

Simon Fraser University Autism Lab

At the Autism and Developmental Disorders Lab at Simon Fraser University we are interested in the social development of individuals with an Autism Spectrum Disorder (ASD). The goal of our research is to understand more about social development in autism and to inform treatment and intervention.

A few words from the Director, Dr. Grace Iarocci



I am an associate professor of Developmental and Clinical Psychology in the department of psychology at SFU and I work closely with the government and community agencies in BC to provide research information on Autism Spectrum Disorders (ASD).

At the ADDL, we investigate the basic processes of attention and perception that are involved in the social-cognitive development of individuals with and without ASD. More recently, we have also started to investigate issues in adolescents and adults with ASD. Specifically, we are interested in how individuals with ASD view themselves and their future. The majority of research has focused on childhood; however, ASD is a life long condition that also greatly affects adolescents and adults. We are committed to learning more about individuals with ASD across the life-span (see pg. 4). We thank the Social Sciences and Humanities Research Council (SSHRC), the Michael Smith Foundation for Health Research (MSFHR), and the Canadian Institutes for Health Research (CIHR) for supporting our work.

Thank You!

We would like to thank all the parents, children, adolescents and adults who have participated in research at the ADDL lab! On the following pages we outline some of the research studies and findings that were made possible by your participation. We appreciate your contribution to autism research and invite you to participate in our new studies!

Please visit our website:

<http://autismlab.psyc.sfu.ca>

for more information.

Research Development

Video-Based Social Skills Training for Children & Adolescents with ASD

by Krista Johnston & Grace Iarocci

Video-based social skills programs (e.g. Socialskillbuilder.com) are used as teaching tools for youth with ASD yet there is little research on their effectiveness or how these youth perform on these software tasks. We investigated the following questions: 1.) How do youth with high functioning ASD perform on select Social Skill Builder (Jacobs & Jacobs, 2005) software tasks in comparison to peers without ASD? 2.) How do scores on the software tasks relate to parent reports of social impairments?

Results show there were no significant differences in performance between the youth with ASD and youth without ASD on these tasks. Performance scores for youth with ASD were high; on average they scored about 80%. We also found there was no relationship between scores on the software tasks and parent reports of social impairment.

Overall, results point to a potential problem in using these tasks to teach social skills to youth with ASD. It is not known if similar results would be found with other social skills programs and further research is needed to assess this. Computer-based video software programs may be particularly motivating for youth with ASD and may provide a teaching environment that decreases social anxiety. Future research should explore how best to design these software programs to be effective with high functioning youth with ASD.

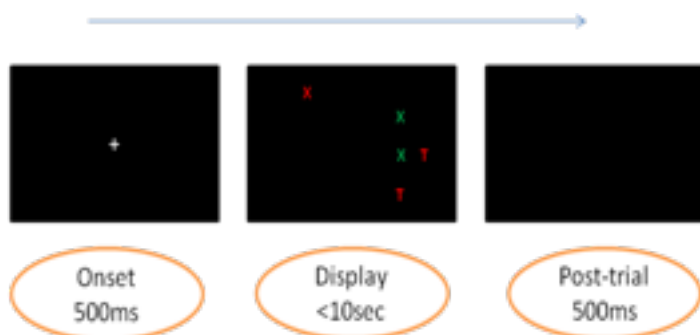


Relationship Between Performance on a Visual Search Task & Autistic Symptomology

by Kimberly Armstrong, J. McDonald & Grace Iarocci

Past research suggests individuals with ASD perform better than those without ASD on tasks that require attention to details, like in the visual search task (see image below). We were interested in knowing whether there was a relationship between performance on the visual search task and the symptoms of autism, including social deficits among adolescents with ASD. Social deficits were measured using a parent questionnaire called the AQ, which rates individuals on autistic traits: social skills, attention switching, attention to detail, communication and imagination.

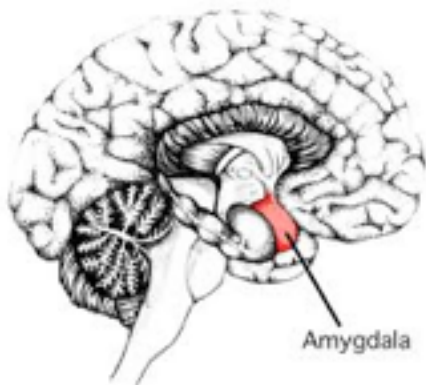
We found that better performance on the visual search task was associated with poor social skills as rated by parents on the AQ. These results are consistent with previous research (Joseph et al., 2009); however, further research will be conducted to investigate the nature of this relationship.



Research Development

Comparing Social Attention in Autism and Amygdala Lesions

by Elina Birmingham, Moran Cerf, and Ralph Adolphs

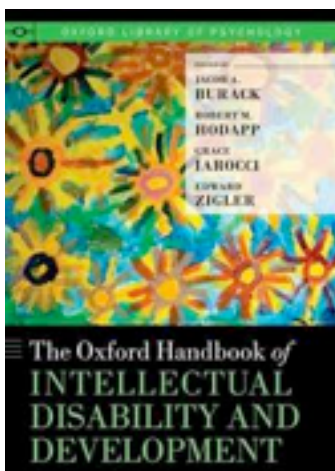


Past research has suggested that the amygdala, an almond shaped brain structure, plays an important role in processing information about eyes when a person is looking at faces. The amygdala has been the focus of many studies with ASD. For example, magnetic resonance imaging (MRI) studies have found that the amygdala has a different structure in individuals with ASD, and that individuals with ASD have abnormal amygdala activation when looking at the eyes of faces. These findings suggest that the amygdala may perform differently in individuals with ASD, contributing to difficulties in processing social stimuli.



To explore this idea, we used an eye tracker (a camera that tracks where the eyes are looking) to compare the eye movements of adults with and without ASD, and a patient with amygdala lesions (patient “SM”) while they looked at pictures that included people. In the Neutral task, participants had to determine what kind of room the scene took place in. In the Describe task, participants simply described the scene. In the Social Attention task, participants described where people in the scene were directing their attention. Patient SM spent less time looking at the eyes and much more time looking at the mouths than control participants. There was also a trend for the ASD participants to spend less time looking at the eyes, although this depended on the particular image and task. In addition, while control participants and SM looked more at the eyes when the task required social attention, the ASD group did not. Because SM and the ASD group performed differently on these tasks, the results casts doubt on the idea that autism arises directly from a dysfunctional amygdala. More research is needed to determine how the amygdala works with other brain structures and how this neural network may contribute to impairments in social cognition.

Thanks to all our participants for making these studies possible!



The Oxford Handbook of Intellectual Disability and Development

Edited by Jacob Burack, Robert Hodapp, Grace Iarocci, & Edward Zigler

Our director, Dr. Iarocci, has recently published a book that presents both research and theory on the intellectual disabilities (ID), with five main subsections on: genetics, relationships, cognitive development, social-emotional development, and the development of language. This volume is a must read for specialists and developmental psychologists. It examines developmental trajectories across persons with many different ID's including Autism Spectrum Disorder (ASD).

Current Research

How Young People View Themselves and Their Future (Online Study)

Principal Investigator: Theo Elfers

What do we want to know? We are investigating how young people define themselves in relation to their personal future. We call this identity. We would like to understand if young people's identity is influenced by how well they are getting along with others. The study will also help us to find out if identity is in any way related to young people's well-being such as their mood.

Who we are looking for? Young people both WITH and WITHOUT Autism between 13- 21 years of age, who live in Canada.

About the study: Participants will complete an online survey that will take approximately 10 minutes. Parents of participants will also complete a separate online survey that will take between 5-40 minutes. For this study only, an iTunes gift card will be provided.

If you are interested in participating, please contact Theo at: dstudy@sfu.ca



Examining Executive Function in Young Children with Autism using Computer-Based Tasks

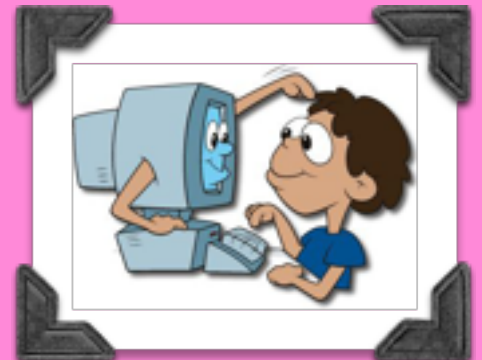
Principal Investigator: Emily Gardiner

What do we want to know? The goal of this study is to understand how children WITH and WITHOUT autism perform on computer-based executive function tasks.

What are executive functions? *Executive functions* are capacities that allow us to accurately evaluate a situation and develop an appropriate response. This may involve: self-awareness, monitoring and planning, organization, flexibility, inhibition, and working memory.

Who are we looking for? Children WITH and WITHOUT autism between the ages of 3 and 6 years, and their parents. All children should have normal (or corrected to normal) vision and hearing.

About the study: This research will involve visiting our lab at the SFU Burnaby campus. Participants will be scheduled at their convenience, and may be asked to come for 2-3 hours (including breaks). Your child will be asked to complete a variety of executive function tasks on the computer. When pictures appear on the screen, your child will be asked to provide verbal responses, to press the spacebar, or to touch the screen, depending on the rules given.



To Sign up,
email Emily at
emily_gardiner@sfu.ca

Current Research

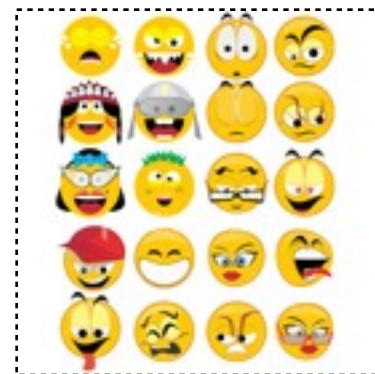
How do youth with Autism Explore Faces?

Principal Investigator: Elina Birmingham

What do we want to know? The goal of our research is to understand how face processing might be different in people with autism. We want to know how children with and without autism explore faces.

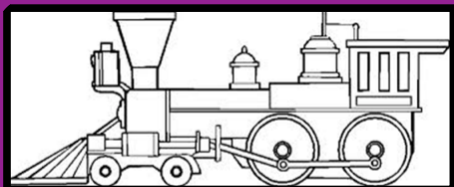
Who are we looking for? Youth WITH and WITHOUT autism between 5-24 years of age, and their parents. Youth with autism should be high functioning (i.e. IQs in the average to above average range). All youth should have normal (or corrected to normal) vision and hearing.

About the study: Participants will be scheduled at their convenience and may be asked to come in for 1-2 hours (including breaks). The child will take part in computer tasks that involves determining a face's emotions and identifying faces. His or her eye movements may also be monitored so we can assess where he/she is looking while completing the task.



Top 3 reasons to participate in research:

1. You are contributing to research that helps to identify and intervene in ways that will maximally benefit the development of children with AND without autism
2. You will receive direct contact with professionally trained researchers and staff who can give you educated answers to questions you may have
3. Your child will receive small compensation for volunteering their time and will get to learn about research being conducted in a university environment



To sign up,
email
addl@sfu.ca

Special Interests Among Children and Youth

Principal Investigator: Dr. Grace Iarocci

What do we want to know: Many children with autism are fascinated by trains. The goal of this study is to understand how special interests develop in youth with and without autism. We are examining how a special interest in trains from a young age influences learning about trains vs. learning about social stimuli. For example, do children recognize trains as easily as we recognize faces?

Who are we looking for? Children and youth WITH and WITHOUT autism between 6-19 years of age, and their parents. We are looking both for children who have an intense interest in trains, and children who do not.

**If your child has an intense interest in something other than trains (e.g., dinosaurs, trucks, etc.), we would love to hear from you!

About the study: This research will take place at our lab at SFU, Burnaby campus. You will be asked to fill out questionnaires and your child will be involved in computer tasks.

Past Events



Over the summer, our graduate students and volunteers taught autism awareness to children and teens (age 6-13). We discussed some of the characteristics that children with ASD may have and strategies on how to be a good friend.

We also did fun and interactive demonstrations on research being conducted in our lab. For example, we taught them about the “McGurk Effect”, how what we see can effect what we hear.

Thanks to Science AL!VE for inviting us to visit the camps. We had a great time and we really appreciated the thank your cards from the kids!

The ADDL participated in the 4th Annual Vancouver Walk on September 25 and we raised over \$600 for Autism Speaks! We also had a table in the resource center to provide information to families about opportunities to participate in research and special events. One of our volunteers, David, entertained the children with making balloon animals. Thanks you to everyone who donated to this event and to those who participated in the walk despite the rain. It is greatly appreciated!



We are pleased to announce that Kimberly Armstrong successfully passed her M.A. thesis defense on November 23rd. The title of her thesis is: “The relation between autism symptomology and performance on a search task”.

Kimberly is a graduate student in the Clinical Psychology program at SFU and is supervised by Dr. Grace Iarocci.



Congratulations to Dr. Birmingham who has been recently appointed to assistant professor in the SFU Faculty of Education.

We appreciate your contribution to ADDL and wish you continued success. We look forward to future collaborations with you.

Welcome to the lab!

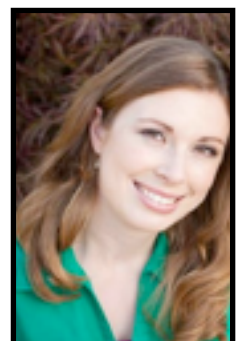


Emily Gardiner, M.A.

Emily is a new doctoral student in the Developmental Psychology program at SFU. Her research interests include: early intervention, inclusion, family-centred practice, cultural sensitivity, social development processes in children with autism.

Sarah Hutchison, M.Sc.

Sarah is the new lab manager for the ADDL and joined the team in April 2011. Sarah is a doctoral student and works part time in the lab. Her research interests include: development of executive function, language, second language learners, emotional regulation and social understanding.



Upcoming Events

SFU Autism Camps: July 14th & 21st

We are planning to host one day summer camps for kids age 7-12. The first camp will take place on July 14th to teach about science and autism awareness to children without autism. The second camp will take place on July 21st to teach science using group activities for children with autism.

More information will be emailed to all families and posted on our website closer to the date.

Location: SFU Campus in Burnaby



Save the date!

Thursday July 26, 2012

An Autism Awareness Community Event

More info to follow in the new year

Ph: 604-598-5864

Email: outreachandsupport@surrey.ca

Location: Surrey, BC



“What about me? Reflections on autism and why bullying is so easy, and acceptance so tough”

A panel of experts and individuals with autism will be informally discussing this topic. It will take place the evening of Thursday, May 10th from 7-9pm. More information will be emailed to all families and posted on our website closer to the date.

Location: 111 West Hasting Street, Vancouver, BC

Free Workshops: TBA

We will be having free workshops in the spring on various topics related to Autism. We will keep you informed as details become available.

Location: SFU campus in Burnaby or downtown

Did you know???

The ADDL is now on Facebook! Be sure to “like” us on Facebook and share with your friends.

Just search for “ADDL” and you will be able to view our page. Upcoming events and news will also be posted here and on our ADDL website. Enjoy!



We hope you have enjoyed reading our annual newsletter! We would love to hear from you so feel free to contact us with questions, comments or suggestions via phone (778-782-6746) or email:

addl@sfu.ca