A Thank You from VTAC

Dear VTAC families and community supporters,

Last year was a very productive one for research through VTAC and the Virginia Tech Psychology Department. VTAC faculty and staff were able to publish 15 articles in peer-reviewed journals, 4 book chapters, and a book. In addition to these publications, we've presented over 34 talks and scientific presentations. None of these accomplishments would have been possible without the support of the individuals, families, and community members who have participated in research projects or helped support our research in the community. As a tribute to our all of our VTAC supporters, we would like to dedicate this issue to you and all you have done to make autism research possible. Each member of our staff would like to provide you a brief overview of our research findings over the last few years, what we learned, where we plan to go, and thank you all for your support. Thank you for supporting autism research in the past, present and future!

~Susan White, Ph.D., sww@vt.edu
~Angela Scarpa, Ph.D., ascarpa@vt.edu

A Thank You From The Co-Directors

Dear Parents, Families, and Individuals with ASD diagnoses:

We have run several studies, including treatment trials, in the New River Valley and Roanoke Valley communities over the past several years. Here are some of the things that we have found. Please feel free to contact us if you have specific questions about these studies, what the findings mean, or have suggestions about research or services you would like to see pursued here at VTAC! We are always interested in hearing from you and what you think would be neat ideas for us to explore!

~Susan White, Ph.D., sww@vt.edu
~Angela Scarpa, Ph.D., ascarpa@vt.edu
Angela Scarpa

We have been testing the benefits of using cognitive behavioral therapy to teach emotion management strategies to 5-7 year-old children with high-functioning ASD. This Stress and Anger Management Program (STAMP) focuses on managing anger and anxiety, which are commonly noted problems in the ASD population. Our pilot work with 11 children who participated in STAMP were promising, and we continue to expand and refine this program. Overall, all children had less parent reported negativity, better parent reported emotion regulation, and shorter outbursts observed by parents after treatment. The children also generated more knowledge of coping strategies. Lastly, parents reported increases in their own confidence and their child's ability to deal with anger and anxiety. This study suggests that young children with high functioning ASD may benefit from cognitive behavioral treatment to improve regulation of anger and anxiety, and parent training may improve parents' confidence to help their child. Future studies are needed to refine the program and expand to other ages and functioning.

Susan White

My lab's work has largely addressed issues related to anxiety and its treatment. Here are some highlights:

1. Among teens with ASD, anxiety is very common, especially social anxiety. This anxiety often is expressed as a fear of being criticized or made fun of by peers, withdrawal from social opportunities and events (e.g., school functions), or sadness and isolation.

2. Cognitive-behavioral therapy can help teenagers with ASD and problems with anxiety improve their social skills and decrease the anxiety.

3. When social anxiety is present, it seems to contribute to avoidance of people's faces and eye gaze in teens with ASD. This is something we are exploring further with eye-tracking technology, to try to determine if the anxiety might exacerbate social problems due to avoidance of others.

4. ASD, and symptoms of ASD, are quite common among adults. Our research shows that prevalence estimates for adults are quite similar to prevalence estimates found in studies of children. College students with ASD, or a high level of ASD traits, tend to do well academically but struggle with other problems (like hostility or loneliness) and often feel less satisfied with their college experience.

Thank You from VTAC Staff

Nuri Reyes

I have worked with children with autism for over seven years and I have learned tremendously from them along the way. My work at UCLA and Virginia Tech has led me to the study of children's ability to manage their emotions. In particular, in one project with Dr. Scarpa, we found that children with ASD who showed elevated sensory difficulties were also more like to have difficulty managing their emotions. I have still much to learn, and I continue examining socio-emotional development in young children. Currently, I am investigating children's ability to manage their emotions and its role in other areas of development, such as temperament and social skills. We are still recruiting participants for this project entitled "Children with Autism and their Regulation of Emotions (CARE) Study." Families who participate in the study will receive a monetary compensation of $30 and a brief letter of their children's language and social skills abilities. If you have any questions or are interested in the study, please email me at vtCareStudy@gmail.com. Thank you for your support!

Michelle Patriquin

My sincerest thanks to the over 50 children and adults who have participated in my Master's Thesis and Dissertation studies! Without your participation, these studies would have never been possible. Both studies have explored how we can understand physiological responses that impact social behavior. Over the course of these studies, I have developed an appreciation for the physiological differences that exist between individuals with and without autism spectrum disorders (ASD). For example, in my Master's Thesis, we found that children with ASD who show more joint attention demonstrate higher respiratory sinus arrhythmia (RSA). RSA measures the functioning of the vagus nerve—a nerve that slows down the beating of your heart. Thus, children with more joint attention show more control over their heart rate (i.e., are more "soothed"). This is extremely important for understanding the complete picture of ASD—that there are physiological responses that parallel the functioning of individuals with ASD. In fact, I believe that this is such important research that I hope to carry this research forward throughout my entire career. Thank you again for the time and effort you have given to my studies!

Cara Pugliese

During my time at Virginia Tech, I have been interested in studying the co-occurrence of social anxiety and aggression in children with high functioning autism spectrum disorders (HFA/ASD). My colleagues and I have investigated the degree to
which social anxiety makes aggression more likely in children with HFASD (Pugliese, White, White, & Ollendick, unpublished). Previous research has found that children who anxiously expect and perceive rejection, particularly those who experience self-regulation difficulties, are more prone to aggression (Ayduk et al., 2000). We predicted that extreme fears of negative evaluation and rejection, particularly in the face of self-regulation deficits that are characteristic of ASD (Laurent & Rubin, 2004; Sofronoff et al., 2007), can lead to increased frustration and aggressive reactivity in these children. In our study, children with HFASD who had the lowest and the highest levels of humiliation and rejection fears tended to display the most aggression, such that too little social fear or too much may contribute to problems with aggression. Managing such fears at a moderate level may help reduce aggressive behavior in such children. For children with very little social awareness or concerns, treatment may need to involve increasing social awareness, concern, engagement, and motivation for peer relationships. Importantly, more research is needed to investigate and validate this finding in other samples of children with HFASD. Finally, I would like to thank everyone who participated in this research study.

Nicole Kreiser

My research has predominantly been related to the occurrence and accurate assessment of co-occurring anxiety disorders in individuals on the autism spectrum. In particular, I have investigated how social anxiety may manifest in individuals with ASD and how to best assess for social anxiety in this population. Anxiety in social situations is one of the most common co-occurring problems in individuals with ASD, and the accurate assessment of social anxiety is essential as this may be a target of treatment for some people with ASD. As a part of my Master’s thesis, I developed a measure designed to assess social anxiety as it is manifested in adolescents and adults on the autism spectrum. I hope that this measure will be beneficial in identifying individuals on the autism spectrum who struggle with worry and anxiety in social situations and may benefit from anxiety-targeted treatment. One of my other research interests is the unique manifestation of ASD in females. Research has suggested that females with the disorder may have less severe or unusual symptoms which may lead to a missed diagnosis or a delay in diagnosis. I am interested in how ASD is manifested in females, the unique types of co-occurring problems faced by females with ASD, and how educators and clinicians may best assess for ASD in females. This area of research is helpful for broadening our understanding of what ASD looks like and may hopefully lead to increased accurate identification of females with the disorder. Thank you to all of the individuals and families who have participated in our research projects. Through your help we are able to conduct research which will continue to benefit the autism community.

Jill Lorenzi

Thank you for your continued support of and participation in our research! We are deeply thankful for your commitment to our mission of improving the lives of those affected by ASD—which would not be possible without your help.

Some of our eye tracking research at VTAC is investigating differences in how children with ASD identify emotions as compared to children with typical development. Our use of the eye tracker allows us to look at children’s gaze patterns as they watch videos on a computer screen. It is a very nice tool for us to use since participants do not have to wear anything or experience any uncomfortable procedures in order for us to collect information about where they are looking on the screen. So far, we have found differences in emotion identification accuracy for children with ASD as compared to children with typical development for some types of emotions, but not all emotions. We will be looking more closely at participants’ gaze patterns to find out whether the differences are due to where on the face participants are looking.

The information that we learn from this study will allow us to find out how we might better help children who have difficulties with emotion recognition and emotion regulation. We can apply the information to other programs that we offer, such as VTAC’s Stress and Anger Management Program (STAMP), to best address the needs of children with ASD.

Thank you again for all that you do to contribute to the success of our research and clinical work at VTAC! We greatly appreciate your help. If you are interested in learning more about or participating in our eye tracking study, please visit our website (http://www.pycr.vt.edu/outreach/autism/) or contact Jill Lorenzi (lorenzi@vt.edu, 540-231-6914) for details.

Katrina Ostmeyer

Since coming to Virginia Tech, I have had the opportunity to work with many wonderful people both clinically and through research at VTAC. Currently, I am involved in many research projects in our lab including an eye tracking study examining the difference between how children with ASD and TD children look at faces and identify emotions, examining how emotion regulation affects social functioning, and a new project focused on teaching social skills in a classroom setting. The current theme in all my research is focused on how to help make current treatments more effective and how to disseminate evidence-based treatments so more children can benefit. Right now, I am working with Kipps Elementary School to develop a manual to teach social skills to improve classroom social skills to children with ASD and their peers in the classroom. We hope to pilot this manual in the fall and provide training to teachers in classrooms across Montgomery County elementary schools. I am always amazed by the dedication and support that I have received in my research endeavors from the community from parents and teachers. I am very excited to move forward with the possibility of helping more children with ASD. Thank you all so much for making our research possible!

Tyler Hassenfeldt

As a second-year student, I have already been involved in some fascinating projects; I am looking forward to continuing current projects and starting new ones! As a group leader of the Stress and Anger Management Program this semester, I feel lucky to have met some amazing families and their children, who we hope will benefit from learning these emotion regulation skills. I will also be presenting a poster with Michelle Patriquin at the International Meeting for Autism Research in Toronto in May. Based off of data from Michelle’s Master’s Thesis, she found that greater heart rate variability and faster heart rate were related to more severe social deficits in children who had more severe symptoms of autism. However, resting heart rate variability and resting heart rate did not predict severity of symptoms of autism for children who had mild to moderate symptoms of autism. This suggests that higher levels of physiological arousal may be related to poorer social skills in children who fall in the more severe range of autism. Currently, we are recruiting mothers and their children (ages 4-11) with diagnoses or concerns of ASD to participate in a study on mother-child interactions. The study involves a two-hour session either in Blacksburg or Roanoke, and includes a cognitive and autism assessment of your child, as well as a short set of play-based tasks for the mother and child to complete. We are offering a brief summary of the cognitive and autism assessment for families who participate. For more information, please email me at thassen@vt.edu. Thank you again to all the families and children who participate in our research—it is a privilege to work with you!
The Virginia Tech Autism Clinic in the Psychology Department of Virginia Tech, opened in the Fall of 2005 to provide clinical services to individuals with Autism Spectrum Disorders and their families in the surrounding New River Valley. Our vision for this facility began in the Fall of 2004, as the Virginia Tech Autism Research Group met to discuss the available services for children with Autism Spectrum Disorders in the New River Valley, a largely rural area. Through an extensive survey assessing existing services throughout the Commonwealth of Virginia, it was brought to the attention of the group that many parents were concerned about both the availability and quality of services they were receiving.

“Improving quality of life for people with Autism Spectrum Disorders through intervention, education, and research.”

Brenna Maddox
One of my primary research interests is the overlap of ASD and social anxiety. I recently looked at data from a group of 23 adolescents with high-functioning ASD. In this sample, the adolescents with less social impairment tended to report more social anxiety. In addition, the adolescents with more social anxiety tended to report more loneliness. These findings suggest that teens with less ASD-related social impairment may be more aware of their social deficits, and consequently feel more anxious in social interactions. Although adolescents with more social impairment may objectively experience greater interpersonal difficulties, they may lack the insight to report on their anxiety. Feelings of loneliness may also reflect a degree of insight into personal difficulties related to ASD-related social deficits. For my Master’s thesis project, I used eye-tracking technology to investigate eye gaze patterns in college students with ASD characteristics and/or social anxiety. The participants viewed a series of photographs of human faces, while the eye-tracker recorded their eye movements. In this sample, social anxiety was a stronger predictor, relative to ASD characteristics, of reduced looking at the eye region of the faces. The goal of these studies is to better understand the presentation and implications of social anxiety in people with ASD. I hope to use research findings in clinical practice to decrease social anxiety and loneliness in teenagers and adults with ASD. Thank you to all of the individuals and families who have participated in my research projects! Your time and efforts are certainly appreciated and highly important as we advance our knowledge about ASD.

Caitlin Conner
Although I am in my first year here at Virginia Tech, I have already been amazed at the support local families have provided to research here. I have utilized previous data from previous social skills groups in order to present a poster this spring at an autism conference to look at how parents effected their teens’ outcome, which demonstrates how participating in research can be helpful not only to answer the original question, but can also be used to make better treatments in the future. I am also a co-therapist for our PEERS-Young Adult social skills group, which has given me the opportunity to become a better therapist and learn how to run a social skills group as a research study. Thank you for giving us the opportunity to conduct research.

Laura Smith
Although I’m a first-year graduate student in the Clinical Psychology program, I have already had the opportunity to be involved in the research conducted at the Virginia Tech Autism Clinic at various levels. I have explored the utility of a survey that was specifically designed for use with individuals with autism. Many of the surveys that researchers have been using in autism research were developed for neurotypical individuals or those with other clinical disorders and therefore do not account for the developmental delays and common behaviors associated with autism. The Developmental Disabilities Children’s Global Assessment Scale may be a better tool to determine changes in everyday functioning of individuals with autism. I will be presenting these findings at the International Meeting for Autism Research in May.

Currently, I am the group therapist for our young adult PEERS research study. The PEERS programs are social skills groups that were developed at UCLA for adolescents and young adults with Autism Spectrum Disorder. Our research study is attempting to replicate the positive findings from UCLA that the PEERS young adult program enhances social skills for the study participants. I am learning a tremendous amount just through my clinical work with these bright young men. I am eagerly anticipating analyzing the data when the group is over to hopefully find more evidence to support that this group enhances social skills and improves the young adult’s abilities to make and keep friends.

Thank you all!