interested in the investigation of emotion regulation and development in adolescents and the impacts of early life stress on adolescent mental health.



FRAN QUERDASI, GRADUATE STUDENT

Fran is interested in understanding how early life experiences influence biological and emotional development both within children and across generations.



TIFFANY NASSIRIAN, SENIOR RA

Tiffany is interested in researching the relationship between mental and physical health, and specifically how the gut interacts with stress and anxiety.

LAB ALUMNI



EMILY TOWNER, LAB MANAGER

Lab Manager July 2019 - August 2020
PhD Student
University of Cambridge



DANIELLE LADENSACK

Senior Research Assistant
October 2019 - October 2020



EASON TAYLOR

Lab Manager July 2019 - January 2020
HeadsUP! Labs
Loyola Marymount University (LMU)



AILEEN GOZALI

Senior Research Assistant
October 2019 - June 2020
University of California, San Francisco (UCSF)
Medical School



CHLOE SCHWARTZ

Senior Research Assistant
March 2020 - July 2020
Jeste Lab
UCLA Semel Institute



ANANYA EERVANI

Research Assistant November 2019 - May 2020
University of California, Los Angeles (UCLA)