



## *Social Perception in Williams Syndrome Project* *Boston University School of Medicine*

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*Fall 2004*

### ***Project update***

Greetings from Boston University, and welcome to our Autumn newsletter! We are approaching the end of the second phase of data collection in our current research project investigating how adolescents and adults with Williams syndrome understand social information. We are now working on writing papers based on our findings, which we will submit for publication in scientific journals. We are also developing some new experiments to explore new aspects of how people with Williams syndrome perceive information from people's faces. We had the pleasure of working with some of you on these projects at the Williams Syndrome Association National Convention in Grand Rapids, MI. Overall, 34 families participated in helping us test out these new projects, and we extend our deepest gratitude for your continued support and interest! Some families have received materials about an exciting collaborative study we have with Massachusetts General Hospital studying how different areas of people's brains are activated when they look at faces through fMRI brain scans. We encourage anyone who may be interested in this study to contact us for more details.

### ***Research team news***

Our research team has seen a few changes over the last two months. We have had to say goodbye to our two former research assistants, Alyssa Verbalis, and Casey Schofield, who have both chosen to begin their graduate education in clinical psychology this fall. Casey will be attending SUNY at Binghamton, and Alyssa will continue her education at the University of Connecticut. We will miss them, but we wish them the best of luck in their graduate programs.

We have also recently welcomed two new research assistants to the Williams Syndrome project. **Leigh Borum**, from Amherst College, and **Nicole Crawford**, from Keene State College, both of whom have psychological testing experience, are excited to meet and work with all of our participants. We welcome them to the Lab and look forward to working with them on our new projects.

### ***Conference Presentations***

This summer, we had the opportunity to present some of our work at the **Williams Syndrome Association National Convention - 2004** and at the **10<sup>th</sup> International Professional Conference on Williams syndrome** in Grand Rapids, Michigan. This was a wonderful chance for us to meet new people with Williams syndrome and their families, and to chat with some of our long-time friends. At the International Professional Conference following the Convention, we were able to meet and share ideas with other researchers interested in exploring a variety of aspects of Williams syndrome, with the common goal of finding ways to improve the lives of people with Williams syndrome.

Dr. Helen Tager-Flusberg, our principal investigator and lab director, was one of the featured speakers at the Professional Conference. Presenting an overview of our work on the ways children, adolescents, and adults with Williams syndrome understand social interactions, Dr. Tager-Flusberg highlighted the apparent contrast between the very engaging, friendly and outgoing personality profile of most people with Williams syndrome and the difficulties they often have in daily interactions outside the family, in making friends and maintaining friendships. (*cont. on*

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In our research, we are trying to discover the reasons why they show this social profile. Our studies show that they have trouble with understanding mental states in other people, and in figuring out what others think and feel. This ability is important for making sense of people's behavior in everyday social interactions, such as telling the difference between lies and jokes or being able to judge others' personality traits.

People with Williams syndrome have a keen interest in other people and show an unusual tendency to focus attention on people's faces that is not seen in people with other developmental disabilities. Because they are drawn to other people and pay close attention to them, they remember faces very well, but they have some difficulty in reading emotional facial expressions, especially negative emotions such as fear or anger. We have created experiments to test how people with Williams syndrome remember faces and how they 'read' emotions in faces and voices. Findings from our face processing research were presented by Casey Schofield and Alyssa Verbalis, who showed that people with Williams syndrome tend to focus on the whole picture when shown photos of faces, but tended to remember better just one feature at a time when shown photos of objects (e.g. houses). This is similar to the way typically developing people remember information from photographs.

We have also developed experiments to test whether people with Williams syndrome would notice more readily changes in people or changes in objects that happen unexpectedly in short videoclips. Casey presented a poster on how well people with Williams syndrome pay attention to such changes in videos. The results showed that people with Williams syndrome were better at telling when a change related to a person had occurred than were people with learning/intellectual disabilities.

Another line of research investigates how people with Williams syndrome interpret emotional cues in people's speech. Dr. Daniela Plesa-Skwerer, project manager for the Williams syndrome project, presented some of our findings on the ways people with Williams syndrome use cues from the sounds and intonation of other people's speech, such as the way the meaning of the word "present" changes when spoken with stress on the first or second syllable. Intonation cues, or "prosody," also include emotional information that comes across in people's tone of voice, such as the way a raised vocal pitch can indicate that a speaker is angry. The findings Dr. Plesa-Skwerer presented showed that people with Williams syndrome are good at gaining information about a person's emotional state from their tone of voice, but not as good at detecting changes in word meaning based on which syllable a speaker stresses. This suggests that the brain works in different ways to understand each of these two types of prosody.

Dr. Shiri Pearlman-Avni, who is a postdoctoral fellow working on the Williams syndrome and autism projects in our lab, presented a poster about an experiment that tested how well people with Williams syndrome understand sarcasm. These findings showed that a group of people with Williams syndrome understood sarcasm about as well as a group of participants with learning/intellectual disabilities, but that the group with Williams syndrome was better at recognizing emotion in people's tones of voice. Dr. Pearlman-Avni also presented the results of interviews about friendship we conducted with people with Williams syndrome and Prader-Willi syndrome. The participants with Williams Syndrome tended to talk about feeling emotionally close to their friends more often than participants with Prader-Willi syndrome. They also focused more on needing to communicate with people, and tended to prefer new friends over old friends.

All of our presentations were well received by the other researchers at the conference, and led to informative discussions with other labs about our work.

#### ***Future Directions***

Our project will be competing for a new cycle of funding this year, so we will be exploring some new directions in our research. We plan to continue our research in face processing, but plan to investigate this from a new angle by working with colleagues at Massachusetts General Hospital on taking fMRI pictures of the brains of participants who are looking at faces. We are also interested in learning more about social attention and sensitivity to social and emotional information. Finally, we are developing a new study on play and attachment in toddlers with Williams syndrome. If you would like to learn more about any of our new studies, please contact us at the telephone numbers or email addresses below.

*Thanks to all of our families who have helped to make our research a success. Your participation has helped us learn so much more about the way people with Williams syndrome think and understand emotions. We hope that you will continue to participate in our studies in the future.*

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