Taking a Closer Look at Restricted and Repetitive Behaviors in ASD

Restricted and repetitive behaviors, often referred to as RRBs, are one of the two core features of autism spectrum disorders (ASD). RRBs include a wide range of behaviors such as stereotyped movements, compulsions, repetitive use of language, repetitive manipulations of objects, severe attachment to objects, insistence on sameness, repetitive self injurious behaviors, and narrow circumscribed interests.

RRBs are expressed very differently across people with ASD, which makes it difficult for researchers to measure, track, and study the changing patterns of these behaviors overtime. Most studies use caregiver reports as their primary RRB measure.

Despite the difficulty in measuring and defining specific types of RRBs, there are results found across studies that remain relatively consistent. First, in general, RRBs reduce in frequency and severity over time from childhood to adolescence and through adulthood. Next, researchers have found that the intensity of RRB presentation is negatively related to overall IQ; meaning, across individuals with ASD sampled, those who had higher frequency and intensity of RRB presentation tended to have lower IQ scores.

However, these findings are completely dependent on the types of RRBs included. One of the issues in studying, measuring and monitoring changes in RRBs is that they don’t occur in isolation. That is, people with ASD exhibit more than one RRB type, and even those combinations of RRBs will change over time and development.

Recently, we examined caregiver reports of RRBs for over 2,800 individuals with ASD between 4 and 18 years old. The goal of the study was to figure out how each specific RRB subtype co-occurs with others, creating “clusters” or profiles of individuals. What was most interesting about these findings, was that nonverbal IQ and ASD severity scores, that are most commonly related to specific RRB types, were not significantly different between the cluster profiles of RRBs. Again, lending support to the idea that we must move beyond a single measure or looking at a single behavior in this domain.

Researchers must continue to explore the ways in which different combinations in the RRB domain co-occur, and how other individual characteristics, such as anxiety and hyperactivity, might influence those repetitive behavior combinations.
Meet the MSU Autism Lab

Brooke Ingersoll, PhD
Lab Director
I am an associate professor of Psychology at MSU. I joined MSU in 2007 and founded the MSU Autism Lab. I am interested in research on interventions that can improve the lives of children with ASD and their families.

Nikki Bonter, MSW
Lab Manager
I have a background in Clinical Social Work. I am so fortunate to have been the lab manager since the lab’s beginning and continue to find value and joy from every family we serve and learn from. In my spare time, I am with my two wonderful kids, who are now teenagers, and likely watching hours and hours of them playing the sports they love!

KC Berry, PhD
Post-doc
I’m a postdoctoral researcher at MSU who graduated from UCLA with a PhD in Psychological Studies in Education working with children with ASD and their families. I am interested in ways to include the whole family in strategies to improve communication and play for individuals with ASD. In my free time I love to be outdoors either hiking or biking and whenever possible, I love to visit my niece and nephews in North Carolina.

Karís Casagrande, MA
Graduate Student
I am a 4th year graduate student in MSU Clinical Psychology program. I am interested in understanding how parents advocate for services and how to address the gaps in service access for families and children with ASD. In my free time, I serve on the board of the Mic-Michigan Autism Association and enjoy playing board games and traveling.

Kyle Frost, BA
Graduate Student
I am a 2nd year graduate student in the Clinical Psychology program at MSU. My research interests include measuring and understanding the common elements of ASD interventions, and how intervention strategies lead to child learning. When I’m not in the lab, I spend a lot of time playing with my dog and taking her on hikes!

Diondra Straiton, BA
Graduate Student
I just joined the lab as a graduate student in the MSU Clinical Psychology program. I am interested in improving parent/caregiver engagement in autism-related services for traditionally underserved families. In my free time, I enjoy hiking and listening to live music. I’m excited to start learning more about ASD services in Michigan!

Kate Bailey, BS
Post-Bac Student
I am a post-bacc who recently graduated from MSU. I am most interested in advocating for the well being of transition-age individuals with ASD. Outside of the lab, I work with ASPPIRE of Mid-Michigan as a social coach for adults with ASD, and my favorite hobby is playing classical guitar.

Come meet the lab and families who have participated in our research!

Be on the lookout for our next MSU Autism Lab Family Gathering at Red Cedar Gymnastics.

We will be sending out the date and time soon.
Parent Involvement Project

**WHAT IS IT?**
Parent involvement in intervention is key to improving outcomes for children with ASD. This project, funded by the US Health Resources and Service Administration Maternal and Child Health Bureau, is designed to measure the effectiveness of different components of an internet-based program designed to improve parent involvement in intervention for families of young children with ASD.

**WHAT WILL YOU DO?**
Families will complete the following over a 9 month period:
- An initial intake assessment
- Participation in one of three groups over 4 to 6 months: a web-based information and support group, a self-directed training group, or a therapist-assisted training group
- 3 month follow-up

**TO PARTICIPATE, YOUR CHILD MUST**
- Have a diagnosis of an autism spectrum disorder
- Be between the ages of 18 and 96 months at intake
- Meet other inclusion criteria

**FAMILIES WILL:**
- Receive $25 during each assessment period ($75 total)
- Receive an initial and follow-up assessment report
- Be provided all technology if needed at no cost

If you have questions about participation, please contact Nikki Bonter:
bonterni@msu.edu
517-432-8031.

Calling all College Students with ASD!

**WHAT IS IT?**
We are looking into the service needs and well-being of college students with ASD. The population of college students with autism is growing. We hope that by listening to the experiences of students with autism, we can learn about what services are most important to their success and wellbeing during their time at college.

**WHAT WILL YOU DO?**
This study involves a 20-minute survey. Following the survey students may opt-in to an interview. Because we value that some may feel more comfortable interviewing in a non-standard format, we give the option to interview via phone, Skype, text, or email.

**TO PARTICIPATE:**
You must be diagnosed with autism spectrum disorder, be over 18 years old, and be a college or university student. We will send you a $10 Amazon gift card for completing our survey, and an

If you qualify and would like to participate, click here:
https://msu.co1.qualtrics.com/jfe/form/SV_eSc3fRRHv9nRqpD
Lou, 4 years old
Lou is doing great with 30 hours/wk at ABA! Lots of peer interaction and participation during circle time. We have been spending lots of time swimming at the lake and he loves jumping off the floating mat into the deep end. Lou had a short stay in the hospital a couple weeks ago due to viral myositis. He charmed all the doctors and nurses and had an unlimited supply of popsicles. Attached is a picture of Lou during the hospital stay.

*Good job Lou! We are glad you are feeling better now!

Dominic, 13 years old
Dominic has been working really hard with his private speech therapist on the back and forth of conversations. Within the same week, Dominic did two very different examples. Example one - when mommy asked how she looked in a dress, Dominic said, "pretty!" Example two - Dominic told mommy, "you need to shave your mustache!"

*Great job Dominic!

Judah, 5 years old
At Judah’s recent IEP meeting he was off the charts cognitively, right where he was supposed to be with motor skills, but his adaptive skills (self-care) needed work. Since then we've focused on completing bathroom routines, self-feeding and dressing himself. All three have improved since then!

What we are focused on now is conversational skills - specifically taking turns when speaking and starting conversations with peers. I created this ball for him with corresponding instructions (he loves instruction manuals). Our first use of the ball went very well. The next step will be to have 3 people in the conversation and then finally finding a peer for him to practice with.

*Great job Judah!

Ayden, 6 years
Ayden will have a full blown conversation with you now, and when he wants to talk to me he says, "Mom I talk to you ah second" - cutest thing ever. He plays with other kids at the park and he’s much more sociable than he was a year ago. I’m so proud of him, he’s my hero.

*Great Job Ayden! Keep up the good work!

Rayam, 5 years old
Here is a picture of Rayam’s hands with Henna on them. Not only that she allowed her mom to put henna on her hands and stayed still the whole time, she even asked for the letters to be written on her arm!

*Beautiful Rayam! We miss you!

Jacob, 12 years
Jacob won a writing contest at camp this summer and got to be a part of the dream team today at the Lansing Lugnuts game!! Jacob threw out the first pitch!

*Awesoom Jacob!

Jack, 10 years old
Jack is having a great summer and will be 11 in October. So far this summer Jack has been to Cedar Point where he stepped outside his comfort zone and went on an upside down roller coaster. He ended up loving it and was very proud of conquering a fear. He also took some tennis lessons which is something awesome because he has never shown any interest in participating in sports. We were told he has an excellent backhand and the instructor is really encouraging us to continue with lessons. He loved the lessons, so we will try to keep it in his schedule. We have a beach vacation planned as well where Jack plans to bring his microscope to bring look at ocean water for microbes. He is also hoping we have a turtle nest by our condo.

*Awesome news Jack! We will have to have an update on what you find in the ocean!

*Great news Jack! We will have to have an update on what you find in the ocean!