

 National Institute on Alcohol Abuse and Alcoholism
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CIFASD Y2 Progress Update

Michael Suttie

 **CIFASD** Collaborative Initiative on Fetal Alcohol Spectrum Disorders

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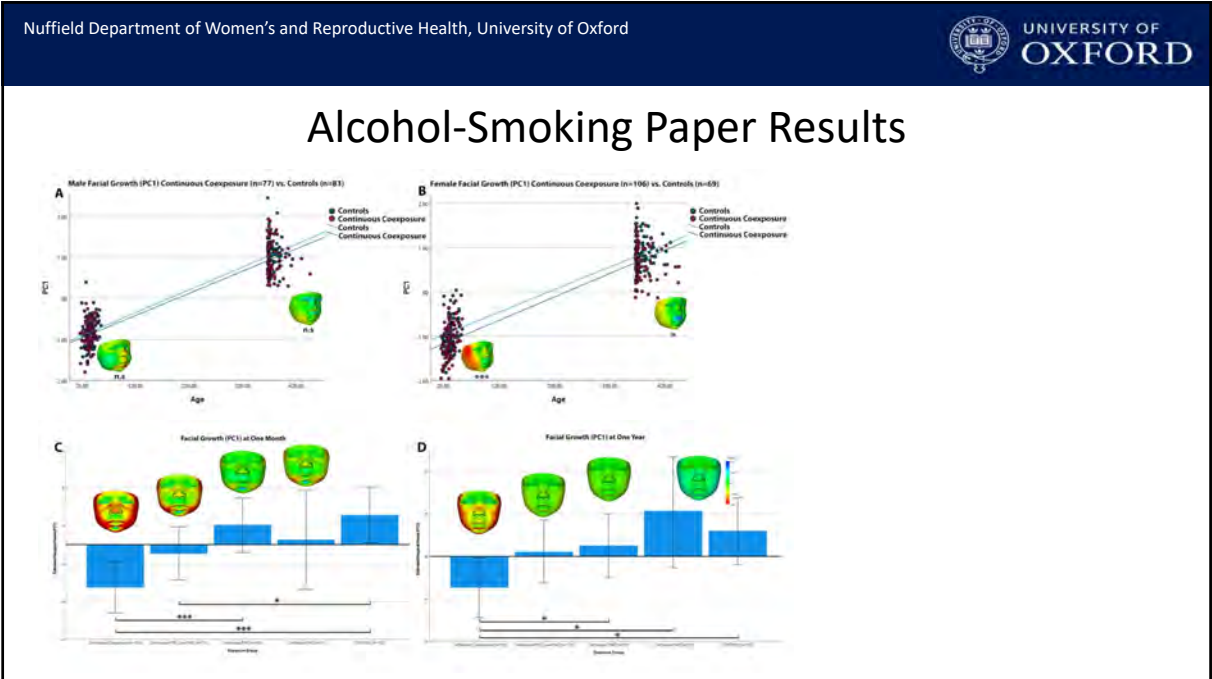
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Image Data Collection

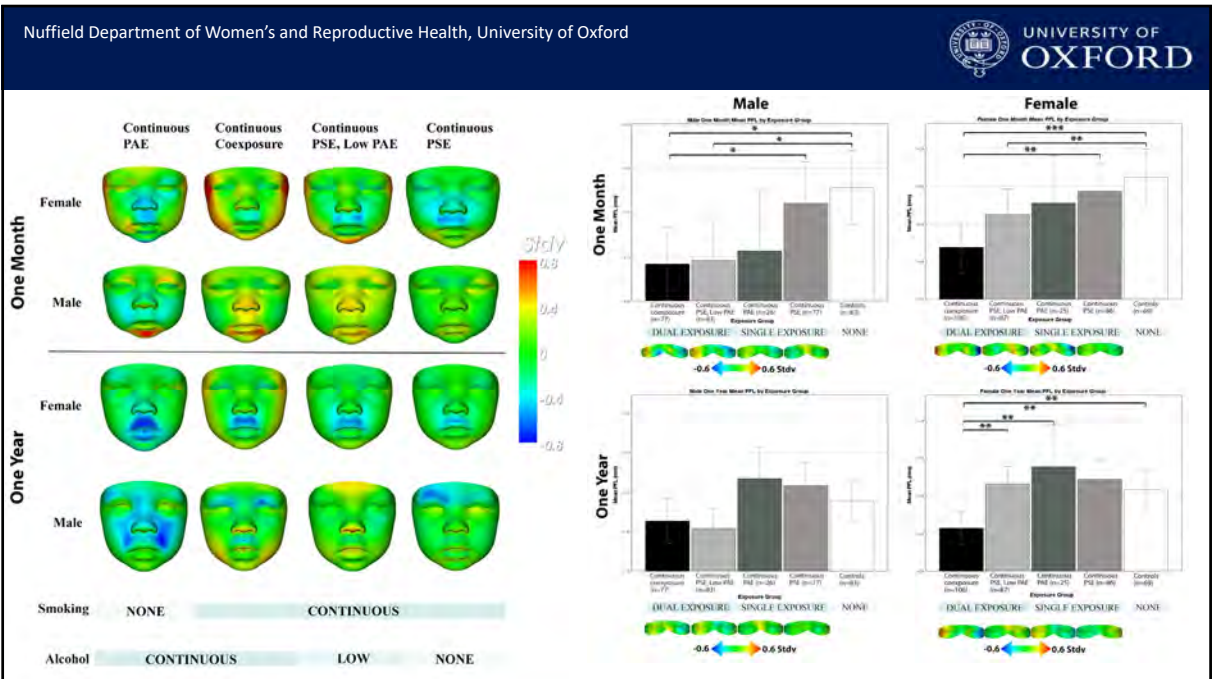
PI	2D Images	3D Images
Wozniak	14	14
Mattson		47
Suttie	10	10
TOTAL	24	71

CR Upload – 3D Data: 62

2



3



4

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New Results: Polysubstance Exposure

ALC (n=51)	ALC+MARIJUANA (n=53)	ALC+METHAMPHETAMINE (n=21)	COMBINATION (n=23)
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OxAdult 3D Recruitment

- 10 participants scanned since IRB approval in November
 - 3D Canfield
 - 3D FitsYou iPhone
 - 2D Standard photos
- Images serve as data for camera validation, adult controls and 2D->3D methods

FitsYou VS Canfield H2

EXAMPLE SCAN

NIH National Institute on Alcohol Abuse and Alcoholism


UNIVERSITY OF OXFORD WOMEN'S & REPRODUCTIVE HEALTH

3D Facial Imaging Study Participants Required

We are looking to recruit adult participants for 3D facial analysis as part of a study investigating facial shape in Fetal Alcohol Spectrum Disorders (FASDs).

Eligibility criteria:

- 18+
- No major cosmetic facial surgeries
- 10 minutes to spare

sign up here → 

<https://tinyurl.com/FASD3D>

Your participation will involve a single session (in the BDI) where you will have a 3D facial scans using a high-end and low-cost camera systems, and a series of 2D pictures taken.

Images will be used to assess low-cost imaging devices, and provide an adult control population for identifying FASD associated facial features in an adult population.

Our goal is to develop and provide low cost, objective, clinical tools to better identify individuals with FASD.

Go to <https://tinyurl.com/FASD3D>
Or contact Michael Suttie, michael.suttie@wrh.ox.ac.uk
1st Floor BDI (outside research computing office)

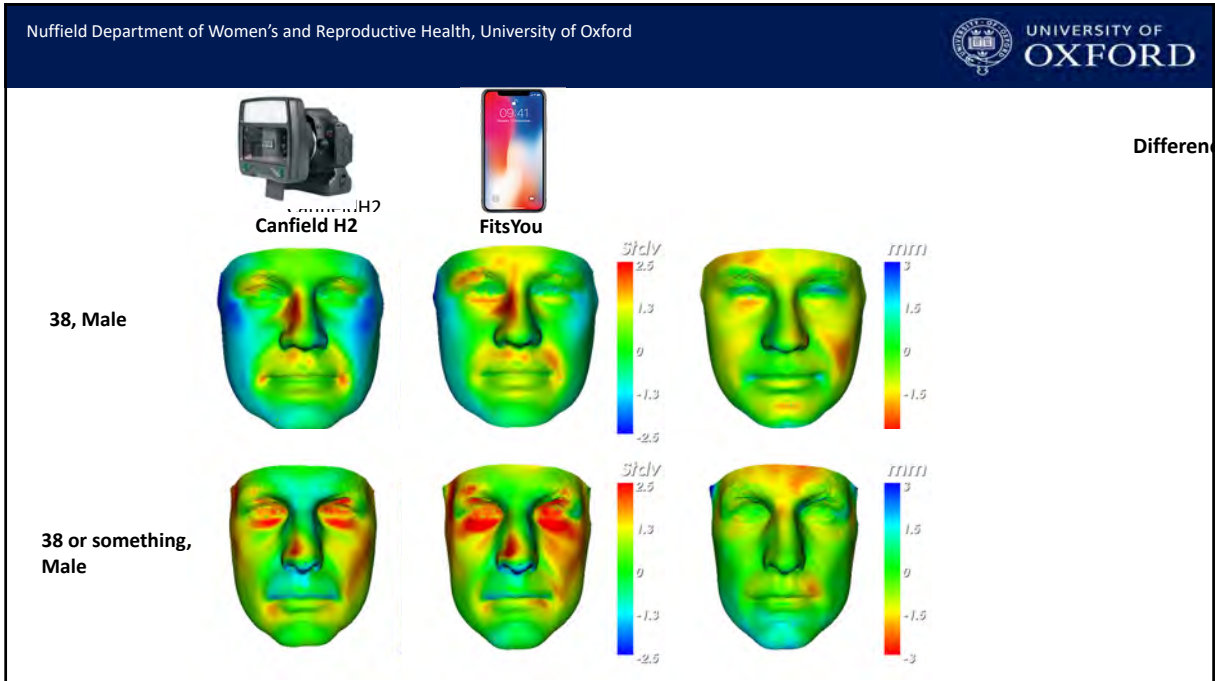
12-4 in 1,000 children

Alcohol Use of Pregnant Women

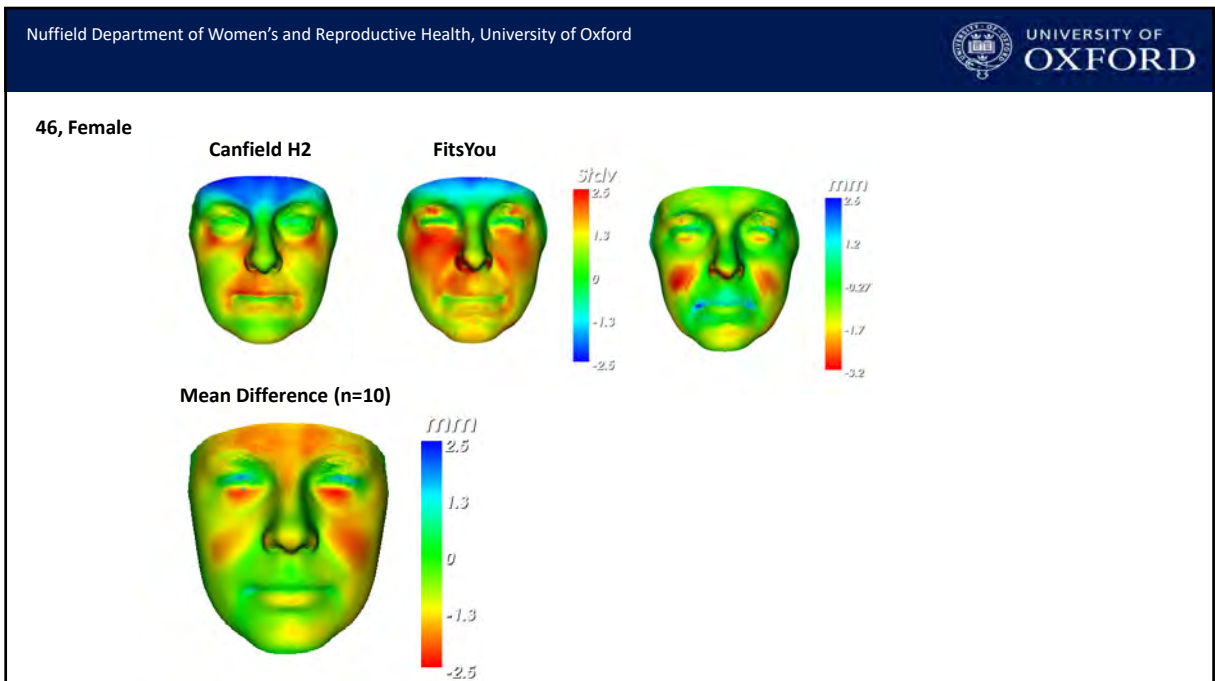
100% in one of the leading causes of intellectual disability

100% in one of the leading causes of intellectual disability

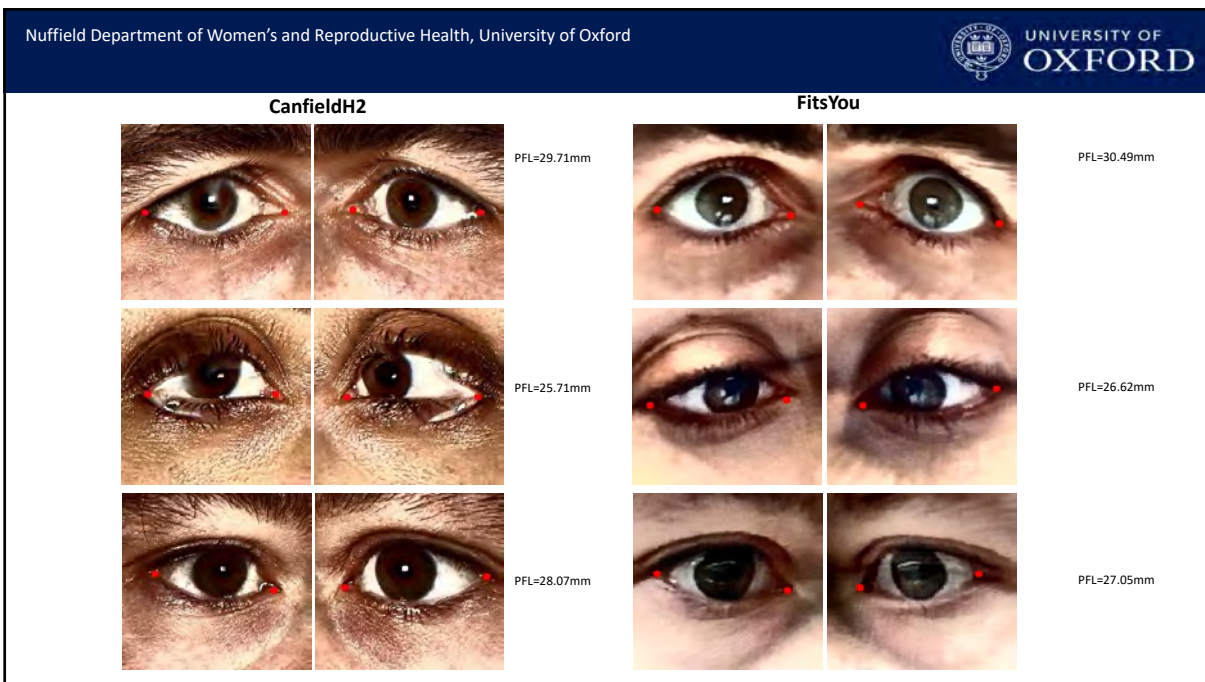
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Technical Outputs/Ongoing Work

- MeshMonk – Improving FaceScreen
 - New collaboration with Dr Susan Walsh (IU) to convert available tools into Python for deployment/integration into FaceScreen.
- 4-Digit OCR Report Scanner
 - Simple OCR tool, specifically developed after receiving data from FAS Photographic Analysis tool pdf reports. Available if anyone needs it!

FAS Facial Photographic Analysis Report

IDENTIFICATION	
Name	...
Sex	...
DOB	...
Source of Photo	...
Operator	...
Race	...

PHYSICAL CHARACTERISTICS	
Normal PFL Chart	...
Normal PFL Chart	...
File Name	...
Date of Photo	...
Age (yrs) in photo	...
Color of Photo	...
Photo Resolution	...
Length of Horizontal Measure of Distance (mm) on forehead (mm)	...
Length of Horizontal Measure of Distance (mm) on forehead (mm)	...
Left Palpebral Fovea Length (mm) (photo device)	...
Right Palpebral Fovea Length (mm) (photo device)	...
Mean Palpebral Fovea Length (mm) (photo device)	...
Inner Canthal Distance (ICD) (mm) (photo device)	...
Height (mm) (photo device)	...
Inter-Pupillary Distance (IPD) (mm) (photo device)	...
Other variables present	...

Other variables present:

Comments: ...

PHYSIOLOGICAL

ABO Group: ...

Date Taken: ...

4-Digit Diagnostic Code for Face: ...

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- Streamlined reporting
 - Current process
 - Investigator request → Semi-Automatic Processing/Analysis → Report returned (pdf)
 - Goal
 - Investigator request → Automatic Processing → Online Report

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Plan for Remaining Y2

- 2x new starters for January
 - 1 postdoc (machine learning)
 - 1 lead developer
- Face+Neuro improve and build (Dr Mattson)
- Face measures validation study (Dr del Campo)
- 3D camera shipment to adult site (Dr Stoner)
- Begin adult 3D analysis
- Drug coexposures paper (ACER)

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TIMELINE FOR PROJECT ACTIVITIES

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Aim 1	Analysis of facial morphology and co-exposures					
	Sexual dimorphism in FASD analysis					
Aim 2	Intervention Study/Infant Analysis					
	Adult FASD facial analysis					
	Neonatal identification study (Transfontanelle US)					
Aim 3	FaceScreen Server: HIPAA Setup, Dev & Testing					
	Mobile 3D acquisition comparison analysis					
	Face-Neurocognition Analysis/Integration					
	Clinical tool deployment, validation and testing					

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Publications Y2

Machine learning approaches in the identification of children affected by prenatal alcohol exposure- a narrative review
 Michael Suttie, Julie Kable, Amanda H. Mahnke, Gretchen Bandoli
ACER, Resubmitted to address reviewer comments

Mutations in the Bone Morphogenetic Protein signaling pathway sensitize zebrafish and humans to ethanol-induced jaw malformations
 John R. Klem, Tae-Hwi Schwantes-An, Marco Abreu, Michael Suttie, Raeden Gray, Hieu Vo, Grace Conley, Tatiana M. Foroud, Leah Wetherill, CIFASD, and C. Ben Lovely
Science Advances, Under Review

Facial Dysmorphism Associated with Concurrent Prenatal Alcohol and Smoke Exposure
 Michael Suttie^{1,2}, Leah Wetherill³, Scott Parnell⁴, Hein Oddendaal⁵, Lut Geerts⁵, Rosemary Meyer⁵, Heidi Nolan⁵, Lucy Brink⁵, Tatiana Foroud³, Peter Hammond^{1,2} and the CIFASD
JAMA Pediatrics, Awaiting final edits from co-authors

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Abstract submissions

- **RSA2024 Symposium Proposal**

- **Title: ASSESSING THE HARMS OF PRENATAL ALCOHOL AND DRUG COEXPOSURE ON THE DEVELOPING FETUS**

- GENETIC FACTORS UNDERLYING SUSCEPTIBILITY TO PRENATAL ALCOHOL AND CANNABINOID EXPOSURE, SCOTT PARNELL




- PRENATAL ALCOHOL AND DRUG CO-EXPOSURES IN A NATIONAL SAMPLE OF PREGNANT WOMEN, ANNA ZILVERSTAND

- **THE IMPACT OF PRENATAL ALCOHOL AND POLYSUBSTANCE ON INFANT FACIAL DYSMORPHISM, MICHAEL SUTTIE**

- MENTAL HEALTH AND LONG-TERM IMPLICATIONS ASSOCIATED WITH PRENATAL ALCOHOL AND MULTIPLE SUBSTANCE EXPOSURE, MONIQUE REBOE-BENJAMIN

ASSESSING THE HARMS OF PRENATAL ALCOHOL AND DRUG COEXPOSURE ON THE DEVELOPING FETUS

J.R. Klem¹, T. Schwantes-An², M. Abreu², M. Suttie³, R. Gray¹, H. Vo¹, G. Conley¹, T.M. Foroud², L. Wetherill², CIFASD, and C.B. Lovely¹



Assessment of Fetal Alcohol Spectrum Disorders (FASD) Using Novel Web-Based Tools

U01 AA014834
Sarah Mattson
San Diego State University



Summary of Progress by Study Aim



AIM 1

To assess the utility of the FASD-Tree/BRAIN-online system of evaluation in multiple clinical settings.

- Ongoing data collection from multiple sources



AIM 2

To compare FASD-Tree and BRAIN-online results to those from traditional and advanced physical measurements.

- Physical measurement training (Del Campo)
- MQ reliability (Riley/Chockalingam)
- Alaska Project (Del Campo)
- BRAIN-online/3D paper planning (Suttie)
- Met with Canadian FASD clinics



AIM 3

Extend assessment resources to other CIFASD5 projects.

- Provided link to BRAIN-online to CIFASD PIs
- Set up BRAIN-online to accept CIFASD participants from other projects



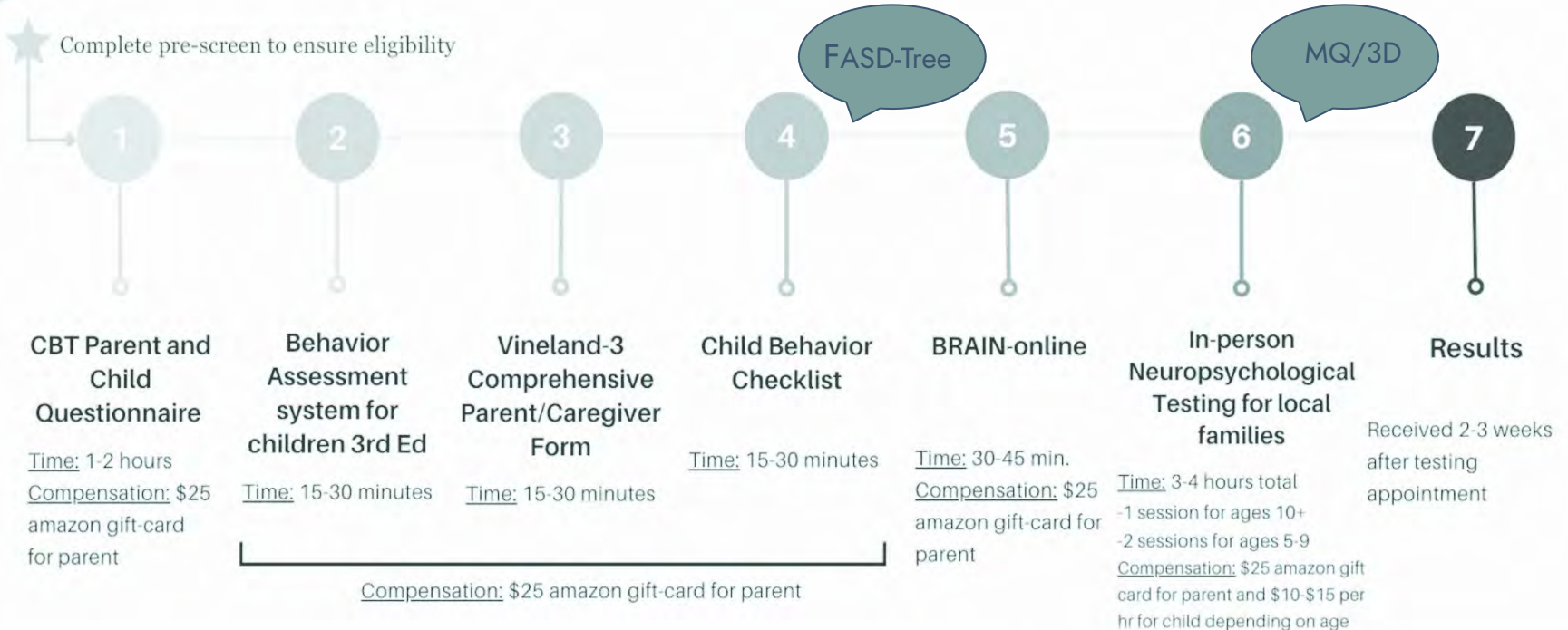
Recruitment & Data Collection



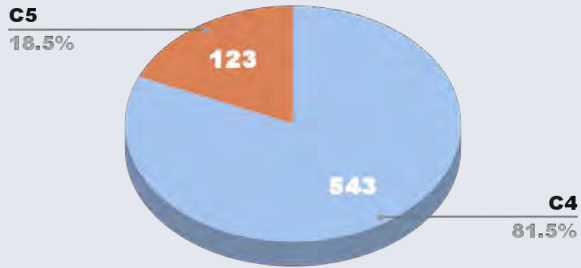
Neurobehavioral Assessment Flow Chart

Steps for participating in the CBT neurobehavioral assessment research project

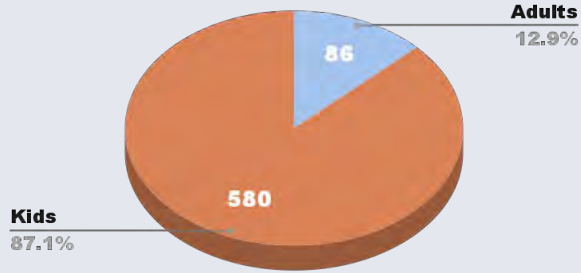
Please reach out to cbt@sdsu.edu for any questions along the way. We are happy to help!



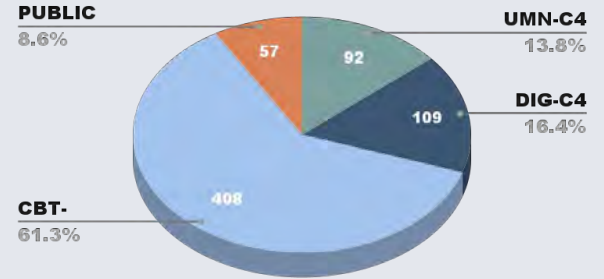
Overall Recruitment Stats



Total Recruitment For C4 and C5

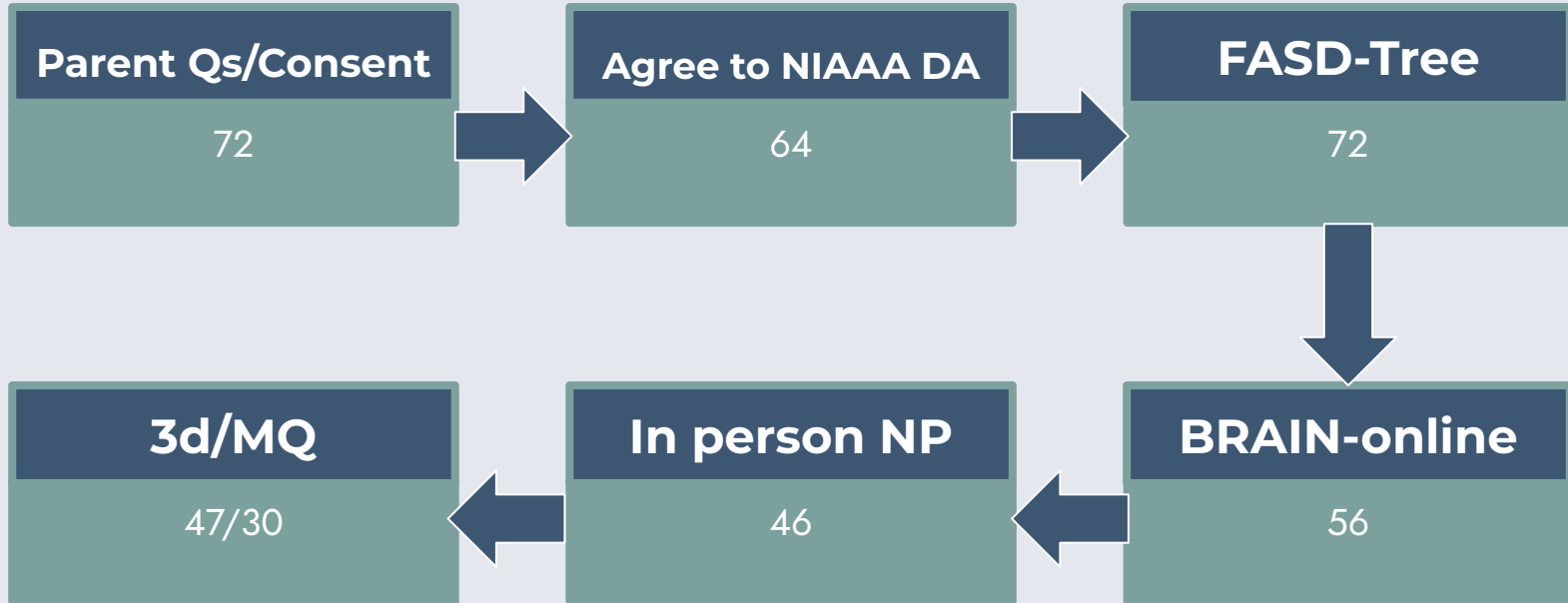


Age Group Distribution



All Current Recruitment Routes

C5 Local Enrollment Progress



Progress Toward Proposed Sample Size

Source	Aim	Total N	Completed to Date
UCSD Specialty Clinics	1,2	250	72 (29%)
Canadian FASD Clinics	1	250	1
Alaska FASD	1,2	150	0
Other FASD-National	1,2,3	250	57 (23%)
Community Controls	1,2	150	16 (11%)

Additional Recruitment Info

Physical Exams (+ MQ and 3D imaging)

- Children are referred from UCSD or Rady Children's with physical exam data or are self referred

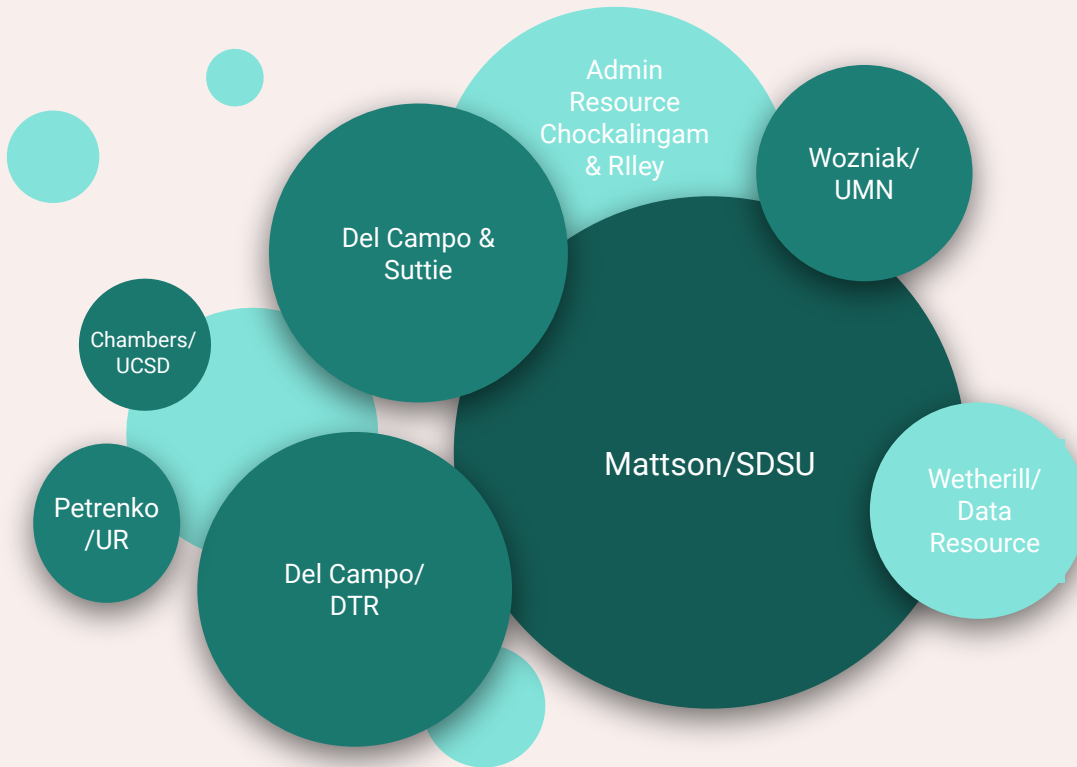
The Parent & Child Questionnaire

- Parent/Guardian completes Parent & Child Questionnaire (PQ)
- The consent has an opt-in for NIAAA_{DA}. Opting-in prompts additional questions on the PQ.

GUIDs

- Those additional questions on the PQ are used to create a GUID
- GUID Training was provided by Abigail Erickson and Indiana University
- Of 72 people asked, 64 (89%) said yes, 3 (4%) said no, 5 (7%) did not reply

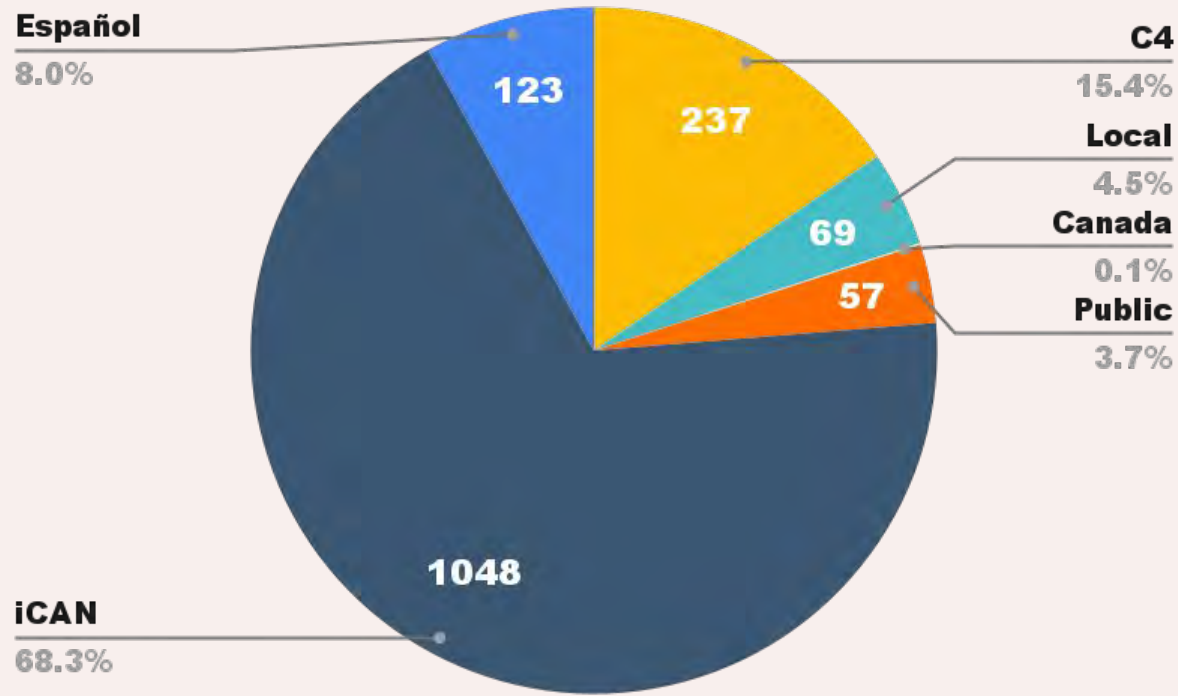
Interactions with other CIFASD Projects/PIs





BRAIN-online

BRAIN-online Data Collected (Cleaned)



Total N = 1535



Online Presence for BRAIN-Online

BRAIN-online is a new web-based screening tool that assesses cognitive and behavioral features known to be associated with fetal alcohol spectrum disorders (FASD). It was developed by Dr. Sarah Mattson and her team at the San Diego State University Center for Behavioral Neurobiology. It is a first step to determine if you or someone you care for might have an FASD. Cognitive and behavioral health screenings are important because they can help with early identification of FASD, allowing for the best treatment options and outcomes.

If you are 18 years of age or older and are interested in taking the BRAIN-online assessment, or if you want to have your child between the ages of 5 and 17 complete the test, click the link below. You will use your own computer, and the screening evaluation takes less than an hour to complete. Once you complete the test, you will be given the opportunity to receive feedback from Dr. Mattson and her team on the results and support from FASD United.

When you search BRAIN-online, you will be redirected away from fadunits.org to a Center for Behavioral Neurobiology webpage where you can review additional information before you begin the assessment. If you have questions before taking the test, please contact the BRAIN-online team at CBT@hsu.edu. Please only take the test once!

Launch BRAIN-Online



RESOURCES

Featured: CDC FASD Training Website

This online training course is from the CDC's Collaborative for Alcohol-Free Pregnancy.

Featured: National FASD and Education Survey

Meet Your Student: Fillable Tool for Educators

FASD United Family Navigator

CDC Alcohol Treatment Navigator

CDC Surveillance for Emerging Threats to Mothers and Babies Network (SET-NET)

NIAAA: The Healthcare Professional's Core Resource on Alcohol

CDC Alcohol and Other Substance Use Fact Sheet

CDC Course: FASD Primer for Healthcare Professionals

NIAAA Brochure: Alcohol and Your Pregnancy

AAP Pediatric course: FASD: Recognition and Management

Participate in Study on Prenatal Alcohol and Neuroimmunity (For Canadian participants)

The FASD Collaborative Special Interest Groups (SIGs)

NEW: BRAIN-Online Screening Tool



WE ARE Indiana Alliance on Prenatal Substance Exposure

(formerly Indiana NOFAS)

Educating, Advocating, Supporting Across the Lifespan

Learn More



BRAIN-online FASD Screening Tool

BRAIN-online is a new web-based screening tool that assesses cognitive and behavioral features known to be associated with FASD. If you think that you or someone you care for may have FASD, BRAIN-online can act as the first step in connecting to a diagnosis.

TAKE THE TEST



BRAIN-online FASD Screening Tool

BRAIN-online is a new web-based screening tool that assesses cognitive and behavioral features known to be associated with fetal alcohol spectrum disorders (FASD). If you think that you or someone you care for may have FASD, BRAIN-online can act as the first step in connecting to a diagnosis.

If you or your child are interested in taking BRAIN-online, click the link below. You will use your own computer and it takes less than an hour to complete. By taking the test, you will help us learn more about cognitive abilities in children and adults. You will also be given the opportunity to get feedback. If you have questions, please contact us at CBT@hsu.edu. Please only take the test one time.

TAKE THE TEST



Non-CBT BRAIN-online Recruitment Options

Please let us know how you heard about us:

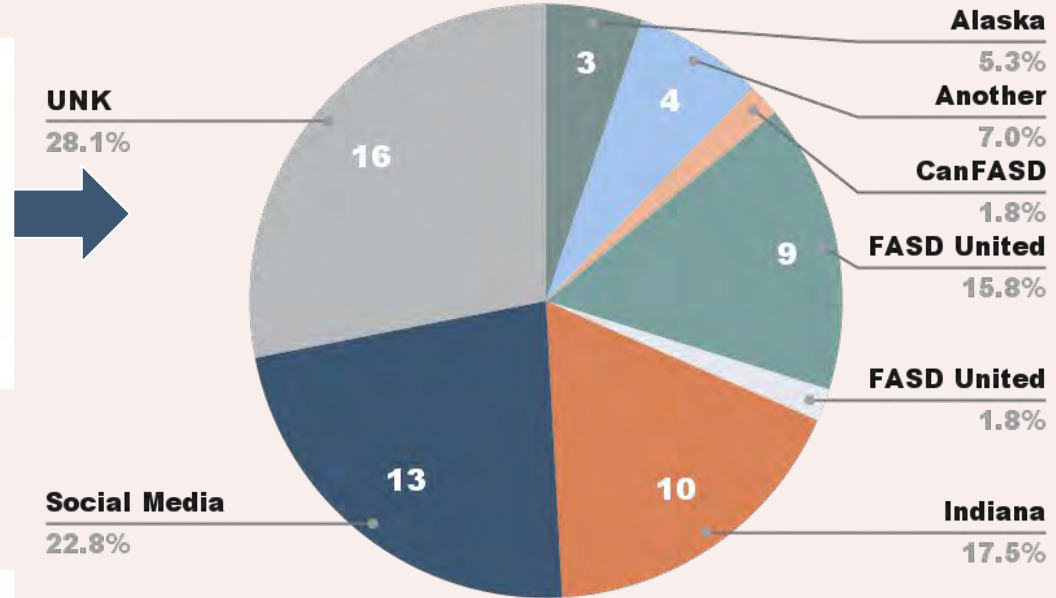
- Please Select...
- FASD United
- FASD United Affiliate
- Indiana Alliance on Prenatal Substance Exposure
- Alaska Department of Health: FASD Program
- Sarah Evans NP Alpine Medical Group
- Great Lakes Neurobehavioral Center
- CBT/Mattson Lab Website
- Social Media
- Another FASD Resource (please specify):

Options given for our regular Public BRAIN-online study

Please let us know how you heard about us:

- Masonic Institute for the Developing Brain (Dr. Jeff Wozniak)
- Other - please specify:

Options (so far) given for the CIFASD site version



Other BRAIN-online Data Sets

College-Age YA*

N = 1048

English vs. Spanish Speaking YA**

English N = 99
Spanish N = 24
Goal = 200

What language are you most comfortable using? Your answer determines which version of the test you will take. Select the option that best matches what you consider to be your primary language.

Next

¿Cuál es el primer nombre de la persona que va tomar esta evaluación?

¿Cuándo nació [Mes]?

Por favor seleccione...

¿Cuándo nació [Año]?

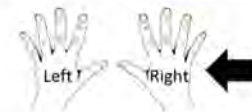
Presione el gato.



Oprima

Se le pedirá que coloque su muñeca en una superficie plana y oprima la barra espaciadora lo más rápido que pueda con su dedo índice (puntero) por 10 segundos. No mueva su mano o brazo, sólo su dedo. Empezará a oprimir cuando vea "COMENZAR", y oprima lo más rápido que pueda hasta que vea "ALTO".

(Intentemos practicar con su mano derecha primero.)



Presione SUGUIENTE para continuar.

Siguiente

- * Additional support from a seed grant from SDSU
- ** Additional support from an NIAAA diversity supplement

Average Completion Time for BRAIN-online

Age Group	N	Mean	SD
5-7 yrs	31	59.7 minutes	19.09
8-13 yrs	80	46.9 minutes	11.01
14-17 yrs	34	45.1 minutes	15.3
All ages	145	49.2 minutes	15.01

Total Child N: 145

Minimum Completion Time: 22 minutes

Maximum Completion Time: 132 minutes

N with Completion Time >60: 21



Results from BRAIN-online

Data from local participants



Behavior Screen

Below is a list of items that describe children and youth. For each item select the answer that best describes your child NOW OR WITHIN THE PAST 6 MONTHS. Answer all items as well as you can, even if some do not seem to apply to your child.

Acts too young

- Yes
 No

Clingy or dependent

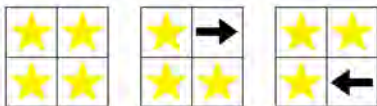
- Yes
 No

Very talkative

- Yes

Inhibiting

In this task, you will see a series of arrows that appear in a grid. When you see arrows that are facing the right (→), tap the spacebar. If you see an arrow facing the left (←), do not respond.



Stepping Stones

In this task you will see 10 blocks on the screen. These blocks will light up in a certain sequence. When you see "GO" click the blocks in the same order you saw them light up. You will only see them once, so pay attention.



Tapping

You will be asked to place your wrist on the surface and tap the spacebar as quickly as you can with your index finger for 10 seconds. Do not move your hand or arm, only your finger. Begin Tapping when you see "GO."

Let's try a practice trial for the right hand first!



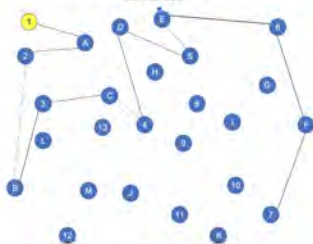
Remembering

You are about to see some playing cards in a grid. Try to remember where each card is located.



Connecting

On the next screen, you will see numbers and letters in circles. Your job is to **click on the numbers as quickly as you can in order** (1,2,3, and so on) until you get to the end. Only connect the circles with numbers.



Reacting

In this task, you will see a star (★) appear on the screen. Whenever you see the star (★), tap the spacebar as quickly as possible using your dominant hand.



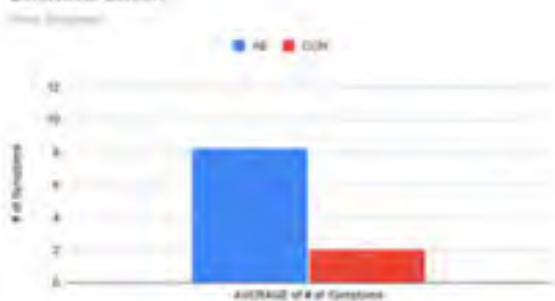
Fishing

In this task you will see a line of fish swimming with each other. Only pay attention to the middle fish. If the fish is swimming to the left (←), tap the left shift key. If the fish is swimming to the right (→), tap the right shift key.



BRAIN-online consists of a 14-item behavioral screen and 7 subtests that measure fine-motor speed, reaction time, response inhibition/impulsivity, attention, problem-solving, processing speed, memory, spatial working memory, and set-shifting and requires 30-45 minutes to complete. It is completed online independently by each subject and reaction time and accuracy measures are available.

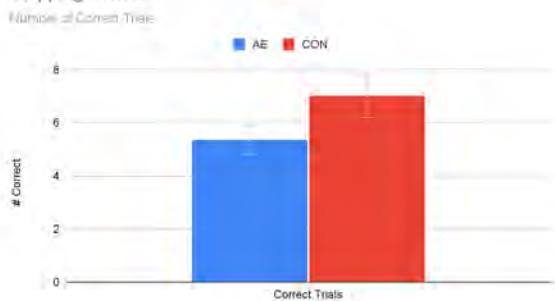
Behavioral Screen



Inhibiting



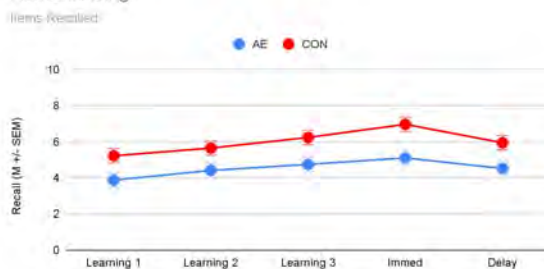
Stepping Stones



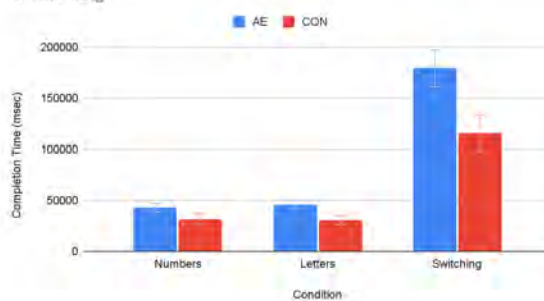
Finger Tapping



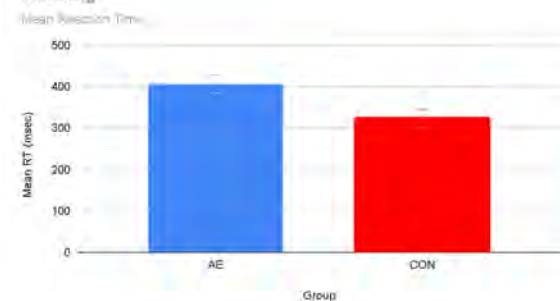
Remembering



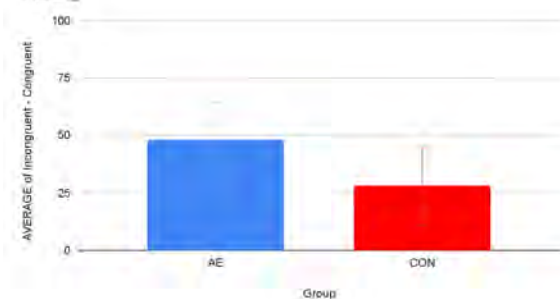
Connecting



Reacting



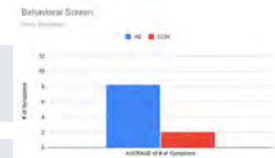
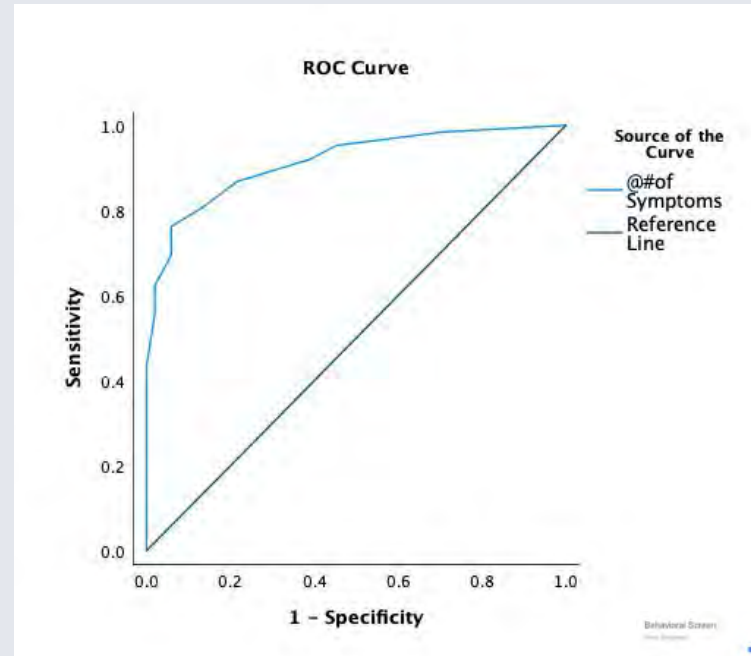
Fishing



BRAIN-online results indicate that in comparison to controls, children with histories of prenatal alcohol exposure have: (1) higher scores on the behavioral screen, (2) lower scores (fewer taps) per 10 sec on Tapping, (3) longer and more variable reacting times on Reacting, (4) fewer items learned and recalled on Remembering, (5) more difficulty inhibiting on Fishing, (6) fewer correct on Stepping Stones, and (7) longer completion times on Connecting.

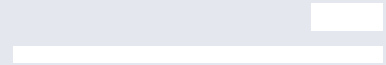
BRAIN-online Behavioral Questionnaire (BBQ)

- Data from 242 child (Mn=10y) participants were analyzed
 - 191 PAE/51 CON
- PAE group had higher scores (Mn=8.3) on BBQ than the CON group (Mn=2.1)
- ROC analysis indicated **outstanding discriminability** between groups (AUC=.914)
 - Optimal cut-off score of 4 or more endorsed items
 - Sensitivity=87%, specificity=78%, PPV=94%, NPV=62% for separation of PAE from controls. Overall classification accuracy was 85%



Major Research Accomplishments of C5: Summary

- ★ Data collection
- ★ Tool improvement
- ★ Training on dysmorphology and MQ
- ★ Finalized C4 Data with IU
- ★ C5 Data processing
- ★ Collaborated with or supported other C5 investigators
- ★ Received diversity supplement to support Celeste Estrada
- ★ Publications and presentations



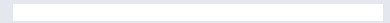
Major Research Accomplishments of C5: Publications

1. Hyland, M.T., Courchesne-Krak, N.S., Bernes, G.A., Wozniak, J.R., Jones, K.L., Del Campo, M., Riley, E.P., Mattson, S.N., and the CIFASD (2023). Results of a screening tool for fetal alcohol spectrum disorders are associated with neuropsychological and behavioral measures. *Alcohol: Clinical and Experimental Research*, 47(8):1560-1569. Available online 16 June 2023.
2. Glass, L., Moore, E.M., and Mattson, S.N., (2023). Current considerations for fetal alcohol spectrum disorders: Identification to intervention. *Current Opinion in Psychiatry*, 36 (3): 249-256. Available online 2023 Mar 3.
3. Mattson, S.N., Jones, K.L., Chockalingam, G., Wozniak, J.R., Hyland, M.T., Courchesne, N.S., Del Campo, M., Riley, E.P., & the CIFASD. (2023). Validation of the FASD-Tree as a screening tool for fetal alcohol spectrum disorders. *Alcoholism: Clinical and Experimental Research*, 46 (1): 52-65. Available online 2023 Feb 20.
Highlighted as Article of Public Interest and subject of commentary.
4. Poth, L.D., Love, T., Mattson, S.N. (2023). Profiles of language and communication abilities in adolescents with fetal alcohol spectrum disorders. *Journal of the International Neuropsychological Society*, 29: 724-733. Available online 3 November 2022.
5. Smith, et al. (2023). Polymorphisms in the choline transporter SLC44A1 are associated with reduced cognitive performance in both normotypic and prenatal alcohol-exposed children. *American Journal of Clinical Nutrition*, in press. Available online 27 November 2023
6. Gimbel, et al (2023). Delayed cortical thinning in children and adolescents with prenatal alcohol exposure. *Alcohol: Clinical and Experimental Research*, 47 (7): 1312-1326. Available online 02 May 2023
7. Gimbel, et al. (2023). Atypical developmental trajectories of white matter microstructure in prenatal alcohol exposure: Preliminary evidence from neurite orientation dispersion and density imaging (NODDI). *Frontiers in Neuroscience-Neurodevelopment*, 17, 1172010.



Major Research Accomplishments of C5: Book Chapters

1. Felichicchia, R.J., Veziris, C.R., and Mattson, S.N. Fetal alcohol spectrum disorders. In Ellenbroek, B.A., Olivier, J (eds.), *Current Topics in Behavioral Neurosciences: Effects of Drug Exposure on Brain Development*. Springer, in press.
2. Hyland, M.T., Courchesne, N.S., Sobolewski, C.M., Zambrano, C., and Mattson, S.N. Fetal Alcohol Spectrum Disorders: Neuropsychological outcomes across the lifespan. In O. Rahman, C. Petrenko (Eds.), *Fetal Alcohol Spectrum Disorders: A Multidisciplinary Approach*. Springer, in press.
3. Max, J.E., Mattson, S.N., Vaucher, Y.E., Nichols, S., and Nespeca, M.P. Psychiatric aspects of child neurology. In B.J. Sadock, V.A. Sadock, P. Ruiz (Eds.), *Kaplan & Sadock's Comprehensive Textbook of Psychiatry*, 11th Edition. Lippincott Williams & Wilkins, in press.



Major Research Accomplishments of C5: Abstracts

1. Veziris, C. R., Hyland, M.T., Kable, J.A., Wozniak, J.R., Coles, C.D., May, P.A., Kalberg, W.O., Sowell, E.R., Riley, E.P., Mattson, S.N., & the CIFASD. Validation of the ND-PAE diagnosis in children with heavy prenatal alcohol exposure. Presented at the Research Society on Alcoholism meeting, Bellevue, June 2023. <https://onlinelibrary.wiley.com/doi/full/10.1111/acer.15069>
2. Estrada, C.S., Veziris, C.R. Hyland, M.T., Brucks, B. Mattson, S.N., & the CIFASD. Is there a relationship between COVID-19 related stress and alcohol use in college students? Presented at the Research Society on Alcoholism meeting, Bellevue, June 2023. <https://onlinelibrary.wiley.com/doi/full/10.1111/acer.15069>
3. Felicicchia, R.J., Hyland, M.T., Roesch, S.C. & Mattson, S.N. Differences in the family environment in children with and without prenatal alcohol exposure. Presented at the Research Society on Alcoholism meeting, Bellevue, June 2023. <https://onlinelibrary.wiley.com/doi/full/10.1111/acer.15069>



RSA 2024 (Submitted as part of symposium)

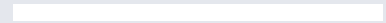
Mattson, S.N., Hyland, M.T., Chockalingam, G., Wetherill, L., Wozniak, J.R., Riley, E.P., and the CIFASD. Development of an online cognitive test for fetal alcohol spectrum disorders.



Major Research Accomplishments of C5:

Papers submitted or in preparation

1. **Sobolewski, C. M., Courchesne-Krak, N. S., Hyland, M. T., Bernes, G. A., Veziris, C. R.,** Wozniak, J. R., Mattson, S. N., & CIFASD. Adaptive, externalizing, and internalizing behavior of children with prenatal alcohol exposure: A comparison of three parent-report questionnaires. Submitted to *Developmental Neuropsychology*.
2. **Veziris, C. R., Hyland, M. T.,** Kable, J. A., Wozniak, J. R., Coles, C. D., May, P.A., Kalberg, W.O., Sowell, E. R., Riley, E. P., Mattson, S. N., & the CIFASD. Validation of the ND- PAE diagnosis in children with heavy prenatal alcohol exposure.
3. **Veziris, C. R., Felicicchia, R.,** Villodas, M. T., & Mattson, S. N. A review of the effect of prenatal alcohol exposure and childhood adversity on externalizing disorders in childhood.
4. **Felicicchia, R., Courchesne-Krak, N., Hyland, M.,** Coles, C., Kable, J., Sowell, E., Wozniak, J., & Mattson, S. The impact of individual and family risk factors on the relationship between prenatal alcohol exposure and cognitive and behavioral functioning.
5. **Felicicchia, R., Hyland, M.,** Roesch, S., & Mattson, S. Exploring family environment characteristics in children with prenatal alcohol exposure.





Teaching/Outreach

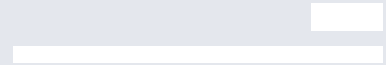
Spreading the Word

Addiction Psychiatry Fellowship, UCSD School of Medicine (annual)

Substance Use Disorder Seminar, VASDHS/UCSD (annual)

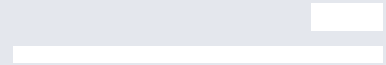
Addiction Psychiatry Fellowship, UCSD School of Medicine (annual)

Child and Adolescent Neuropsychiatry, UCSD School of Medicine (biennial)



Major Goals to Complete in Year 2


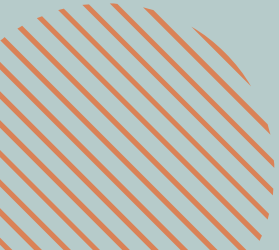
- Submit papers for publication
 - BRAIN-online
 - Face/Neurobehavior (Suttie)
- Focus on recruitment of control participants, both local and national
- Continue recruitment development in Canadian FASD clinics
- Continue to provide support to Alaska project (Del Campo)
- Continue to provide assessment support for C5 projects as needed
- Provide support for Chambers San Diego Pilot project
- Continue discussions with FDNA
- Pursue options for public use of FASD-Tree and BRAIN-online



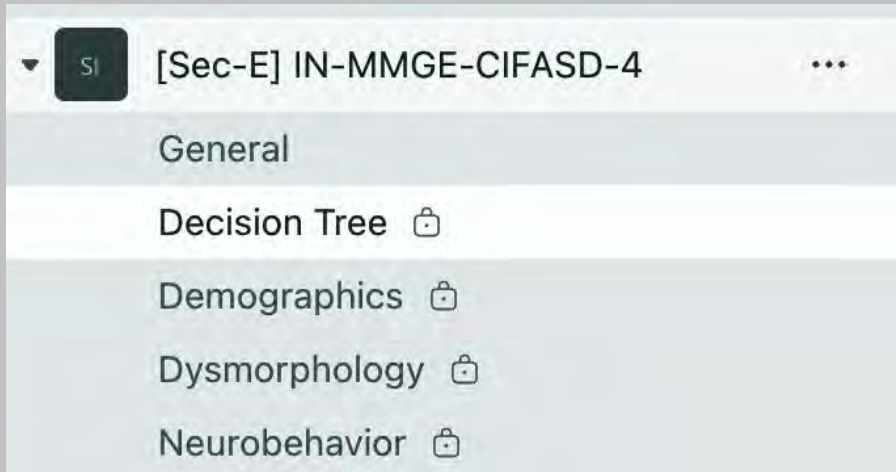


Data Processing Steps

How raw data is prepared for reports and Central Repository upload

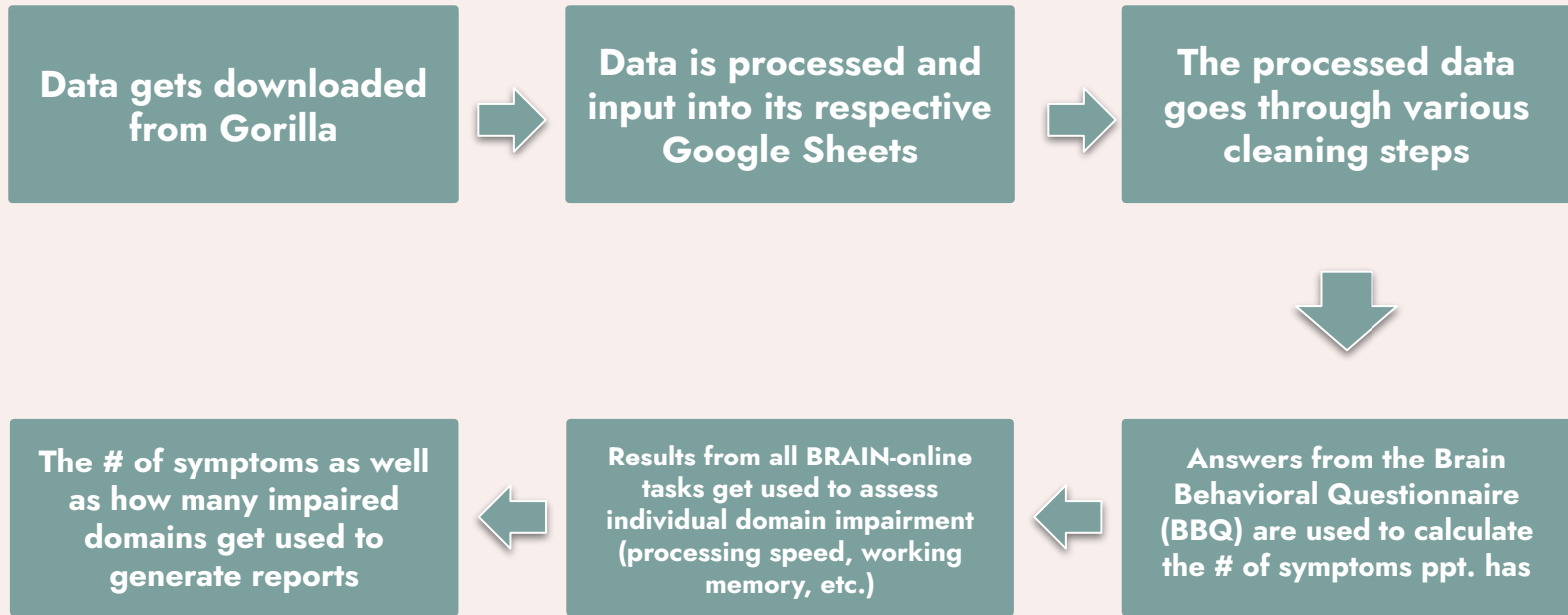
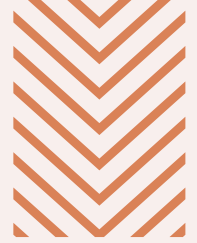


Finalizing all C4 Data

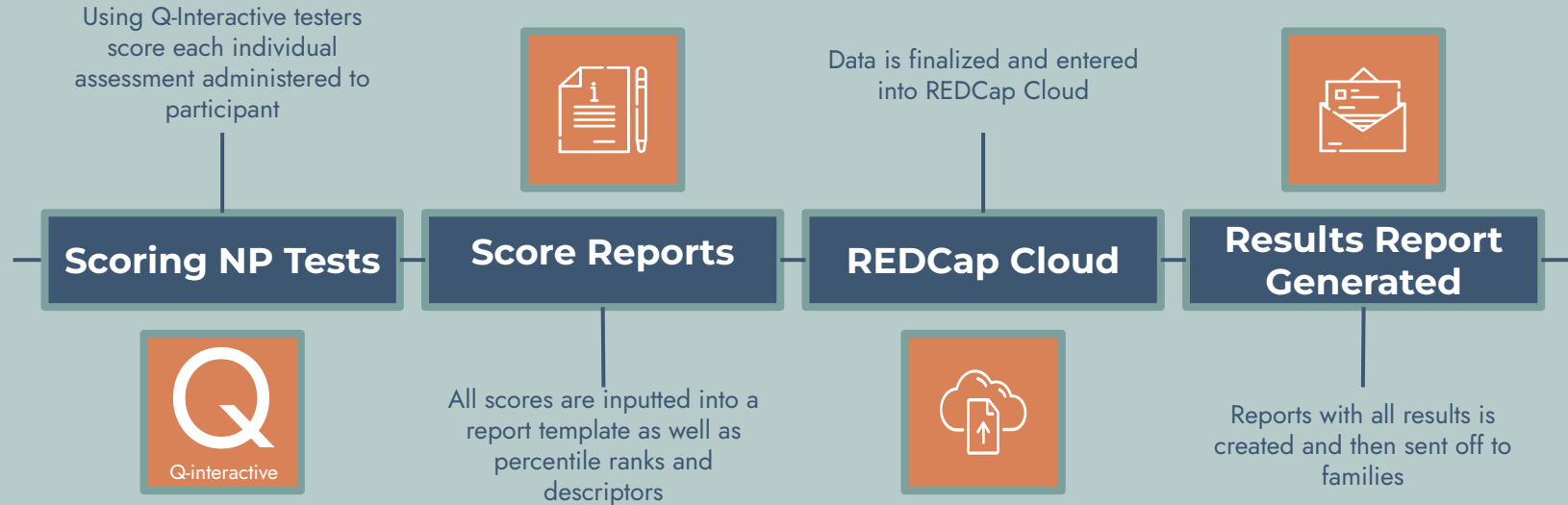


- Data from FASD-tree, our Parent Child Questionnaire, and Neuropsych Testing is downloaded from REDCap Cloud
- We run Macros and process all the data to match it up to the format of our data dictionaries
- After the data is ready to go, we upload it into Indiana University's Microsoft Teams
- The final step was to notify Dr. Leah Wetherill that everything was submitted and then submit a total count of participants as well as how many we had in each instrument

Where does BRAIN-online data go after test completion?

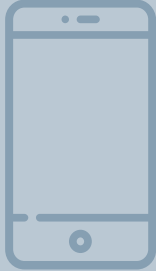


Finalization of Neuropsych Scores



→ Each step of this process requires everything to be rechecked at least twice before moving forward

What Happens with Morpheus Q and 3D Imaging Data?



- Morpheus Q exams are done on our in-lab iPhone
- Data is automatically saved in the FASD-tree exams database
- After testing we enter their 'Morpheus Classic' data which is their Vermillion Border, Lateral Philtrum, Philtrum Lipometer and PFL data received from the referring Dysmorphologist

- 3D imaging is done the same time we do Morpheus Q
- Before taking photos all hair must be out of the child's face, any glasses have to be off, and they must be looking straight
- After all images are taken of the child we make sure they get stitched together properly
- A folder on our secure internal hard drive is create for each participant



- The only images we upload to the Indiana University Teams folder are those of kids who consented to have them shared, otherwise they stay on a secure internal hard drive
- Images are used by Dr. Michael Suttie in conjunction with participant's demographic info.

! MQ and imaging are only done if the parents and child consent !



Creating the Data Dictionaries

- Data dictionaries are generated for each instrument through REDCap Cloud
- All variables in our DDs must have explanations including the type of data; element name and description; whether it's required or not; and any validation requirements
- We generated a finalized DD, codebook, and upload template for all 4 of our upload structures and received approval from IU

Export Data Dictionary

Export

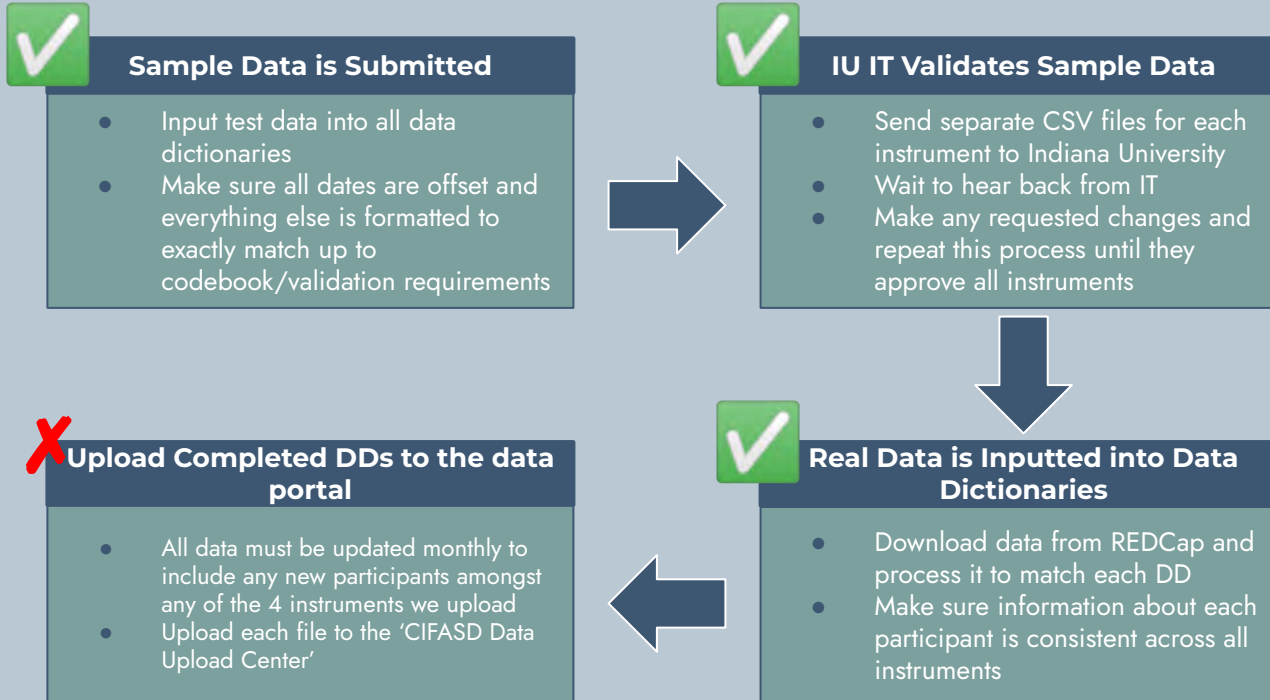
Close

Select dictionaries to export

<input type="checkbox"/>	Instrument Name	Version
<input type="checkbox"/>	wiscv_scaled	(original)
<input type="checkbox"/>	CBT Phone Screen	(original)
<input type="checkbox"/>	Decision_Tree	(original)
<input type="checkbox"/>	dkeys	(original)
<input type="checkbox"/>	nih_toolbox	(original)
<input type="checkbox"/>	wiatiii	(original)
<input type="checkbox"/>	basc3	(original)
<input type="checkbox"/>	dref	(original)
<input type="checkbox"/>	NEPSYII	(original)

Showing 28 of 28

Data Processing Effort





THANKS!

QUESTIONS?



CREDITS: This presentation template was created by [Slidesgo](#), and includes icons by [Flaticon](#), and infographics & images by [Freepik](#)



E-Health Applications

Ganz Chockalingam, Ed Riley, Sarah Mattson



E-Tree
(Sarah Mattson)



BRAIN
(Sarah Mattson)

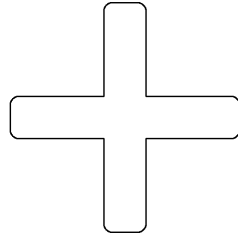


MORPHEUSQ

Merge Two Applications



E-Tree



BRAIN

GORILLA

Experiment
Builder

We help ambitious behavioural scientists create and host online experiments easily

- ✓ Easy-to-use graphical interface — no coding necessary.
- ✓ Collect behavioural data with accurate reaction times.
- ✓ Build for free. Pay per respondent.

[Sign Up](#)

OR

[See our Tools](#)





BRAIN Online

Tapping

You will be asked to place your wrist on the surface and tap the spacebar as quickly as you can with your index finger for 10 seconds. Do not move your hand or arm, only your finger. Begin Tapping when you see "GO."

Let's try a practice trial for the right hand first!



Click NEXT to continue

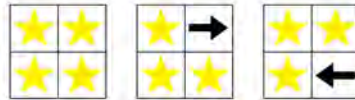
Reacting

In this task, you will see a star (★) appear on the screen. Whenever you see the star (★), tap the spacebar as quickly as possible using your dominant hand.



Inhibiting

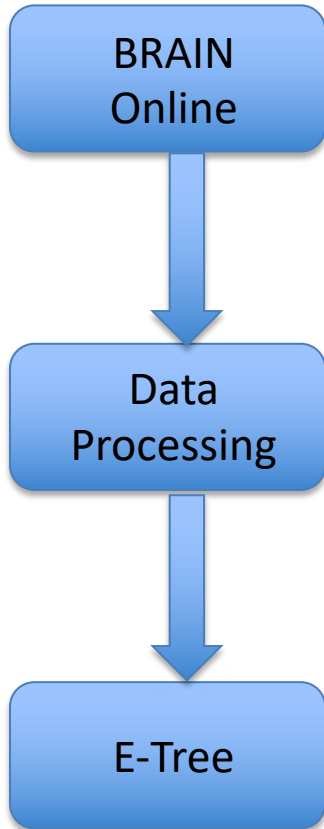
In this task, you will see a series of arrows that appear in a grid. When you see arrows that are facing the right (➡), tap the spacebar. If you see an arrow facing the left (⬅), do not respond.



Remembering

You are about to see some playing cards in a grid. Try to remember where each card is located.





DOWNLOAD

Parse BRAIN Data

✓ Select Task

Speed Tapping

Reaction Time

Go/No Go

Memory Trials

Fish Flanker

Corsi

Trail Making

Memory Trials 2

Gorilla Raw Data File: No file chosen

GENERATE

Port BRAIN Data to Tree

Select Task

File To Upload: No file chosen

UPLOAD

Combined Data Download

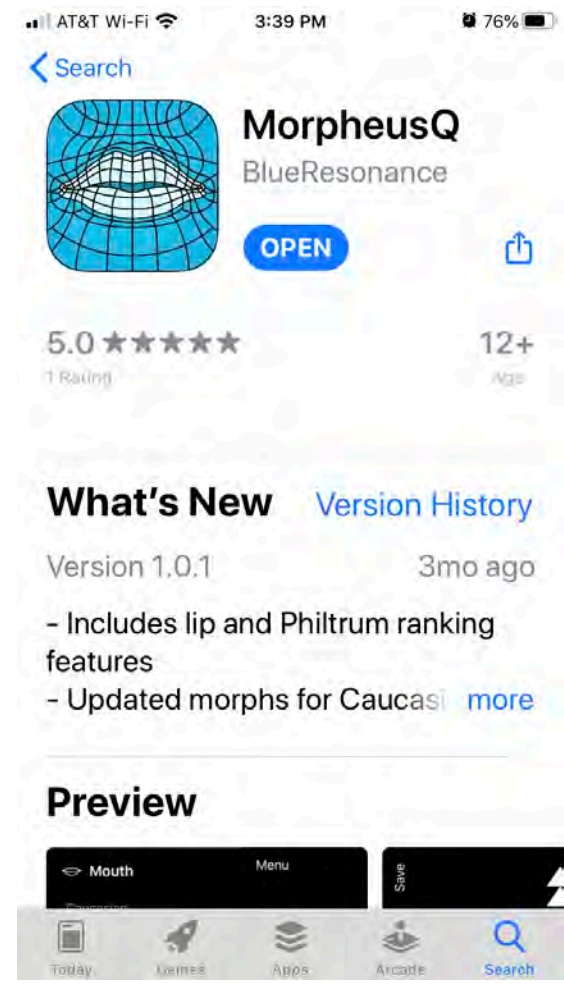
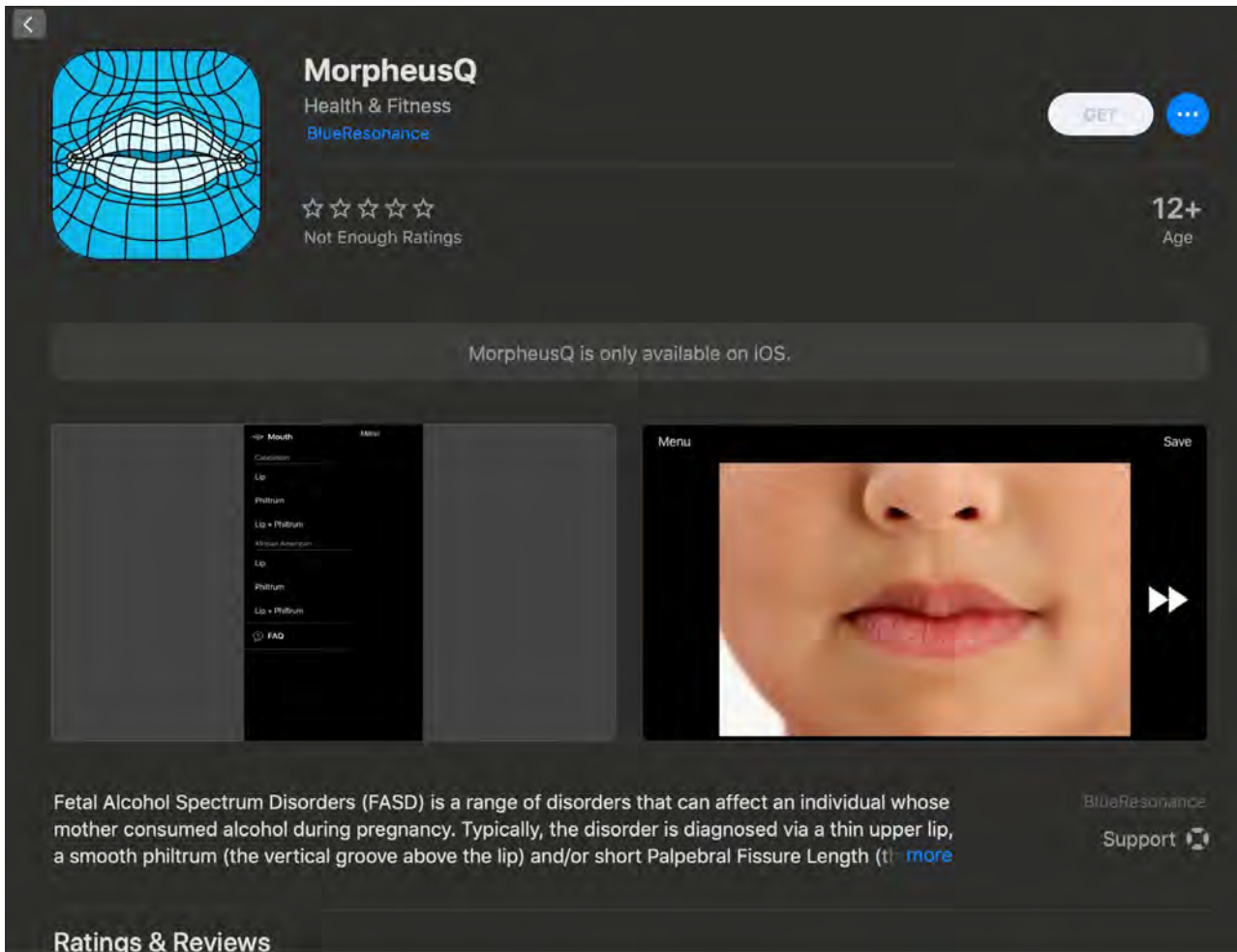


Patient List

UCSD/Rady - Dysn



	ID ▲	GUID	Date Enrolled	Age at PE	Sex	Race	Physical Exam	CBCL (T)	VABS (SS)	IQ	Tree
	SMS0339		01/17/18	9 yr 0 mo	M	More than One Race					
	SMS0444		03/19/18	13 yr 7 mo	F	Black or African American					
	SMS0447		03/14/18	11 yr 3 mo	F	Black or African American					
	SMS0447b	NDARDC779KEC	08/25/23	11 yr 3 mo	F	Black or African American					
	SMS0473		01/29/18	5 yr 11 mo	M	Black or African American					



Cutoffs Established for Age/Race/Sex

1. Support for Age groups

3-7 Yrs

7-14 Yrs

14-21 Yrs

$4 \times 3 \times 2 = 24$ Subjects

2. Race:

Caucasian

African American

Hispanic

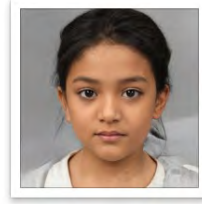
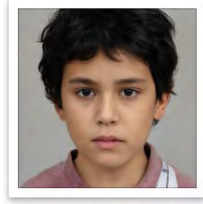
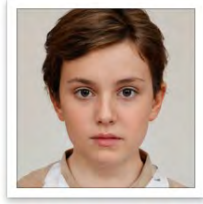
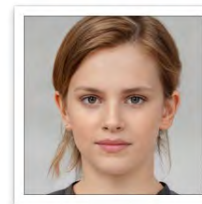
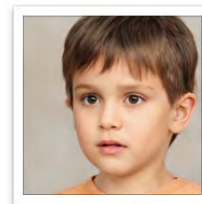
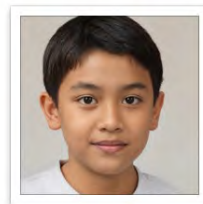
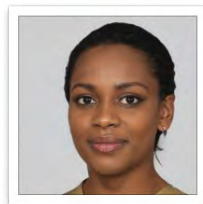
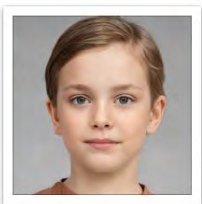
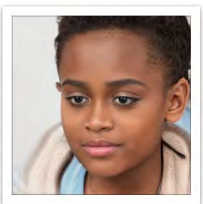
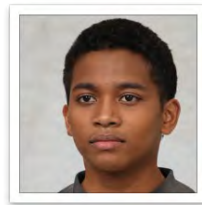
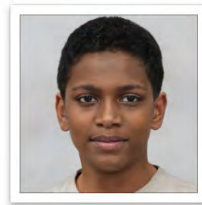
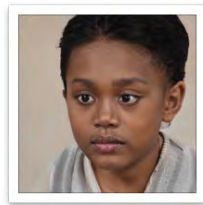
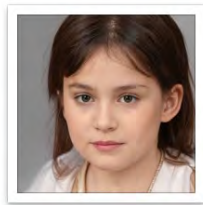
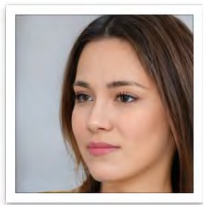
Asian

Front & Lateral View = 48

6 cutoffs per subject

$6 \times 48 = 288$ cutoffs in total

3. Male/Female



Menu

Clear

Enroll Subject

Subject ID

FA6391

Sex

Male

Female

Age in Years (Ex. 7)

13

Ethnicity

African American

Hispanic

Asian

Submit



Response Statistics

Sort By

Difference, high to low

Step #	Resp Count	Average	Difference	View	Rank	Response #1	Response #2
11	2	2440	285	Side Philtrum	3-4	2297	2582
19	2	2400	283	Front Lips	3-4	2258	2541
133	2	3028	278	Front Lips	3-4	2889	3167
30	2	3755	274	Side Philtrum	4-5	3618	3892
9	2	2473	264	Front Philtrum	3-4	2605	2341
88	2	3613	262	Front Philtrum	4-5	3744	3482
33	2	2558	256	Front Philtrum	3-4	2430	2686
38	2	3287	252	Front Lips	4-5	3161	3413
36	2	3479	249	Side Philtrum	4-5	3603	3354
113	2	2461	246	Side Philtrum	3-4	2338	2584
103	2	2488	244	Front Lips	3-4	2366	2610
101	2	2827	238	Side Philtrum	3-4	2946	2708
23	2	2957	231	Side Philtrum	3-4	2841	3072
47	2	3051	221	Side Philtrum	3-4	2940	3161
141	2	2888	216	Front Philtrum	3-4	2780	2996
90	2	3893	215	Side Philtrum	4-5	4000	3785
99	2	3047	214	Front Philtrum	3-4	2940	3154
5	2	2801	214	Side Philtrum	3-4	2694	2908
3	2	2156	212	Front Philtrum	3-4	2050	2262
82	2	2772	202	Front Lips	4-5	2674	2874

Leveraging Technology to Increase Quality of Life for FASD Across the Lifespan

Christie L. M. Petrenko, Ph.D. & Cristiano Tapparello, Ph.D.

Mt.
HOPE
family center



UNIVERSITY of
ROCHESTER

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Antique Lutke
ALC / Self-Advocate

Katrina Griffin
ALC / Self-Advocate

Maggie May
ALC / Self-Advocate

Emily Hargrove
ALC / Self-Advocate

Aims



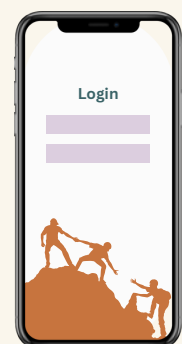
Aim 1: Mental Health Providers - Child

- Formative: design FMF Connect Pro and implementation packages (Year 1)
- 3-parallel arm RCT with 250 mental health providers (Years 2-5)



Aim 2: Adults with FASD

- 2 parallel arm RCT with 120 adults with FASD (Years 2-3)



Determined

Aim 3: Adolescents with FASD and their Caregivers

- Formative: design Determined app system (Years 3-4)
- Usability testing with 10 teens and caregivers (Year 5)

WHY: Building a Continuum of Care

FMF
Standard



1:1 Program with therapist
In home, clinic, or telehealth
7-9 months
Therapists - 40+ hours training

FMF Connect Pro
(provider-assisted)



This Project



FMF Connect



Families Moving Forward
CONNECT

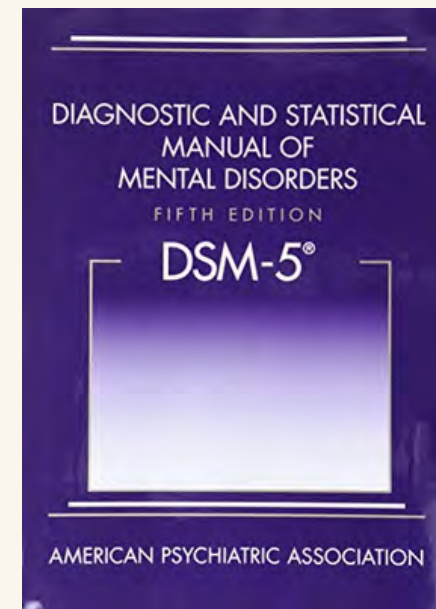
Self-directed app to be used
by caregivers

WHAT: 3 Accessible Steps



1

**Routine screening
of prenatal alcohol
exposure**



2

**Diagnose DSM-5
"Neurobehavioral
Disorder Associated with
Prenatal Alcohol
Exposure" (ND-PAE)**



3

**Support caregivers
using the FMF
Connect app**

HOW: Training Providers to do FASD-Informed Care



Introductory Webinar



1 Hour

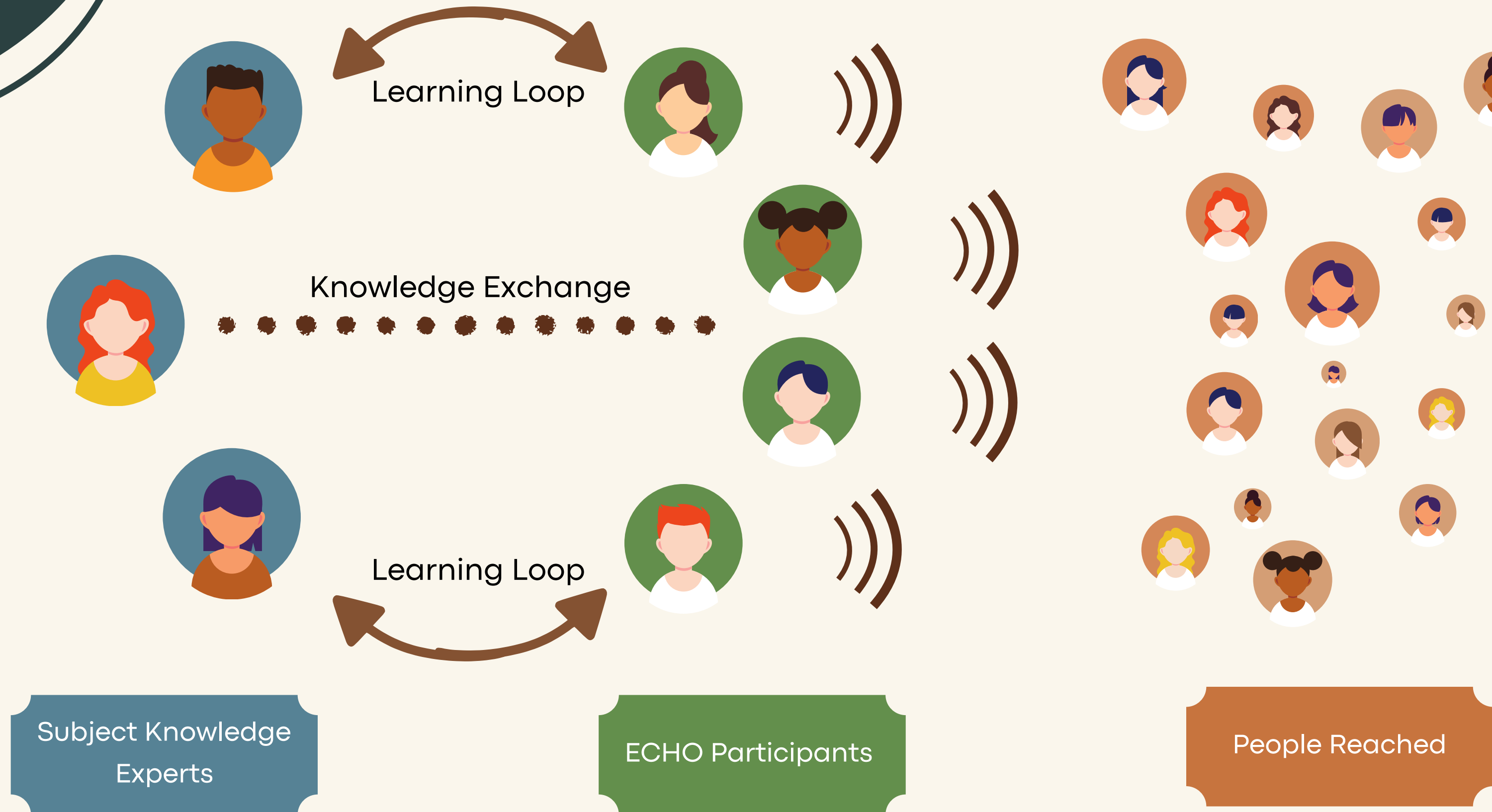
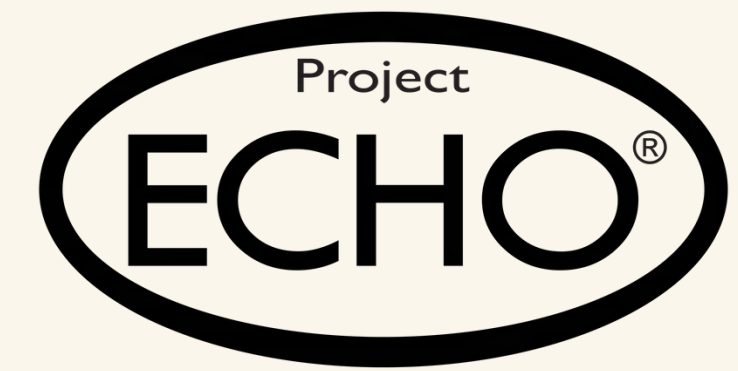
No-cost

Introduces FASD and
FASD-informed care

Explains study and
further training

1hr CEU credit



What is Project ECHO?






My Learning



4. Understanding Strengths and Differences

- ✓  Video #4: Understanding Strengths and Differences (12:04min)
- ✓  Activity #4: Creating the Child Profile Graph

5. Reframing

- ✓  Video #5: Reframing (13:51 min)
- ✓  Activity #5: Practice applying reframing
- ✓  Resources

6. Accommodations

 Course Curriculum

Both Training Methods Cover the Same Topics

1. Introduction to Training and FASD	8. Caregiver needs and supports
2. Screening for FASD and stigma	9. Trauma-responsive care
3. Applying DSM-5 criteria for ND-PAE	10. Brainstorming - Part 1
4. Understanding child strengths and differences	11. Brainstorming - Part 2
5. Reframing	12. Supporting success in school
6. Accommodations	13. Looking forward
7. Self-regulation and adapting child interventions	

Accomplishments

Intervention & Training Development

- ✓ Website interface and functionalities determined
- ✓ Introductory webinar slides developed and piloted
- ✓ Training content and slides developed - 13 sessions
- ✓ ECHO training completed by team members
- ✓ Self-paced video series filmed and produced
- ✓ Core supporting materials developed (supplemental in progress)

Development Informed by:

2 Rounds of Focus Groups

- Round 1: 4 focus groups, 9 real participants
- Round 2: 4 focus groups, 18 real participants



All focus groups transcribed; thematic coding in progress

Community Hub Team meetings

- 10 held



Families Moving Forward

CONNECT

PRO

Provider Dashboard

Demonstration

Accomplishments

Randomized Controlled Trial Preparation



IRB - Rochester site approved 10/20/2023

IN PROGRESS

SCRI and Emory - sIRB in progress



CEU accreditation approval - Introductory Webinar & ECHO

IN PROGRESS

CEU accreditation - in process for self-directed



Measurement battery revised and finalized

IN PROGRESS

Study database being built by University IT

Accomplishments

Randomized Controlled Trial Preparation



Clinical Trials registered 07/16/2023

IN PROGRESS

Working on data expected with DRC

IN PROGRESS

Recruitment spreadsheet with over 450 mental health providers in NY - gathering contact information

Aiming to launch recruitment January 2024

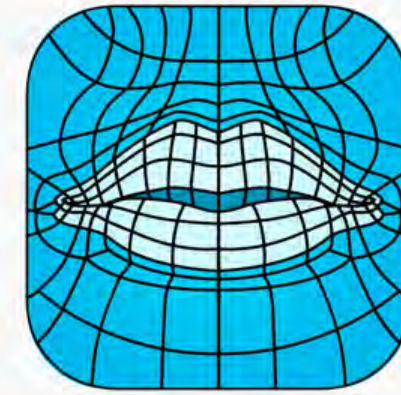
Interactions



- Other projects helped with recruitment for focus groups
- RCT recruitment support planned



- Obtained IRB approval to share cardiac data
- Working on Data Sharing Agreement with Olivia and Boston Children's



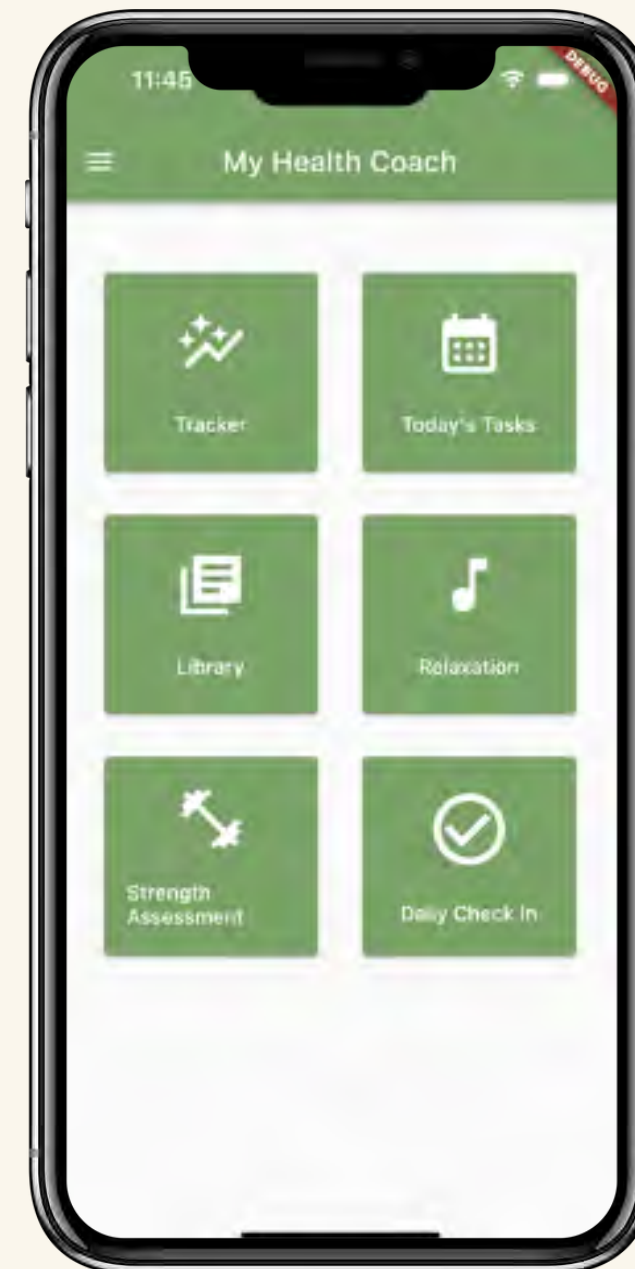
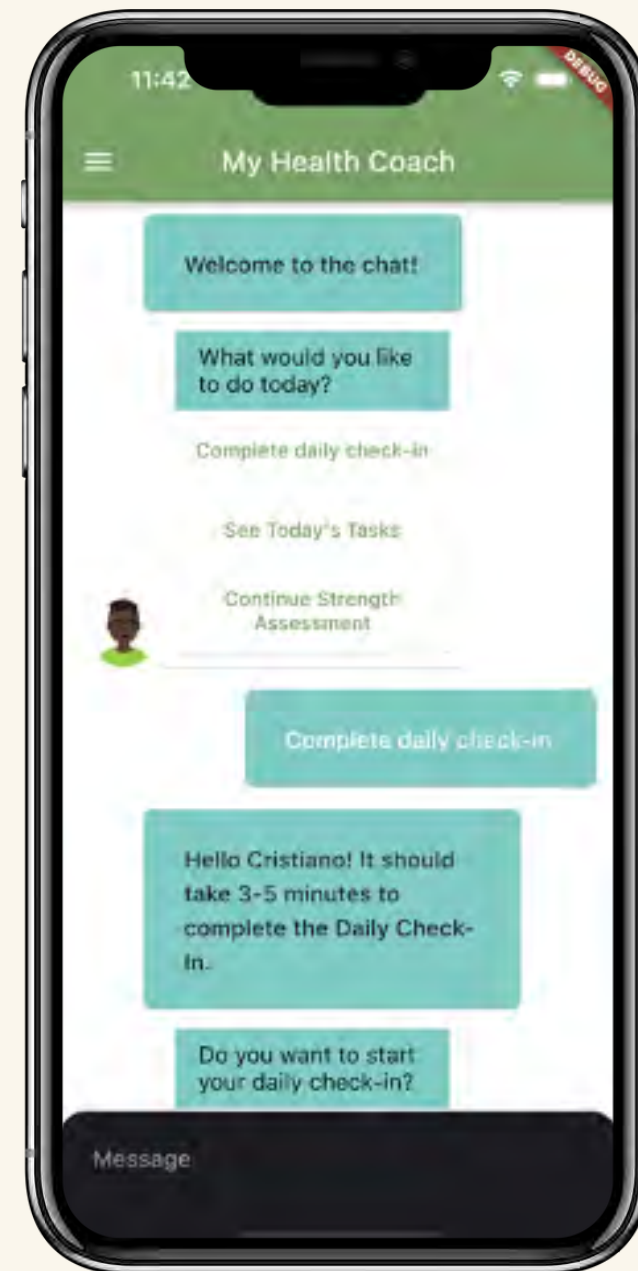
- Been implementing in clinic for several years
- Working with Miguel to get IRB approval to do larger protocol in our clinic



- Sent out recruitment information
- Highlighted in community presentations

My Health Coach

University of Rochester



Adult Leadership Collaborative
of FASD Changemakers

Feasibility Trial Objectives

Trial Feasibility

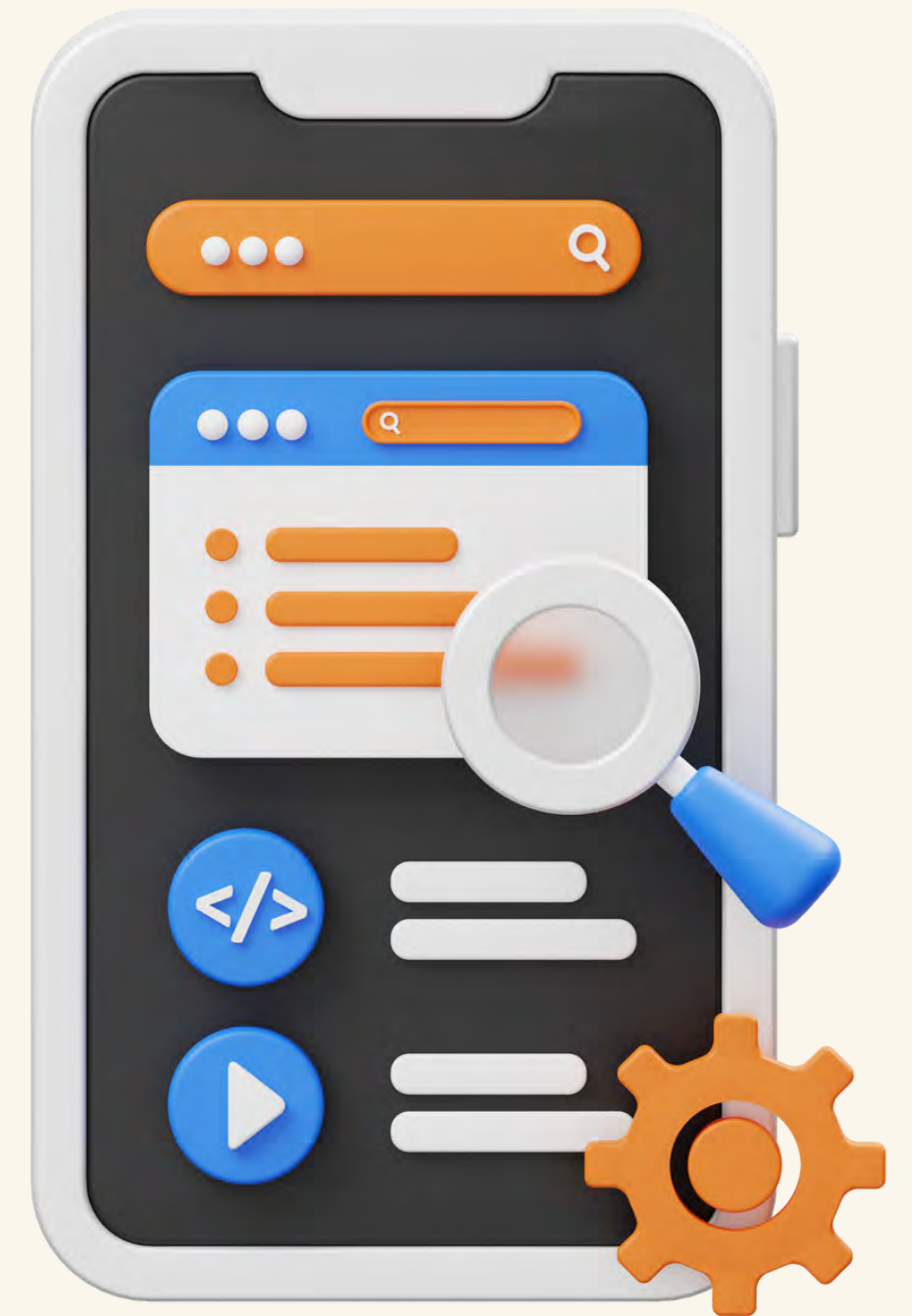
- Is recruitment sufficient to support a larger trial
- How much attrition occurs
- Are measure acceptable and sensitive to change

Intervention Feasibility

- Does the app work from technology perspective?
- Do users find it acceptable?

User Implementation

- What are usage patterns in the app?



Trial Feasibility - Recruitment

Recruitment

- Trial launched 3/20/2023
- Target n=40

- 75% of recruitment in first two weeks
- 100% of recruitment by week six



Eligibility

- 43 eligible

- 52 ineligible
 - 37 fraudulent
 - 2 ineligible
 - 1 withdrawal
 - 7 duplicates
 - 5 incomplete

Who Did We Reach?



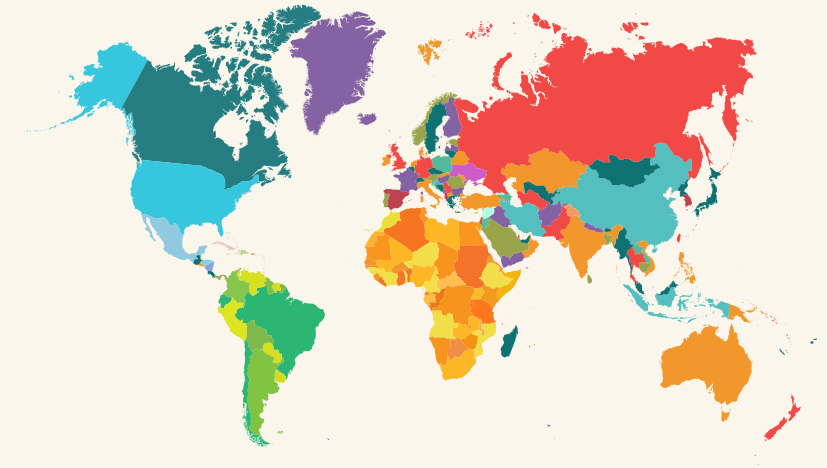
- Gender
 - 21% male
 - 67% female
 - 12% transgender, non-binary, other



- Mean age
 - 28 years; range: 18-59



- Operating system
 - 42% iOS
 - 58% Android



- Country
 - United States - 24
 - Canada - 7
 - Netherlands - 4
 - United Kingdom - 4
 - Ireland - 1
 - Italy - 1
 - South Africa - 1
 - New Zealand - 1

Trial Feasibility - Attrition

	Eligible	T1 Complete	Received App	Installed App	T2 Complete	Interview Complete
My Health Coach	43	39	39	33	28	19
% of total		91%		85%	72%	49%

Higher T1 rate than expected
App install rate similar to our other app studies

Attrition did not differ by demographics

Trial Feasibility Measurement



Survey completion better than expected

Participants able to complete online with minimal issues or questions

Good variability

Question 1/8

Please use this scale to answer the following questions

Not true  1 2 3 4 5  Very true

1) Do you feel happy with your life as a whole?

1 2 3 4 5

Trial Feasibility - Measurement

Correlations

Baseline	Quality of Life
Autonomy	0.57
Relatedness	0.67
Competence	0.69

Follow-up	Quality of Life
Autonomy	0.27
Relatedness	0.38
Competence	0.30

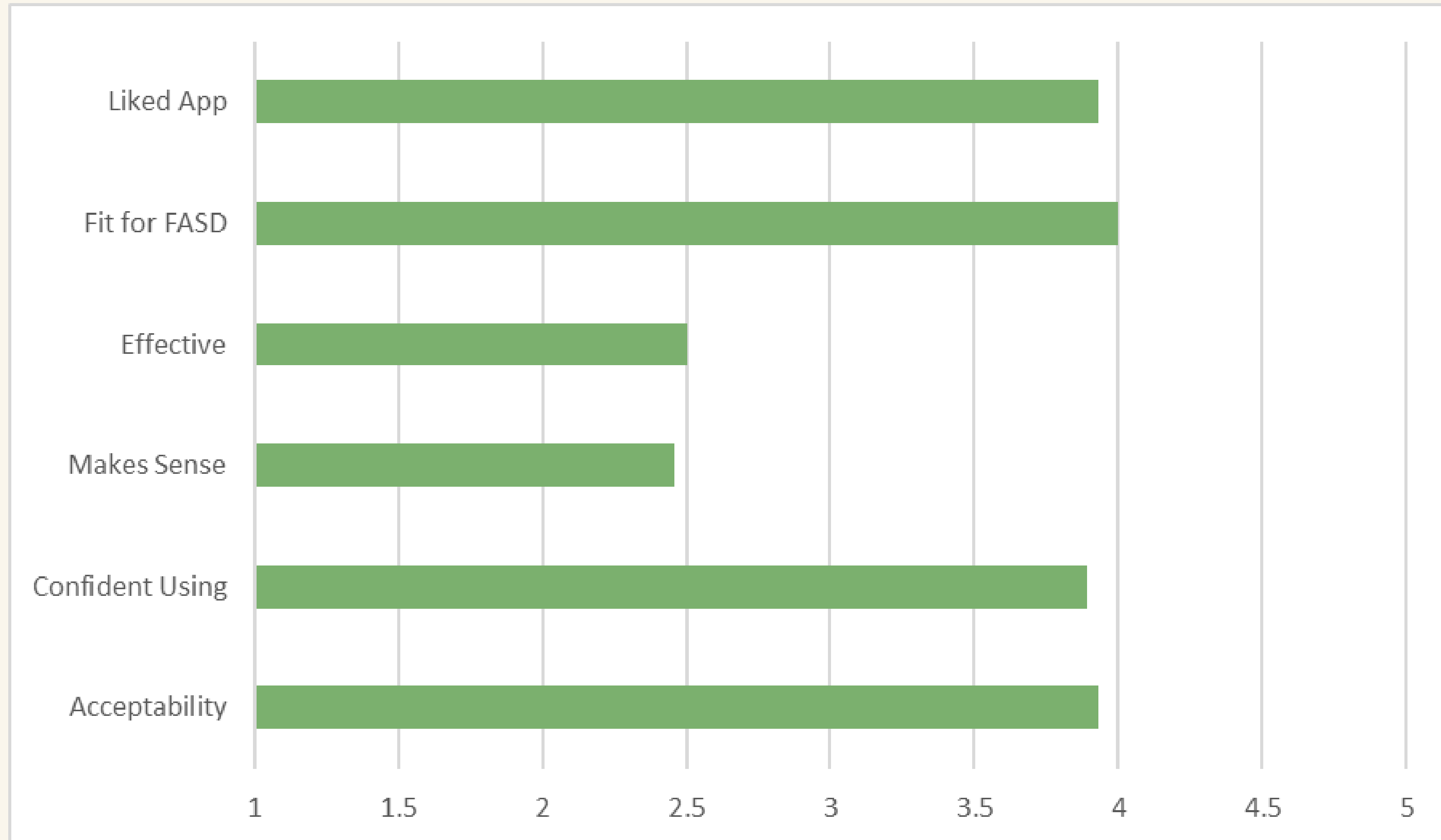
No significant change in means over time (*not designed to test efficacy)

Intervention Feasibility

- Most users able to install app without help or problems
- 2 major updates released that addressed minor bugs
- 34 submissions in Feedback section of app
 - Problems
 - Recommendations for future development
 - Positive feedback



Intervention Acceptability



User Implementation

Component	Mean	Range
App opened	37.39 times	1 - 202
Chatbot interactions	98.48 times	1 - 378
Daily Check-ins	10.00 times	0 - 38
Strengths assessment	32.52 items completed	0 - 37
PDFs opened in Library	7.97 times pdfs opened	0 - 40
Number of Trackers created	4.18 trackers	0 - 36
Trackers completed	70.85	0 - 590

Publication / Presentations

Publications

- Findings from focus group / survey study (Aim 1) submitted to *Digital Health* - under review
- CAB paper and feasibility trial manuscripts in progress



Presentations

- 3 co-presented with ALC; 13 additional presentations
- 2 accepted co-presented presentations for Seattle Conference in April



Questions

Data Coordination Resource (DCR)

Leah Wetherill, Ph.D.

Abigail Erickson, BS, CCRP



SCHOOL OF MEDICINE

Help Projects Prepare for Data Upload

- IRBs – data sharing language approved for everyone
- GUID training and access
 - Training video and documents available in Teams
 - 6/7 projects have GUID tool from NIH
- All 10 projects provided data dictionaries
 - 1 project data dictionary to be modified (on hold)
 - Sample data received from 9 projects
 - Converted 7/10 data dictionaries to DCR/NDA format
- Those 7 projects can upload data to portal +2 almost...

APPLAUSE!



Real-time Data Validation

- Automated data validation completed for 7/10 projects
- Automated reformat of data for NDA upload
 - Merge data from non-consenting projects with “parent” project assigning GUID
 - Merge data from projects collecting data for same structure
 - Assign consortium-wide “phenotype” of PAE (yes/no)



Automated Monthly Reminder to Upload Data

- Sent to all appropriate personnel
 - Provides links to portal, Teams folders, emails
 - Provides date portal will close

	From	Subject	Cate...	M...	Received
leahweth@iu.edu	Medical and Molecul...	MMGE DEI Newsletter			Fri 12/1/2023 10:21 AM
> Drafts [257]	CIFASDportal@india...	Monthly Data Upload Reminder			Fri 12/1/2023 7:00 AM
Sent Items 4	Sarah Mattson Weller	Re: [External] Re: E TREE Official Name			Thu 11/30/2023 9:33 PM

Hello,

This is your monthly reminder to submit your cumulative CIFASD5 data file(s) to the DCR Data Upload Center (DUC): <https://cifasd.medgen.iupui.edu/>. The portal will close on the 15th at 11:00 PM EST. Please note that the data you upload should be a cumulative file, containing all data collected to date. Please do not submit data for participants who have not consented to share their data with CIFASD, or who have rescinded their consent. If for some reason you are unable to submit data this month, please log into the DUC and choose an exemption.

Starting on the 16th, your ability to upload data or submit an exemption will be locked, and you will be marked as noncompliant in the administrative overview report.

Answers to FAQs, as well as instructions detailing how to submit data and manage your account can be found here: [Teams Data Portal SOPs](#).

If you have any questions, please reach out to Leah Wetherill (leaweth@iu.edu) and/or Abby Erickson (agericks@iu.edu).

Thank you,
The DCR Team



CIFASD Data Portal

- 5/10 projects ready to upload monthly (+1 chart review – closed)
- Monthly status reset on 1st of each month
- Denominator = number of data structures project will upload
- Projects can choose an exemption if necessary

- <https://cifasd.medgen.iupui.edu/adminoverview>



CIFASD Data Portal

CIFASD Data Upload Center

Project Name	Project PI	Current Monthly Status
Whole Body Effects of PAE Across the Life Span: Early Markers of and Clinical Interventions for Children and Adolescents in Ukraine	Chambers	2/2 Successful Uploads ✓
A Multisite Study of PAE: Effects of Inflammation and Endocrine Dysfunction in Adulthood_Coles	Coles	Project Pending
Diagnostic-Telemedicine Resource	del Campo	1/3 Successful Uploads 📄
Designing a Hybrid Intervention Strategy to Reduce Alcohol Exposed Pregnancies	DiClemente	Project Pending
Lifelong Impact of PAE on Stem Cell Dynamics and Cellular Aging	Mahnke	Exemption Submitted
Assessment of FASD Using Novel Web-Based Tools	Mattson	0/4 Successful Uploads 📄
Development of Biomarkers in Deciduous Teeth of Children with FASD that Predict Neurobehavioral Performance	Montag	Project Pending
Leveraging Technology to Increase Quality of Life for FASD Across the Lifespan	Petrenko/Tapparello_U01	Project Pending
Mobile Health Tools to Promote Health in Adults With FASD	Petrenko/Tapparello_UH2	Project Pending
Defining Translational Approaches for the Image-based Detection of PAE	Suttie	1/1 Successful Uploads ✓
Cardiovascular Disease in FASD	Weeks	Project Closed
A Multisite Study of PAE: Effects of Inflammation and Endocrine Dysfunction in Adulthood_Weinberg	Weinberg	Exemption Submitted
Transcranial direct current stimulation (tDCS) and Cognitive Training in FASD	Wozniak	1/1 Successful Uploads ✓

CIFASD Data Portal

CIFASD Data Upload Center

	Chambers	Coles	del Campo	DiClemente	Mahnke	Mattson	Suttie	Weeks	Weinberg	Wozniak
2023-12-01	2/2	Pending	1/3	Pending	Exemption	0/4	1/1	0/1	Exemption	1/1
2023-11-01	Exemption	Pending	Exemption	Pending	0/1	Exemption	1/1	1/1	0/1	1/1
2023-10-01	0/2	Pending	0/3	Pending	0/1	0/4	1/1	0/1	0/1	1/1
2023-09-01	0/2	Pending	0/3	Pending	0/1	0/4	1/1	1/1	0/1	0/1
2023-08-01	0/2	Pending	0/3	Pending	0/1	0/4	0/1	0/1	0/1	0/1

Next: will work with Dr. Montag

- Upload data to portal
- Can include her data into Leaf ®



Data Upload to NIAAA Data Archive (NDA)

- https://nda.nih.gov/edit_collection.html?id=4512
- Uploaded data for two cycles



Dataset Name \diamond	ID \diamond	Status \diamond	Date \diamond	Submission Loading Status \downarrow	Date of QA \diamond	QA Status \diamond	QA Errors \diamond
Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD) Data Coordination Resource	57091	Private	03/31/2023	Upload Completed	05/08/2023	QA Passed	None
Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD) Data Coordination Resource	60721	Private	09/27/2023	Upload Completed	11/03/2023	QA Passed	None

Data Structures	#
Approved by NDA	24
Requested (to be approved or changed)	20
Total data structures	44



On Hold: Expand Functionality of Database

- Aims:
 - Implement Leaf[®] and user-friendly interface to query data base (cohorts)
 - Create dashboard for Administrative Resource to track consortium progress
- Four projects have provided data (largest N = 14)
 - Need more data to define and test Leaf concepts
 - Concepts become building blocks to create cohorts in Leaf[®]



Data Access Committee

Leah Wetherill – chair

Tina Chambers

Sarah Mattson

Elizabeth Powell

Jennifer Thomas



SCHOOL OF MEDICINE

Updated Data Use Agreement

- Previously data access granted for one year from data of approval
 - Renewal with one-year report
- Access to data expires/renews February 15
 - Can be renewed through one-year report
- Removed out-of-date text

- Added suggested language to respect mothers and individuals affected by PAE



Updated Data Use Agreement

- Added required language for publications, posters, etc
 - **Acknowledgement:** *Data used in the preparation of this article were obtained from CIFASD consortium (<https://cifasd.org/data-sharing/>; DOI/), supported by the National Institute of Alcohol Abuse and Alcoholism (NIAAA). This manuscript reflects the views of the authors and may not reflect the opinions or views of NIAAA or CIFASD consortium investigators.*
 - **Metadata DOI:** *This is a multisite study supported by the National Institute of Alcohol Abuse and Alcoholism **under award numbers**.... CIFASD investigators designed and implemented the study and/or provided data but did not necessarily participate in the analysis or writing of this report. A list of CIFASD investigators can be found at <https://cifasd.org/research-projects/phase2/>, (phase 3 and 4). For up-to-date information on the study, visit <https://cifasd.org>.*



In Progress: Updates to Data Sharing Page

- Downloadable PDF of data request form
- Include links to CIFASD Projects for phases 1-4
 - For example: <https://cifasd.org/research-projects/phase3/>
 - Link includes a description of each project, PI name, etc.
- Finalize CIFASD 4 data (in progress)
 - All CIFASD 4 projects provided description of PAE & diagnosis
 - Most projects have final data files their Teams folders
- Downloadable excel file with detailed information for cross-project CIFASD 4 data

<https://cifasd.org/data-sharing/>

CIFASD 4 Data (Example)

PI	Description	Type	Genetic data	Cytokine data	3D	Dysmo	# unique IDs	Mult visits
Blanchard, Mooney	Effects of PAE on gut microbiome	Mice						
Chambers	Early predictors of FASD	Human	✓	✓	✓	✓	74-165	✓
Coles	Effect of PAE on health of adults	Human	✓	✓	✓	✓	382	✓
Jones	Dysmorphology	Human				✓	476	
Mattson	FASD-Tree	Human					129	
Petrenko, Tapparello	Feasibility, FMF Connect	Human	✓		✓		105, 129	✓
Weinberg	Effect of PAE on immune in adults	Human	✓	✓	✓	✓	71	
Wozniak	Neuroimaging	Human	✓		✓	✓	96	✓



In Progress: Updates to Data Sharing Page

	Phase 1	Phase 2	Phase 3	Phase 4
Dysmorphology	X	X	X	X
Neurobehavior		X	X	X
FASD-Tree				X
MRI		X	X	X
3D Imaging	X	X	X	X
Adult				X
Infant		X	X	X
Genetics		X	X	X
Cytokine			X	X
Mouse			X	X
Zebrafish			X	X

Will finalize updates before RSA – PLEASE include the link in your talks, posters, student posters, etc!!!

<https://cifasd.org/data-sharing/>



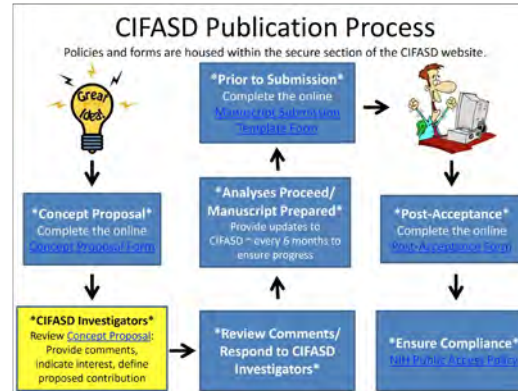
CIFASD 4 Data Availability

- Final data files due November 1, 2024
- Embargo on CIFASD 4 data ends December 2, 2024
- Embargo on cytokine data ends December 2, 2024
- CIFASD 4 available data will include all clinical, basic science, and UH2 data (or results, as appropriate)
- CIFASD 4 data will be separate from CIFASD 5 data



CIFASD Publications Policy Committee

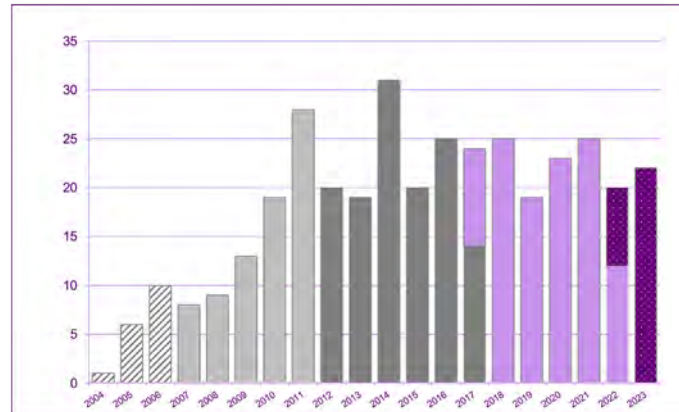
- ★ Sarah Mattson, PI (Chair)
- ★ Joanne Weinberg, PI
- ★ John Hannigan, SAB
- ★ Elizabeth Powell, NIAAA
- ★ Jennifer Thomas (ex officio, AdminR representative)



1

Publications by Year per PubMed

★ Total Publications Citing CIFASD Grants = **367**



2

Steps / Links

- Take action to ensure all of your CIFASD publications are in the proper stage of the **CIFASD Publication Policy protocol**:

You have an idea for a paper, complete the [Concept Proposal Form](#).

You want to view/comment on concept proposals, go to the [Concept Proposals](#) (Viewing) document.

Google login is required to view and comment on concept proposals.

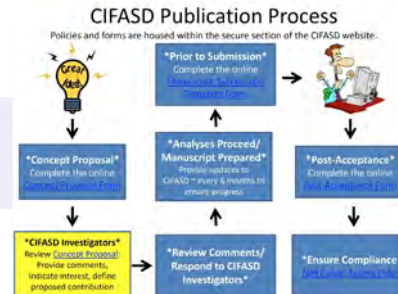
You are submitting a paper, complete the [Manuscript Submission Template Form](#).

Your paper has been accepted, complete the [Post-Acceptance Form](#).




vanderv@sdsu.edu [Switch account](#) 

A copy of your responses will be emailed to the address you provided.

Submit



3

Drive  CIFASD Publication Concept Proposal  

CIFASD Publication Concept Proposal

CIFASD encourages open communication within the consortium and seeks to foster innovative, interdisciplinary and translational research. To ensure that all investigators within the consortium are aware of ongoing analyses and to foster collaboration, CIFASD investigators will prepare a concept proposal as a means to describe for the group new hypotheses or new directions of analyses. The goal of the concept proposal is to encourage other CIFASD investigators to participate meaningfully to improve the quality and scope of research undertaken within the consortium. CIFASD encourages junior investigators to take the lead on analyses and subsequent publications.

Drag the right lower corner of the field box to increase the visible text area.

Email *

Valid email

This form is collecting emails: [Change settings](#)

- ★ Used to help promote collaborative CIFASD research manuscripts
- ★ The submitter completes the form fields and enters updates as the concept moves into manuscript preparation modes and beyond
- ★ Total # Completed = 126 (CIFASD5 = 15)

4

Title of this concept proposal. *

Short answer text

CIFASD Publication Concept Proposal

Brief summary of this concept proposal's hypothesis/concept. *

Recommended 2-3 sentences.

Long answer text

Scope of analysis/data. *

Recommended < 1 paragraph.

Long answer text

Timeline for completion. *

Long answer text

Prior to submitting the outcome of this concept proposal in manuscript form to a journal, a CIFASD investigator must complete the online Manuscript Submission Form in order to receive CIFASD approval.

Please enter your initials here to indicate you are aware of this requirement.

5

Concept Proposals (Viewing)

File Edit View Insert Format Tools Extensions Help

★ Anyone with access to the Concept Proposal Viewing document can comment (visible to all with access)

***Name and email of the CIFASD investigator completing this form:**
Susan Smith Susan_Smith@unc.edu

***Title of this concept proposal:** CONCEPT PROPOSAL #110

***Brief summary of this concept proposal's hypothesis/concept:**
First paper from IJH2AA029056. We have identified polymorphisms in SLC44A1 that are significantly associated with reduced cognitive outcomes in the CIFASD2/3 cohort of those with FASD. Importantly, these individuals have not received supplemental choline, and the effect alleles are associated with increased choline need. These data indicate that choline status is an important modifier of neurobehavior in individuals diagnosed with FASD.

***Scope of analysis/data:**
We performed association analysis between 114 SNPs within SLC44A1 and 609 neurobehavioral endpoints in a population of those with FASD and nonsttypic controls, whose data were collected during CIFASD2 and CIFASD3. First, we identified variants within SLC44A1 that are uniquely overrepresented in those with FASD vs. controls. Second, in those with FASD, we identify multiple effect alleles that are significantly associated with reduced cognitive and behavioral outcomes, as shown in regression analysis. These variants are the same that emerged in children with FASD who also received supplemental choline. Results emphasize the importance of choline status in those with FASD.

***Timeline for completion:**
Data analysis should be complete by early September, and manuscript circulated to co-authors in early October, for submission by late October

Concept Proposal Submitted 7/25/2022 5:43:34

***Comments:**
Hi Susan - I would like to be involved in this project.
Hi Susan, I'm curious of the update on this. I am also interested, given our current research in. Perhaps we can trial.

Update:

Concept Proposals received since November 2023:

- [Normative MRI data increase the sensitivity to brain volume abnormalities in the classification of FASD](#), submitted by Jeff Wozniak in December 2023 [126]
- [Development of the Families Having Concerns Connect Program: Training program for mental health providers](#), submitted by Christie Petrenko in November 2023 [125]
- [Feasibility trial of the My Health Coach mobile health intervention for adults with FASD](#), submitted by Christie Petrenko in November 2023 [124]
- [Predicting fetal alcohol spectrum disorders in preschool aged children from early life factors](#), submitted by Tina Chambers in November 2023 [123]
- [Brainsterling and neurodevelopment in infants with prenatal alcohol exposure](#), submitted by Tina Chambers in November 2023 [122]
- [Alcohol-Related Dysmorphology in Mollie](#), submitted by Claire Coles in November 2023 [121]

Concept Proposals previously reported [Concept Proposal #]:

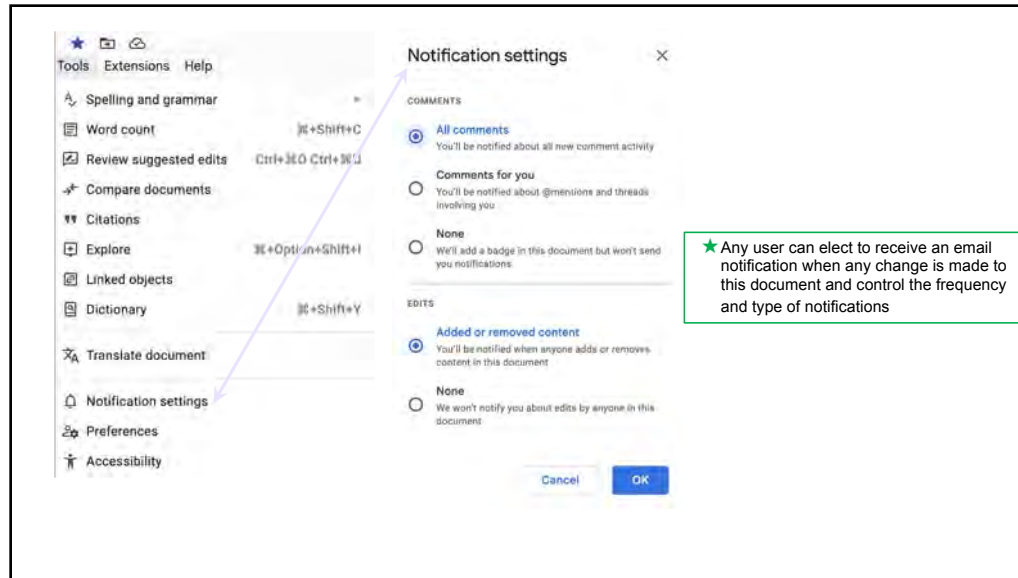
Leah Wetherill
Oct 26, 2022

Add: "Hi Susan - I would like to be involved in this project."

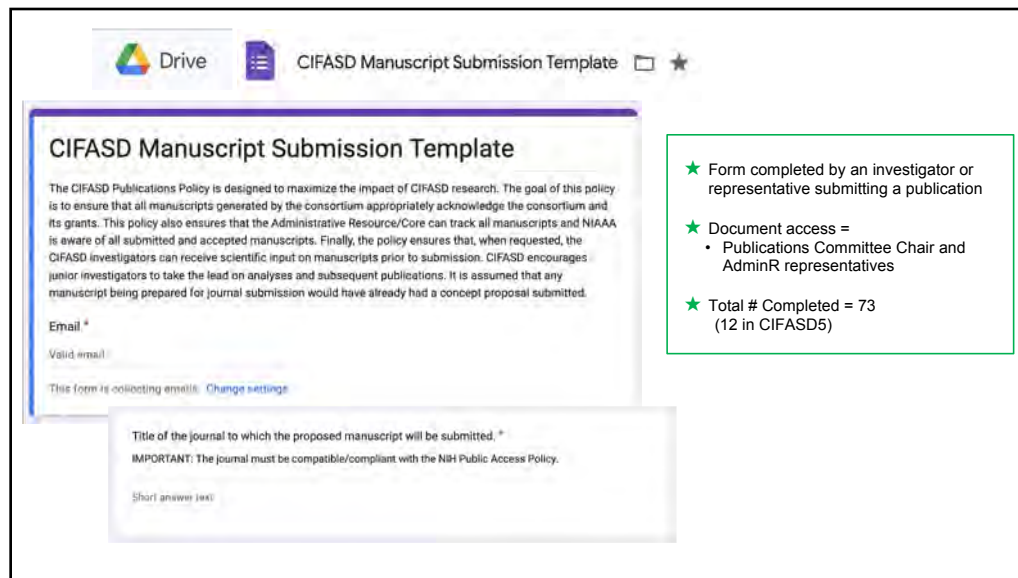
Jennifer Thomas
Dec 4, 2022

Add: "Hi Susan, I'm curious of the update on this. I am also interested, given our current research line."

6



7



8

CIFASD Manuscript Submission Template

[At minimum, enter the publication's title.] To link this publication policy template to the appropriate Concept Proposal, please give a brief description or title of the hypothesis/concept of the proposal and the name of the submitter.

IMPORTANT: A concept proposal must be submitted prior to submitting this manuscript submission template form.

Original text

Would you like this manuscript to undergo (optional) scientific review by the CIFASD? *
Reviews are completed by CIFASD investigators within two weeks of receipt of the manuscript.

Yes
 No

Will the manuscript be listing CIFASD as an author? *
A group author (the CIFASD) can be advantageous as a means to promote the consortium. This authorship is certainly appropriate for multisite authorships and may be appropriate more broadly. Authors are encouraged to consider if this is appropriate when preparing a manuscript submission.

Yes
 No

Please confirm BOTH of the following confirming that the CIFASD acknowledgement statement has been included in the manuscript AND that the appropriate CIFASD grant(s) are listed as sources of support.

All or part of this work was done in conjunction with the Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD), which is funded by grants from the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Additional information about CIFASD can be found at www.cifasd.org.

Yes, I confirm the CIFASD acknowledgement statement has been included in the manuscript.
 Yes, I confirm that a list of specific CIFASD grant numbers, PIs and sites will follow this statement. For ex...

9


CIFASD Manuscript Submission Template

Check the boxes for the CIFASD grants being acknowledged as a source of support for this manuscript.
A list of past CIFASD project grant numbers can be found in the publication policy statement document.

Administrative Resource/Core (PI: Riley) U24AA014811 [Developmental Projects > June 2017]
 Dysmorphology Core (PI: Jones) / Diagnostic Telemedicine Resource (PI: Jul Campo) U24AA014815
 Data Coordination Core (PI: Wetherill) U24AA030169
 Informatics Core >June 2017 (PI: Barnett) U24AA014818 >June 2017 (PI: Foroud) U01AA026103
 Ukraine (PI: Chambers) U01AA014835
 Adults (PI: Coles) / Inflammation and Endocrine (PIs: Coles and Weinberg) U01AA026108
 Imaging (3D Ultrasound 2D) <June 2017 (PIs: Foroud and Hammond) 2D & 3D >June 2017 (Former PI: Hammond /Current PI: Suttie) U01AA014809
 Cardiovascular Disease (PIs: Burns and Burns) U01AA030185
 Genetics (PI: Foroud) U01AA026103
 Hybrid Intervention (PI: DiClemente) U01AA030197
 Neurobehavior (PI: Mattison) U01AA014834
 Lifespan Apps / Intervention (PIs: Petrenko and Tapparello) U01AA026104
 Neuroimaging >June 2017 (PI: Wozniak) U01AA026102
 tDCS (PI: Wozniak) U01AA030164

Grant Number	Current CIFASD Projects - Grant Title	Contact PI(s)
U24AA014811	Administrative Resource (CIFASD)/Core (CIFASD-4) of the CIFASD	Riley, Edward
U24AA014815	FASD Diagnostic Telemedicine Resource (CIFASD) Dysmorphology Research Resource (Dysmorphology Core) (CIFASD-4)	del Campo, Miguel Jones, Kenneth Lyzoni
U24AA030169	CIFASD Data Coordination Resource (CIFASD)	Wetherill, Leah Burns, Caroline Burns, Geoff
U01AA030185	Cardiovascular Disease in Fetal Alcohol Spectrum Disorder (CIFASD)	
U01AA034835	Whole body Effects of PAE across the Life Span: Early Markers of & Clinical Interventions for Children and Adolescents in Ukraine (CIFASD)	Chambou, Christina
U01AA026108	Early Predictors of FASD in Ukraine (CIFASD-4) A Multisite Study of Prenatal Alcohol Exposure: Effects of Inflammation and Endocrine Dysfunction in Adulthood (CIFASD) FASD in Adults: Health and Neurobehavior (CIFASD-4)	Coles, Claire and Weinberg, Joanne Coles, Claire
U01AA030167	Designing a Hybrid Intervention Strategy to Reduce Alcohol Exposed Pregnancies (CIFASD)	DiClemente, Ralph
U01AA014834	Assessment of Fetal Alcohol Spectrum Disorders (FASD) Using Novel Web-Based Tools (CIFASD) A Multisite Neurobehavioral Assessment of FASD (CIFASD-4)	Mattison, Sarah
U01AA026104	Leveraging Technology to Increase Quality of Life for FASD across the Lifespan (CIFASD) Development and Evaluation of an Evidence-Based Mobile Health Caregiver Intervention for FASD (CIFASD-4)	Petrenko, Christie & Tapparello, Cristiano
U01AA014809	Defining transnational approaches for the image-based detection of prenatal alcohol exposure (CIFASD) Immu Analysis of Neurofacial Effects of Prenatal Alcohol Exposure (CIFASD-4) 3D Facial Imaging in FASD (CIFASD phase III)	Suttie, Mike Noble, Alison & Suttie, Mike Foroud, Tatiana & Hammond, Peter
U01AA030164	tDCS and Cognitive Training as a Neurodevelopmental Intervention in FASD (CIFASD)	Wozniak, Jeff
UH2AA030186	Lifespan Impact of PAE on Stem Cell Dynamics and Cellular Aging (CIFASD)	Mattrog, Amanda
UH2AA029062	Development of Biomarkers in Alcoholics Birth of children with FASD that predict neurobehavioral performance (CIFASD-5)	Mattrog, Amanda & Austin, Christine
UH2AA029050	Mobile Health tools to promote health in adults with FASD (CIFASD-5)	Petrenko, Christie & Tapparello, Cristiano
UH2AA029056	Choline polymorphisms in FASD (CIFASD-5)	Smith, Susan

10

 CIFASD Manuscript Submission Template □ ★

Does the journal's publication agreement allow for the proposed publication to be posted to PubMed Central in accordance with the NIH Public Access Policy?
Journals that are not NIH Public Access policy compliant should not be considered for CIFASD publications. <http://publicaccess.nih.gov/add/esp-copyright.htm>

Yes, I confirm that the publication agreement includes procedures for complying with the NIH Public Access Policy.

Which method of submission to PubMed Central applies (depends on the publisher or journal)?
Use the pull-down menu to select the journal's method of submission. Submission into the NIHMS system is required after the manuscript's acceptance. https://publicaccess.nih.gov/su/submit_process.htm

1. Method A - Journal posts the final publication to PMC automatically.
2. Method B - Author makes special arrangements with publisher, usually for a cost.
3. Method C - Author submits final peer-reviewed manuscript to the NIHMS system.
4. Method D - Publisher will submit the peer-reviewed manuscript to the NIHMS system.

Please list the name and email of the individual who will ensure that this proposed publication will be made compliant upon acceptance with the NIH Public Access Policy and that the appropriate follow-up steps, prompted by NIHMS-generated emails, are completed within the NIHMS system (as needed). <https://publicaccess.nih.gov/include-umcid-citations.htm>

A PMCID number is required for all publications within three months of their publication date. <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-136.html>

Short answer text

Upon acceptance, the Administrative Resource/Core and NIAAA should be emailed to investigate press release options and update the CIFASD publication list.
Please enter your initials to indicate you will email the Admin/RC and NIAAA (Drs. Dunry & Powell).

Short answer text


In conjunction with completing this online form, please also email Jill Vander@edus.edu a copy of the manuscript. She will review the author line and acknowledgement statement only to check for CIFASD authorship, the CIFASD acknowledgement, and to verify grant numbers only.

A copy of the manuscript will be emailed to Jill today.

Enter the number of the concept proposal this manuscript corresponds to here.

The numbers are listed on the Concept Proposal viewing document within Google Drive. If you cannot access, please contact Jill. <https://docs.google.com/document/d/17u0e7jvva3d8r60kpl77283n02b-c8M4u5u5at7pqrhswng>

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 **Post-Acceptance CIFASD Publication Information for FASD United (NOFAS) and NIAAA** ★

File Edit View Insert Format Tools Extensions Help

★ Form completed by an author or representative once the paper is accepted

★ Used to help promote CIFASD research findings in the press, websites, and social media platforms

★ Document access =

- Ed (Consortium Coordinator) & Jill;
- Jennifer (CIFASD.org news feed);
- Sarah (Publications Committee Chair);
- Bill & Elizabeth (NIAAA advisors); and
- Tom (FASD United)

★ Total # Completed = 94 (14 in CIFASD5)

Google Form Submitted: 8/23/2023 9:58:53

Name of the CIFASD investigator who completed the Google Form: Claire Coles

Title of the accepted publication: Prenatal Alcohol Exposure and Cognition at Midlife: Evidence of Fluid Cognition Deficits in Two Cohorts

Name of the journal in which this paper will appear: *Alcohol: Clinical and Experimental Research*

Date of acceptance: 8/21/2023 **PMCID:** PMC10605955

Brief LAY summary of results.

What was done? Two hundred midlife adults in Seattle and Atlanta were tested with the NIH Tool Box to get a measure of their "Fluid" or Nonverbal ability. Participants exposed to alcohol prenatally/ diagnosed with fetal alcohol spectrum disorders and a nonexposed contrast group from the same populations were asked to complete the test. The goal was to identify cognitive differences as individuals aged.

What was found? Alcohol exposed individuals, in comparison to controls, showed lower fluid reasoning over all and more problems with measures of executive functioning and cognitive flexibility. Those who had physical features associated with prenatal alcohol exposure showed stronger effects.

What does it mean? Research has shown that children with prenatal alcohol exposure have specific developmental problems and difficulties with learning; there are few previous studies of midlife adults. This study demonstrates that these effects are persistent over the lifespan.

Why is it important? Currently, there is limited understanding of the needs of those with FASD over the lifespan. It is important to understand strengths and limitations in this group in order to provide appropriate clinical care and support their quality of life.

How could these results impact the identification and/or treatment of FASD? A better understanding of the implications of prenatal alcohol exposure over the lifespan should allow more effective identification and treatment of affected individuals.

Provide a brief HEADLINE that may be used to highlight/summarize this paper in a press release, FASD United twitter feed, etc. A better understanding of the lifelong consequences of prenatal alcohol exposure will improve clinical care for affected individuals.

Link to this publication: <https://pubmed.ncbi.nlm.nih.gov/3765453/>

Which CIFASD Publications Policy form(s) were previously completed in relation to this publication (e.g., concept proposal = CP)? CP#105

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CIFASD Publication Acknowledgement

- ★ Each publication should include the following statement:
 - ★ All or part of this work was done in conjunction with the Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD), which is funded by grants from the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Additional information about CIFASD, including information about data sharing, can be found at www.cifasd.org.
 - ★ New exact wording will be emailed out in the revised Publication Policy PDF.

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CIFASD as an Author

Per the CIFASD Publications Policy:

★**CIFASD Author**: A group author, the CIFASD, can be advantageous as a means to promote the consortium. This authorship is certainly appropriate for multisite authorships and may be appropriate more broadly. Authors are encouraged to consider if this is appropriate when preparing a manuscript submission.

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Recent Qs & Discussion

- ★ If a CIFASD PI or team member is working on a publication that is not reporting on CIFASD data, should they acknowledge the CIFASD grant they receive effort from as a source of support?
- ★ If a trainee was working on a U01 with CIFASD data and then later publishes on it while supported by an F31, it is appropriate to cite both grants, correct?

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CIFASD Publications Policy Committee

Objective and General Guidelines

The CIFASD Publications Policy is designed to maximize the impact of CIFASD research. The goal of this policy is to ensure that all manuscripts generated by the consortium appropriately acknowledge the consortium and its grants. This policy also ensures that the Administrative Core can track all manuscripts and NIAAA is aware of all submitted and accepted manuscripts. Finally, the policy ensures that, when requested, the CIFASD investigators can receive scientific input on manuscripts prior to submission.

CIFASD encourages junior investigators to take the lead on analyses and subsequent publications.

It is assumed that any manuscript being prepared for journal submission would have already had a concept proposal submitted and posted in the password protected area of the CIFASD website. It is also assumed that CIFASD investigators would have reviewed the concept proposal and contacted the individual who submitted the concept proposal to indicate their interest in participating in the analyses (and indicating how they would contribute). Lastly, it is assumed that individuals indicating their interest to participate in analyses will be contacted by the individual who commented on the concept proposal to discuss potential collaborative analyses.

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CIFASD Publications Policy Committee

Publication Policy

- 1) **Manuscript Submission Template:** CIFASD investigators will complete the online manuscript submission template for review by Administrative Core personnel prior to the submission of any manuscript. Submissions will be reviewed within 1 week of receipt and the submitter will be notified via email. The following information will be collected within the template along with a copy of the manuscript:
 - Title of the specific journal to which the manuscript will be submitted.
 - Confirmation that the appropriate acknowledgement is included in the manuscript.
 - Confirmation that the appropriate grants are listed in the manuscript.
 - Confirmation that the journal's publication agreement allows for the paper to be posted to PubMed Central in accordance with the NIH Public Access Policy. Identification of which submission method will be used and the individual who will ensure compliance.
- 2) **Scientific Review:** As requested, the publication policy will allow the CIFASD Administrative Core to coordinate a scientific review of the manuscript. This will be provided within 2 weeks of the receipt of the manuscript.
- 3) **CIFASD Author:** A group author, the CIFASD, can be advantageous as a means to promote the consortium. This authorship is certainly appropriate for multisite authorships and may be appropriate more broadly. Authors are encouraged to consider if this is appropriate when preparing a manuscript submission.
- 4) **CIFASD Acknowledgement Text:** Each publication should include the following statement.

All or part of this work was done in conjunction with the Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD), which is funded by grants from the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Additional information about CIFASD can be found at www.cifasd.org. [A list of specific CIFASD grant numbers, PIs and sites should follow this statement.]

The following page includes reference tables displaying all CIFASD grant numbers, titles and contact PIs.

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