The Bay Area Autism Consortium Presents

The 2025 Annual Research Symposium

Stanford Research Park
1070 Arastradero Rd, Palo Alto
February 28th, 2025

Acknowledgments

Symposium Organizing Committee Members

- Lawrence Fung, M.D., Ph.D.
- Somer Bishop, Ph.D.
- James McCauley, Ph.D.
- John Hegarty, Ph.D.
- Jennifer Ames, Ph.D.
- Luke Grosvenor, Ph.D.
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Event Information

Location

Stanford University School of Medicine
1070 Arastradero Rd
Palo Alto, CA 94304
(map and directions)

Public transportation

1070 Arastradero is off main-campus and visitors can take the Stanford Marguerite shuttle (**RP Line**) to 1070 Arastradero. The AC Transit **DB1 Line** also operates between Union City Bart and Stanford Research Park.

Stanford Marguerite free shuttle (Research Park)

The Stanford Marguerite line goes directly to 1070 Arastradero and operates between main campus and Stanford Research Park. It operates on weekdays (Monday–Friday) during the following times:

- 6:53 AM - 10:12 AM (every 17 minutes) to SRP
- 3:19 PM - 7:03 PM (every 17 minutes) to Palo Alto Transit Center

For more information, visit the Stanford Marguerite website.

Stanford Research Park Parking

There are two entrances to the building. The Symposium will be on the **back of the building** and the door will be open with a sign. Free parking is available at both entrances, with free overflow parking available in nearby buildings.

Parking Lot Locations

COVID-19 Guidelines

Masks are not required. For additional guidance, please see [Stanford's campus masking policies.]

Wifi

Guests can sign in through the Stanford Visitor wifi to access the internet.

Program

- 8:15 AM - 8:45 AM Registration
- 8:45 AM - 9:00 AM Opening Session
- 9:00 AM - 10:00 AM - Keynote Presentation
    - Karen Parker, Ph.D. (Stanford) - "A Translational Approach To Detecting and Treating Autism."
- 10:00 AM - 10:15 AM Break with Coffee and Refreshments
- 10:15 AM - 11:15 AM - Faculty Presentations
    - 10:15-10:45 - Nicole Sparapani, Ph.D. (UC Davis) - "Developmental Learning Profiles, Sociocultural Influences, and Autism Diagnostic Screening in a Neurodiverse Sample of Students within Inclusive Educational Settings."
    - 10:45-11:15 - Grace Gengoux Ph.D. (Stanford) and John Hegarty Ph.D. (Stanford) - "Pivotal Response Treatment: Clinical and Neuroimaging Profiles of Treatment Response from a Randomized Controlled Trial."
- 11:15 AM - 12:00 PM Poster Session #1
- 12:00 PM - 12:30 PM Lunch Break
- 12:30 PM - 1:15 PM Poster Session #2
- 1:15 PM - 2:15 PM - Faculty Presentations
    - 1:15-1:45 - Carly Demopoulos Ph.D. (UCSF) - "New Insights Into Mechanisms of Speech Impairment in Autism."
    - 1:45-2:15 - Dan Feldman Ph.D. (UC Berkeley) - "Mouse Models to Understand the Neural Basis for Sensory Processing Differences in Severe Syndromic Forms of Autism."
- 2:15 PM - 3:45 PM Selected Oral Presentations
    - 2:15-2:30 pm - Luke Grosvenor (Kaiser) - Sex and gestational timing influence associations between prenatal glucose intolerance and neurodevelopmental disorders.
    - 2:30-2:45 pm - Nathan Boone (UCSF) - Autism SNP-Based Heritability and Polygenic Risk: Investigating a Model of Greater Variance Among Males than Females.
    - 2:45-3:00 pm - Jo Ann Yon Hernandez (UC Davis) - Adaptive Functioning Across Contexts: A Comparison of Parent and Self-Reported Ratings in Autistic and Non-Autistic Youth.
    - 3:00-3:15 pm - Yu Jie (Emily) Hsiao (Stanford) - Cognitive Behavioral Therapy for Autistic Chinese American Adolescents: A Primer for Mental Health Providers.
    - 3:15-3:30 pm - Katrina Wong (UCSF) - Differences in Basic Auditory Processing and Expressive Language in Autistic Youth with and without History of Late Talking.
    - 3:30-3:45 pm - Rianne Misquita (Saint Mary's College) - Supporting Autistic Children & Parents in Bay Area Schools.
- 3:45 PM - 4:45 PM Breakout Sessions
- 4:45 PM - 5:00 PM Closing Session

Speaker Information

Faculty Speakers

Karen Parker, Ph.D.

Dr. Karen J. Parker is the inaugural Truong-Tan Broadcom Endowed Professor, Chair of the Major Laboratories Steering Committee, and Associate Chair for Research Strategy and Oversight, in the Department of Psychiatry and Behavioral Sciences at Stanford University. Dr. Parker directs the Social Neurosciences Research Program, which seeks to advance understanding of the biological basis of social functioning across a range of species, and to leverage these fundamental insights to drive diagnostic and treatment advances for people with social difficulties. Dr. Parker's research has been supported by the National Institutes of Health, Simons Foundation, and Department of Defense, published in leading scientific journals, and featured across diverse media outlets. Dr. Parker received her undergraduate and graduate degrees from the University of Michigan. She completed postdoctoral training at Stanford University and joined the Stanford faculty thereafter. She is an Affiliate Scientist at the California National Primate Research Center, a Fellow of the American College of Neuropsychopharmacology, and a Kavli Fellow of the U.S. National Academy of Sciences.

Nicole Sparapani, Ph.D.

Nicole Sparapani is an Associate Professor within the School of Education (SOE) and MIND Institute at the University of California, Davis. She has a background in speech-language pathology, developmental psychology, and education. Dr. Sparapani's research interests center on the dynamic and transactional interplay between autistic students and their classroom environment—primarily using systematic observational research methods. Her work contributes to a limited literature base and provides insight into student active engagement within early elementary general education classrooms, teacher-student interaction quality, and recommended general education instructional practices for autistic learners.

Grace Gengoux, Ph.D., BCBA-D

Grace Gengoux, Ph.D., BCBA-D, is a Clinical Professor, Director of the Autism Intervention Clinic, and the Well-being Director within Stanford University's Department of Psychiatry and Behavioral Sciences. Along with colleagues at Stanford, Dr. Gengoux has written a book focused on professional well-being and practical strategies to promote resilience for providers of mental health care. Dr. Gengoux is also a licensed clinical psychologist with expertise in training parents to promote the healthy development of social skills in their children and manage challenging behavior using positive behavioral approaches. Dr. Gengoux has published peer-reviewed journal articles and book chapters on treatments for autism. She has specialized training in Pivotal Response Treatment (PRT), having completed her doctoral studies under the mentorship of Drs. Robert and Lynn Koegel. Dr. Gengoux oversees the PRT group parent

training program at Stanford, supervises postdoctoral fellows providing PRT clinical treatment, and has completed multiple clinical trials evaluating the effects of PRT on the social-communication competence of young children with autism. Dr. Gengoux serves as Associate Editor for the Journal of Positive Behavior Interventions. Dr. Gengoux received her Ph.D. in Clinical Psychology from the University of California Santa Barbara and completed her clinical internship and postdoctoral fellowship at the Yale Child Study Center, before joining the Stanford University School of Medicine clinical faculty in 2010.

John Hegarty, Ph.D.

John Hegarty, PhD. is Director of the Stanford Clinical Neuroscience Lab and Neuroimaging for the Autism and Developmental Disorders Research Program at the Stanford Autism Center. His primary focus is on developing new biologically-based intervention approaches to help people with developmental disabilities, especially autism and neurogenetic conditions. Dr. Hegarty uses non-invasive neuroimaging techniques such as MRI and EEG to identify biomarkers for target engagement in the brain and neural subtypes of developmental conditions to improve clinical trial design and treatment planning. He also teaches biological psychology and psychopharmacology at the nearby Palo Alto University.

Carly Demopoulos, Ph.D.

Dr. Demopoulos is an Associate Professor with joint appointments in the Departments of Psychiatry and Behavioral Sciences and Radiology & Biomedical Imaging at UCSF. She is a developmental neuroscientist and clinical neuropsychologist with over 20 years of experience in autism. Her research utilizes multimodal brain imaging to understand the neurobiology underlying sensory and motor problems, communication impairments, and sleep disturbance in autism and related genetic and neurodevelopmental conditions. Her many years of experience with children and adults on the autism spectrum with a range of abilities, including nonverbal/minimally verbal or nonspeaking individuals, are an asset to her in advancing research to understand the most impairing of symptoms and bring treatment advances to those who need it most, including those who have been historically underrepresented in this type of advanced brain imaging research.

Daniel Felman, Ph.D.

Dan Feldman received his PhD in Neurobiology from Stanford in 1997, and did postdoctoral research at UCSF and NIH. He has been a faculty member at UC Berkeley since 2007, where he is Professor and Chair of the Neuroscience Department, and a member of the Helen Wills Neuroscience Institute. Feldman studies the function of the brain's cerebral cortex, focusing on neural coding of touch information, synapse and circuit function, and the neurobiological basis of altered sensory processing in mouse models of monogenic autism.

Abstracts

Selected Oral Presentations

Luke Grosvenor (Kaiser) - Sex And Gestational Timing Influence Associations Between Prenatal Glucose Intolerance and Neurodevelopmental Disorders

Title: Sex- and Timing-Specific Associations between Prenatal Glucose Intolerance and Child Neurodevelopmental Outcomes

Authors: Luke P. Grosvenor, Jennifer L. Ames, Yinge Qian, Stacey E. Alexeeff, Paul Ashwood, Robert Yolken, Judy Van de Water, Lauren A. Weiss, Erica P. Gunderson and Lisa A. Croen

Background:
Gestational diabetes mellitus (GDM) is associated with increased risk of autism spectrum disorder (ASD) and developmental delay (DD). However, few studies have examined whether associations differ by timing of GDM diagnosis or child sex, and none have examined sub-clinical impaired glucose tolerance as a separate risk factor. Given standard screening and diagnostic practices and availability of treatments, management of GDM and impaired glucose tolerance represents avenues for prevention of adverse child outcomes. A better understanding of the relationship between prenatal glucose intolerance and risk of neurodevelopmental disorders (NDDs) can also provide insight into etiologic mechanisms. The objectives of this study were to determine associations between prenatal glucose intolerance and risk of child ASD and DD and examine whether associations differ by timing of GDM diagnosis and child sex.

Methods:
We ascertained a case-control sample of mother-child pairs from children born at Kaiser Permanente Northern California (KPNC) between January 2011 and December 2018. Children were categorized as having ASD, DD, or as general population controls (GP) based on diagnoses in electronic health records (EHR). GDM was defined according to two-step Carpenter and Coustan diagnostic criteria based on laboratory testing in maternal EHR and categorized into early and standard subgroups by gestational age (early: ≤26 weeks; standard: >26 weeks). Impaired glucose tolerance (IGT) was separately defined by elevation of 50-gram glucose screening and/or one glucose elevation for the diagnostic test, with GDM diagnosis. We estimated risk of ASD and DD associated with prenatal exposures using logistic regression models adjusted for child sex, birth year, parity, maternal age at birth, race, education, and pre-pregnancy BMI. Effect modification by child sex was evaluated using stratified analyses and models including sex-by-exposure interaction terms.

Results:
The study sample of 4,716 mother-child pairs included 710 children with ASD, 2,135 with DD and 1,871 GP controls; there were 573 (12.1%) mothers with GDM and 64 (1.4%) with impaired

GT. There was no evidence for increased risk of ASD or DD associated with GDM diagnosed at any gestational age (ASD OR [95% CI]=1.12 [0.84-1.48]; DD OR=1.20 [0.98-1.47]). Risk of ASD associated with exposure to GDM ≤26 weeks was increased among females (OR=2.21 [0.96-4.80]) but not males (OR=0.88 [0.51-1.50], sex-by-exposure interaction P <0.05). GDM diagnosed >26 weeks' gestation was associated with elevated risk of DD, also among females only (OR=1.42 [0.99-2.04]). Children born to mothers with IGT had significantly increased risk of DD among the full sample (OR=1.81 [1.01-3.34]) and this risk was further elevated among females (OR=3.23 [1.33-8.61]) but not males (OR=1.10 [0.51-2.45]).

Conclusion:
Risks of ASD and DD were associated with prenatal glucose intolerance—both GDM and IGT—in a timing- and sex-specific manner. Earlier GDM diagnosis was associated with increased ASD risk only among females, suggesting possible sex differences in the relevant exposure window for fetal programming mechanisms underlying risk. This is also the first study to identify sub-clinical impaired glucose tolerance as a risk factor for NDDs separate from non-GDM referent. Expanding treatment recommendations to include this group may have implications for child health, including primary prevention of NDDs.

Nathan Boone (UCSF) - Autism SNP-Based Heritability and Polygenic Risk: Investigating a Model of Greater Variance Among Males than Females.

Title: Autism SNP-Bsed Heritability and Polygenic Risk: Support for Greater Variance Among Males Than Females

Authors: Nathan A. Boone; Louie-David Desachy; Kiruthika Sivaraman; Lauren A. Weiss

Background:
The diagnosed prevalence of autism is higher in males than in females (~4:1), but heritability estimates are very high (~80%), with no evidence for strong sex chromosome effects (and the rest of the genome identical across the sexes). The popular female protective effect (differing threshold liability model) proposes that females require a greater burden of risk to surpass the diagnostic threshold. We previously found this model to remain unsupported by much current data, including new estimates suggesting significantly (~10%) higher family-based heritability estimates in males (Dougherty et al., 2022, Neuron; Sandin et al., 2024, JAMA Psychiatry).

Methods:
To explore alternative models, we estimated SNP-based heritability and generated polygenic risk scores (PRS) across multiple datasets. Estimates calculated using GCTA for heritability and PRS-CSx for PRS were examined separately for males and females across SNP data from two SPARK sets (WES 1-4 and WES 5-9). PRS analyses were restricted to European-ancestry individuals and heritability was ancestry-matched carefully using PCs. After QC, each dataset contained approximately three male cases for every female. To ensure balanced comparisons, male permutation subsets equal in size to the female samples were created.

Results:
Heritability estimates did not consistently differ between males and females, though standard errors tended to be larger in male subsets than in females. In SPARK 1-4 the male estimate (n = 12,774, h2 = .45) was greater than that for females (n = 4,198, h2 = .26; zdiff = 2.49, pdiff = .013). Compared to females, heritability was greater in 90% of male subsets, and 100% had higher SEs. In SPARK 5-9 the male estimate (n = 10,720, h2 = .23) did not significantly differ from that for females (n = 3,546, h2 = .16; zdiff = 1.15, pdiff = .251). Heritability was higher than the female estimate in 42% of male subsets, and 87% had higher SEs.
Polygenic risk score means did not differ between male and female cases in either dataset (p > .45), but males had greater variance in both datasets. In male subsets, 100% (SPARK WES 1-4) and 89% (SPARK WES 5-9) had greater variance than females.

Conclusion:
Our most consistent finding was greater variance in males, supporting an increased male liability variance model. Greater variance in liability to autism among males could explain the higher prevalence of autism in males via a larger proportion of males at the extremes of the liability distribution. Mechanisms underlying greater male variance could include interaction effects or liability factors specific to males, of larger magnitude in males, or ascertainment bias missing a specific segment of the liability distribution in females. Investigating the underlying causes of this effect could provide valuable insights into the etiology of autism and sex differences in its expression.

Jo Ann Yon Hernandez (UC Davis) - Adaptive Functioning Across Contexts: A Comparison of Parent and Self-Reported Ratings in Autistic and Non-Autistic Youth.

Title: Beyond Agreement: Unraveling Parent-Youth Perspectives on Adaptive Functioning in Autism.

Authors: Jo A. Yon-Hernández, Ana-Maria Iosif, Apurv Srivastav, & Marjorie Solomon

Background: Multiple informants are essential for capturing the full range of adaptive functioning abilities necessary for daily living and independence. Informant discrepancies, particularly between parent-youth reports, can complicate assessment interpretation and hinder the development of effective, individualized support plans by failing to capture the full spectrum of adaptive functioning across different contexts. The Classifying Observations Necessitates Theory, Epistemology, and Testing (CONTEXT) framework (De Los Reyes et al., 2023) emphasizes the importance of leveraging discrepancies among informants as meaningful, domain-relevant information shaped by situational specificity. This study examines discrepancies in parent-youth perceptions of adaptive functioning, focusing on the social domain, and explores associations among parents, youth, and independent raters while considering potential factors influencing these discrepancies, such as IQ, autism severity, and parental education.

Methods:
The study included 132 individuals (66 autistic, 66 non-autistic) aged 16–24 years. Adaptive functioning was measured using the Adaptive Behavior Assessment System-3 across the conceptual, practical, and social domains. The Global Functioning: Social scale (GF:Social; Cornblatt et al., 2007), which evaluates the quality and quantity of social interactions, peer relationships, and family involvement, was used as an independent assessment of social functioning. Agreement and discrepancies between parent and self-reports were assessed using paired-sample t-tests, intraclass correlations (ICC), and Bland-Altman plots. ICC quantified overall agreement, while Bland-Altman plots visually represented disagreement/discrepancy patterns. Associations between parent and self-reports and independent assessments (GF:Social scale) were evaluated using Spearman's correlations. A multiple linear regression was conducted to examine potential influences on discrepancies, including IQ, autism severity, child age, and parental education level.

Results:
Autistic self- and parent-reports showed significantly lower adaptive functioning than non-autistic dyads, with autistic participants scoring on average one standard deviation below their non-autistic peers. ICC analysis revealed poor agreement between parent-youth reports across all adaptive functioning domains in the autistic group, with the highest agreement observed in the social domain. The Bland-Altman plots showed that autistic youth rated their social adaptive skills higher than their parents, with a mean difference of -7.6 (95% limits of agreement: -32.7, 17.4), and reported lower practical adaptive skills than their parents, with a mean difference of .79 (95% limits of agreement: -29.6, 31.2). Only autistic self-report ratings in the social domain were significantly correlated with independent ratings of social adaptive functioning (r = .50, p < .001). Increased autistic symptoms were associated with greater parent-child discrepancies.

Conclusion:
This study underscores the importance of conducting multi-informant assessments to understand the full range of adaptive functioning in autistic individuals. Discrepancies in social and practical domains highlight the need for both perspectives given that parents may not observe all behaviors. Autistic individuals perceive that their parents may overlook their needs for support, especially in the practical domain. Understanding these differences is crucial for improving support planning and enhancing quality of life for autistic individuals.

Yu Jie (Emily) Hsiao (Stanford) - Cognitive Behavioral Therapy for Autistic Chinese American Adolescents: A Primer for Mental Health Providers.

Title: Cognitive Behavioral Therapy for Autistic Chinese American Adolescents: A Primer for Mental Health Providers

Authors: Yu Jie (Emily) Hsiao, Jiayuan (Lyrid) Zhao, Lawrence K. Fung.

Background:

Co-occurring mental health conditions (CMHCs) are notably more prevalent in autistic individuals compared to typically developing people. Among the CMHCs, anxiety disorders and depressive disorders are two of the most common diagnoses in autism. Research has demonstrated that CMHCs significantly impact individuals' quality of life, with those in transitional life stages being particularly vulnerable to anxiety and/or depressive disorders. Cognitive behavioral therapy (CBT) has been evidenced to be an effective psychotherapy for these conditions and has been adapted into different versions to address the needs of different populations. However, despite the demand for individualized psychotherapy tailored to autistic individuals, scarce research has been given to adapting CBT to account for cultural factors and age-specific needs. The current research is to develop a guide of culturally adapted cognitive behavioral therapy (CA-CBT) for mental health providers who work with autistic Chinese American adolescents.

Methods:
The current research utilized Community-Based Participatory Research approach (CBPR) and Formative Method for Adapting Psychotherapy (FMAP) to develop a guide for culturally adapted CBT for mental health providers who work with autistic Chinese American adolescents. Recruitment for the study involved electronically distributing a flyer to Chinese American communities and through the lab email list.

A total of 15 participants were included: 4 mental health providers, 2 CBT therapists, 3 autistic Chinese adolescents, and 6 family members of autistic individuals, engaging in ten 1.5-hour working group meetings. Discussions from working group meetings were recorded and assignments completed between sessions were collected for analysis. The research team adopted thematic analysis to analyze transcripts and feedback to identify key themes. These insights facilitated the development of a therapist guide on cultural adaptations of CBT for autistic Chinese American adolescents.

Results:
The current research encompasses two sections in the therapist guide: (1) General Cultural Considerations for working with autistic Chinese American Clients and (2) Specific Adaptations to Cognitive Behavioral Therapy for Autistic Adults Provider Training (CBT-AAPT) for working with autistic Chinese American Clients.

The primary cultural considerations include intersectionality between autism and Chinese culture, establishing a therapeutic alliance, family factors, and barriers and challenges in accessing/delivering culturally sensitive care. A group-developed case example was generated to facilitate users' understanding and practical strategies. Salient topics that emerged in specific adaptations to CBT-AAPT include emotion regulation, assessment and formulation, cognitive intervention, goal setting, social functioning, and psychoeducation. The research findings will be incorporated by developing therapist guidance and will be disseminated to the community to support quality mental health services for the autistic population.

Conclusion:
This study aims to enhance mental health services for autistic individuals by emphasizing age-specific and cultural factors. By collaborating with community stakeholders, a development of a culturally sensitive guide for mental health providers is created. The research findings underscore the importance of considering both Chinese cultural characteristics and autistic traits when delivering mental health services to autistic populations, ensuring care is both effective and culturally attuned.

Katrina Wong (UCSF) - Differences in Basic Auditory Processing and Expressive Language in Autistic Youth with and without History of Late Talking.

Title: Differences in Basic Auditory Processing and Expressive Language in Autistic Youth with and without History of Late Talking

Authors: Katrina Wong, B.A.; Carly Demopoulos, Ph.D.

Background:
Some children with autism have a history of being late talkers, some of whom eventually catch up in their language development while others do not. Delayed cortical auditory response and impaired rapid auditory processing have been associated with verbal abilities in ASD; however, our understanding of the developmental onset and consequences of these auditory differences is still emerging.
We examined performance on neuropsychological measures of rapid auditory processing and basic auditory reaction time in relation to both history of late talking (LT) as well as current language abilities in typically developing controls (TDC) and youth with ASD to understand the relation of auditory deficits to historical presence of speech delay and persistence of expressive language impairment (ELI).

Methods:
Participants were 128 children and adolescents ages 8-17 years (43 TDC; 56 ASD-LT; 29 ASD+LT). LT history was defined by first words after 18 months, phrase speech after 36 months, and/or 6–8-word sentences after 48 months. Participants with current CELF-5 Expressive Language Index score below 80 were additionally classified as having current ELI.
Group differences were examined on measures of rapid auditory processing (SCAN-3 Gap Detection test) and auditory reaction time (CATA). Correlations were performed between these scores and CELF-5 Expressive Language Index, mean auditory and visual naming response times (AVNT-C), and rapid naming speed (NEPSY-II). Lastly, we subdivided groups based on LT history and current ELI to examine auditory group differences in those whose language delays did versus did not resolve. Bonferroni corrections were applied to significance thresholds to control for familywise error.

Results:
The ASD+LT group had significantly lower Expressive Language scores than TDC and ASD-LT groups (p<0.001). Within ASD+LT, 48.3% had current ELI (Table 1).

The ASD+LT group had poorer auditory reaction times (p=0.012) and rapid auditory processing (p=0.016) compared to TDC. Faster auditory reaction time was associated with higher Expressive Language scores in both ASD groups (ASD+LT: ρ=-0.476, p=0.014; ASD-LT: ρ=-0.286, p=0.033). Better rapid auditory processing performance was associated with higher Expressive Language (ρ=0.372, p=0.047) and rapid naming scores (ρ=0.406, p=0.036) in ASD+LT.
Finally, we explored auditory processing differences by LT-history and current ELI. Compared to TDC and ASD-LT-ELI, ASD+LT+ELI had significantly slower auditory reaction times (ASD-LT-ELI: p=0.0008, TDC: p=0.0003) and worse rapid auditory processing (ASD-LT-ELI: p=0.0035, TDC: p=0.0004). Analyses were insufficiently powered to detect statistically significant differences between both LT groups; however, compared to ASD+LT-ELI, ASD+LT+ELI had on average, slower reaction time and worse rapid auditory processing (Figure 1).

Conclusion:
Children with autism differ in some basic auditory processing and response abilities based on their history of late talking. In particular, children with autism and a history of late talking have worse auditory reaction times and basic auditory processing than those without a history of late talking. Auditory abilities were also associated with current expressive language abilities in autistic youth. This research highlights the importance of considering the historical presence of speech delay and continued auditory dysfunction in the persistence of language impairment in youth with autism.

Rianne Misquita (Saint Mary's College) - Supporting Autistic Children & Parents in Bay Area Schools.

Title: Supporting Autistic Children & Parents in Bay Area Schools

Authors: Rianne Misquita and James McCauley Ph.D

Background:
Autism Spectrum Disorder is defined by social, behavioral, and cognitive characteristics. Recent prevalence estimates that 1 in 36 8-year-old children have an autism diagnosis (Maenner et al., 2024). Parents of autistic children report greater levels of stress and are at increased risks for anxiety and depression compared to parents of typical children and parents of children with other disabilities (McCauley et al., 2019). Previous literature indicated that a variety of support methods can lead to improved speech, motor skills, and emotional regulation, however there is often unequal access to treatments and services (Wallace-Watkin et al., 2023). Difficulties in obtaining adequate support can negatively impact parents' mental health, increase childrens' behavioral challenges, and lead to unsatisfying experiences with schools. The purpose of this research is to understand the experiences of parents of autistic children, specifically relating to support methods, and ultimately improve resources and education in the Bay Area.

Methods:

Participants were recruited from Bay Area public and private school districts, daycares for neurodivergent children, and parent support groups through social media. We designed an online survey (n = 198) to measure levels of parental and child satisfaction, types of support, and demographics. The Parent Stress Scale (Berry & Jones, 1995) was used to measure parental stress levels. The grade levels reported included Kindergarten to second grade (n = 46), third to fifth grade (n = 113), and sixth to eighth grade (n = 39). Additionally, the ethnicities reported were predominantly White (n = 118), Black or African American (n = 53), or Hispanic or Latino (n = 10). Then, participants were selected for an interview (n=17), in order to better understand individual experiences and perceptions of support. Participants reported their child's experiences from private special education (n=5), public general education (n=5), and public special education (n=7).

Results:

First, a positive correlation between parent stress and administration support ($r = .17$; $p = .0476$) indicated that parents were more stressed with more administrative support. Second, a positive correlation between child liking support and peer support, ($r = -.16$; $p = .004$), emphasized the importance of inclusion within schools. Third, a negative correlation between child age and parents' stress ($r = -.28$; $p = .0001$) revealed that parents' stress decreases as the child gets older. Finally, a positive correlation was observed between school enjoyment and parents' stress ($r = .31$; $p = .0001$), meaning parents are more stressed when their child enjoys school more. Thematic analysis was utilized to code the interviews. Parents described the benefits of support groups for their mental health. Parents spoke highly of teachers who were involved and attentive to their child’s needs. Additionally, parents emphasized the importance of finding the right program based on their child’s abilities.

Conclusion:

Our findings emphasize the power of advocacy, impact on parents' mental health, and the value of quality education on educational success. For the relationship between parental stress and school enjoyment, the parents are potentially putting in more effort advocating or paying for better resources. The parents experience greater stress, but as a result of their effort, their children are liking school more. We can support children by promoting inclusivity in schools, and provide equitable resources. Ultimately, by understanding the experiences of these families, we can promote autism awareness and improve education in the Bay Area.

Poster Presentations

Session 1:

Anna Oft - Characterizing Anxiety Presentations in Individuals with Neurodevelopmental Genetic Syndromes using the NET Cohort.

Megan Smith - Loneliness in Autism: Examining Its Association With Externalizing Behaviors in Young Adults.

Erica Detemmerman - Sleep in Autistic Adolescents and Adults.

Ella Jevtic - Secondary Analysis of Predictors of Response to Pivotal Response Treatment in Children with Autism

Eliana Gropman - Comparing the relationships between internalizing and externalizing behaviors and sleep in autistic and non-autistic youth.

Chloe Han - Defining the protein interaction landscape of autism risk genes.

Aya Banaja, Bashire Jamil, and Itziel Macias-Mendoza - Seminar Experiences for Students on the Spectrum.

Nina Raman - Genetic and environmental influences on the recognition of mental states and the fusiform gyrus.

Annie Lakhani - Associations between Expressive and Receptive Facial and Vocal Affect Communication Abilities in Autistic and Typically Developing Youth.

Isabella Reyes - Randomized placebo-controlled crossover trial of diphenhydramine for sleep in youth with autism.

Jazzy Benes - Study Partner Requirements in Autistic Adult Clinical Trials: A Preliminary Review.

Merve Cakir - Genetic regulation of immune biomarkers during pregnancy.

Session 2:

Marjorie Solomon - Enhancing competitive integrated employment for autistic adults using the individualized placement and support model.

Grace Lilly - Fine Motor Dexterity Associated with Vocal and Facial Affect Production in Autistic Youth.

Laura Cho - Enrichment of Sex-Heterogeneous Autism Spectrum Disorder SNPs in Association Signals for 8 Neuropsychiatric Disorders.

Anna Morgan - Understanding the Experiences of Families after Diagnosis: Impact of Family Navigation in Autism Spectrum Disorder.

Clark Wang - Stanford Neurodiversity Resource Database.

Presley Pham - Autism genes implicate cortical and cerebellar neurons.

Roshni Narasimhan - Affect Production and Psychosocial Functioning in Children with Autism Spectrum Disorder (ASD).

Caroline Van Zant - Examining Student-Teacher Relationship Quality in School-Aged Students With and Without Autism.

Heesu Ally Kim - Effect of X-chromosome variants on autism and ADHD traits in Turner Syndrome: A pilot study.

Pravin Balasingam - Creating a Novel Machine Learning Approach to Identify Hidden Social Deficits in Autism Before Overt Symptoms Emerge.

Belinda Wang - Defining molecularly convergent subgroups of autism risk genes.

Tong Shan and Dawlat El-aid - Influence of ADHD Comorbidity and Sex on Symptom Presentation and Self-Injurious Behaviors in Autism Spectrum Disorder.

Breakout Discussion

Attendees will join the breakout session of their preferred topic.

Objectives:

- To fine-tune and align research priorities meaningful to multiple stakeholder groups
- To determine what mutually beneficial topics will be included in the quarterly meetings/webinars
- To formulate collaborative opportunities between researcher

Topics and Moderators:

1. Social and Communication Abilities (Somer Bishop, Karen Parker; Room 379)

Jasmeen Iqbal	Jane Hunter	Presley Pham
Michelle Kaiser	Shiwani Juneja	Whitney Ence
Lacey Chetcuti	Belinda Wang	Tong Shan
Katrina Wong	Matt Nguyen	Itziel Macias
Ella Jevtic	Caroline Van Zant	Lisa Croen
Christina Roca	Ozge Oztan	Stephanie Brogno
Antonio Hardan	Grace Gengoux	

2. Co-occurring Psychiatric Conditions (James McCauley, Jenn Ames; Room 214)

Grace Lo	Yu Jie Emily Hsiao	Renee Wachtel
Roshni Narasimhan	Alexandria Lee	Nathan Boone
Carly Demopoulos	Roxanne Almas	Chloe Han
Clare Engel	Elizabeth Silvers	Laura Cho
Rianne Misquita	Nina Raman	

3. Sleep; Physical Health & Epilepsy (John Hegarty, Makoto Kawai, Emma Baker; Room 202)

Dave Hanson	Elizabeth (Betsy) Hayes	Emily Ferguson
Mohan Babu	Joachim Hallmayer	Lauren Libero
Eliana Gropman	Pahnwat Taweesedt	Annie Lakhani
Isabella Reyes	Toru Ishii	
Jazzy Benes	Annie Lakhani	

4. Repetitive behaviors/Sensory processing (Luke Grosvenor, Dan Feldman; Room 211)

Grace Lily	Varun Suresh	Aya Banaja
Emma Salzman	Beth Grady	Cecily Van Remortel
Linda Lotspeich	Maggie Zheng	Emily Spackman
Pravin Balasingam	Daniel Abrams	Amber Leckie

5. Community-Based Research and Implementation (Lawrence Fung, Marjorie Solomon; Room 317)

Ken Parekh	Ken Parekh	Merve Cakir
Meghan Chun	Anna Morgan	Bashire Jamil
Anna Oft	Monica Hudnall	Jacqui Ferraiolo
Erica Detemmerman	Megan Smith	Heesu Ally Kim
Rachel Schuck	Jo Ann Hernandez	

Closing Session

Feedback Form

Click here to provide your feedback on the symposium (greatly appreciated!)

Best Poster Contest

Two posters will be selected by a panel of judges to win $25 gift cards and a certificate!

BAAC Interest Form

Click here to access the BAAC interest form.

About the Bay Area Autism Consortium (BAAC)

Who We Are

The BAAC believes that a viable approach to improve the lives of people on the autism spectrum will not come from one source, but will instead draw from the cutting-edge work of researchers in psychiatry, neurology, pediatrics, genetics, epidemiology, developmental neurobiology, pharmacology, community-based participatory research, and other fields that we may not even currently anticipate.

We are a growing collaboration between members of autism programs at some of the world's leading research and clinical centers — University of California-San Francisco, Stanford University, Kaiser Permanente Division of Research, the California Department of Public Health, SRI International, and the Children's Health Council.

Partially funded by the John and Marcia Goldman Foundation, the BAAC will create an intellectual hub where collaborations are nurtured, ideas shared, and joint ventures forged. We believe that competition can propel discovery, but collaboration has the power to multiply it. Rather than hope for a miracle, we believe that together, we can make one.

Our mission is to advance the science in the field of autism by supporting multidisciplinary collaboration among researchers, care providers, and the Bay Area's technologically innovative community.

Find Us Online: Visit our website via thebaac.org or scan the QR code:

Join the BAAC

Significant advances in improving the quality of life for people on the autism spectrum can be achieved when autistic people, scientists, families, physicians, and donors can join forces and work toward this common goal. As a member, you can enjoy access to:

- On-line newsletters and email updates
- Discounted BAAC Annual Research Symposium registration fees
- Panel discussions, journal clubs, and round table talks
- A searchable database to find colleagues in the Bay Area for collaborative projects and member information
- Opportunities to contribute to our public-facing resource pages
- Posting job and research opportunities for members
- Participation in special committees and opportunities to lead within BAAC

- Personal profiles on this website to highlight current research and other professional interests
- Networking opportunities through chat groups

We welcome anyone to join as a member, whether you work with those with autism, are in academia as faculty, a postdoc, a graduate, medical, or undergraduate student researching autism, have family or friends with autism, or are simply interested in supporting and learning about this community.

Become a member via https://www.bayareaautismconsortium.org/membership or scan the QR code:

Please contact us at bayareaautismconsortium@gmail.com if you have any questions.