Lay abstracts

Title: Rethinking language in autism
Authors: Sterponi, de Kirby and Shankey
DOI: 10.1177/1362361314537125

Lay abstract: Children with autism are known to have difficulty with language, and their speech is often marked by distinctive features, such as repetitions and non-communicative talk. The dominant view in autism research is that these features reflect the basic impairments that underlie the condition. In this article, we argue that the reality is more complex. We point out that much research on language in childhood autism is based on limited ideas about what language is and how it works, ideas that lead to analyzing the child’s talk without considering the context in which it was produced. What is needed is a perspective on language—and methods of analysis to go with it—that goes beyond the idea that language is a system of symbols we use to convey information. In our argument, we draw on the academic disciplines of linguistic anthropology and Conversation Analysis, which have shown that the essence of language is social action and social interaction, and that we use language to experience the world and each other. Adopting such a multi-dimensional view of language, we argue, has the potential to reveal more agency, interactional ability, and social sensitivity in children with autism than we may otherwise find. At the same time, such a perspective also has important implications for our understanding of autism and how it develops, as well as for efforts to support language development in affected children.

Title: Multimodal brain imaging in autism spectrum disorder and the promise of twin research
Authors: Mevel, Fransson and Bölte
DOI: 10.1177/1362361314535510

Lay abstract: A complex combination of genetic (e.g. DNA-related) and environmental factors is most probably at the origin of the brain development and functioning in autism spectrum disorders (ASD). However, further exploration is needed for scientists to fully detail and agree on the nature of the related mechanisms. One of the most powerful ways to understand the development of the brain in ASD is to study populations of discordant twins (in which one twin has autism and the other does not). Because monozygotic (identical) twins are assumed to share the same DNA, differences observed in the brain of a twin diagnosed with autism (compared with their co-twin who is unaffected by autism) may reflect the influence of factors in their environment only. Unfortunately, studies of discordant twins are still rare and are quite limited in the number of twins included or in the methods used to explore the brain. We thus believe that using the “brain connectome”, which is a model allowing for a complete mapping of the connections in the whole brain, with large groups of discordant monozygotic (identical) twins, would give promising results. To set out our arguments, this paper first gives an overview of the existing brain-related scientific evidence for ASD and its relationships to symptoms and cognitive functions (e.g. language). Then, a particular emphasis is on the brain-related findings reported in groups of monozygotic (identical) twins discordant for ASD. Finally, we introduce the “brain connectome” model and describe an ongoing project using this model among the largest group of monozygotic (identical) twins discordant for ASD ever recruited.

Title: Anxiety in Asperger’s syndrome: Assessment in real time
Authors: Hare, Wood, Wastell and Skirrow
DOI: 10.1177/1362361314531340

Lay abstract: Anxiety is a major problem for many people with Aspergers who may have both more worries and fears than people without Aspergers and also different types of worries and fear. Previous research on this topic has tended to use questionnaires and interviews developed for people without Aspergers, but completing these can be difficult for people with Aspergers owing to their memory difficulties. To get round this problem, this study used small hand-held computers that people with and without Aspergers could use to record their everyday experiences of anxiety. The results showed that people with Aspergers were much more anxious than people without Aspergers. Their anxiety was associated with worrying about everyday...
events and thinking about things for more than ten minutes. People with Aspergers also tended to think in pictures but this was not associated with feeling anxious. These findings have implications for psychological theories of both autism and anxiety. The results may also inform psychological therapy for people with Aspergers, with the possibility of using mobile technology to both assess and reduce anxiety in people with Aspergers.

**Title: Lay beliefs about autism spectrum disorder among the general public and childcare providers**

**Authors: Mitchell and Locke**

DOI: 10.1177/1362361314533839

**Lay abstract:** We conducted a survey of beliefs about autism among 823 members of the general public in the United States and Canada, and among 176 individuals working in childcare facilities in the state of Idaho. Results included the following: almost all respondents correctly believed autism’s primary causes are genetic and neurological (not due to parenting, drugs, or current diet); that it can be identified in early childhood; and that helpful interventions exist. Respondents generally distinguished diagnostic from non-diagnostic traits, but approximately half incorrectly labeled constant squirming as diagnostic (i.e. necessary in order to get a diagnosis of autism) and difficulties in making friends as not diagnostic (i.e. not necessary in order to get a diagnosis of autism). College graduates and childcare workers were more likely to have learned about autism in professional/academic settings and were more likely to correctly recognize diagnostic traits. Of concern, 10% of respondents considered vaccinations to be among the two main causes of autism. Accurate public understanding of autism spectrum disorders can facilitate early identification and effective intervention; our results suggest that efficient channels for conveying accurate information include broadcast and online media (from which the general public, especially members of ethnic minority groups, were most likely to learn about autism), and professional development courses for childcare providers.

**Title: Comparing service use and costs among adolescents with autism spectrum disorders, special needs and typical development**

**Authors: Barrett, Mosweu, Jones, Charman, Baird, Simonoff, Pickles, Happé and Byford**

DOI: 10.1177/1362361314536626

**Lay abstract:** Autism spectrum disorder (ASD) is a complex condition that can require specialised care. Knowledge of the costs of ASD, especially in comparison with other conditions, may be useful to galvanise policy makers and leverage investment in education and intervention (to mitigate the aspects of ASD that negatively impact individuals with the disorder and their families). In this article we compare the service costs of four groups of young people: adolescents with autistic disorder, adolescents with other ASDs, adolescents with other special educational needs (SEN) and typically developing adolescents, who were assessed as part of the UK Special Needs and Autism Project. We found that on average, total service costs were highest in the autistic disorder group (£11,029), followed by the SEN group (£9268), the broader ASD group (£8968) and then the typically developing group (£2954). Specialised day or residential schooling accounted for the vast majority of costs. In a separate analysis, we used a statistical technique called regression to identify the personal characteristics of individuals who had high service costs. We included only young people in the autistic disorder and broader ASD groups here. High service costs were associated with age, probably owing to a reduction in the intensity of classroom support and specialist provision in post-16 education, and with daily functioning (which is likely to be a good indicator of the need for specialist or residential schooling). In terms of further research, we think it should be directed at identifying and evaluating the types of education that maximise benefits to young people while making the most of the resources we have available.

**Title: Iconicity influences how effectively minimally verbal children with autism and ability-matched typically developing children use pictures as symbols in a search task**

**Authors: Hartley and Allen**

DOI: 10.1177/1362361314536634

**Lay abstract:** Minimally verbal children with autism spectrum disorder (ASD) have difficulty understanding relations between pictures, words and objects. Here, we investigate how minimally verbal children with ASD and young typically developing (TD) children deduce information from pictures in a task (based on the game “hide-and-seek”) that did not involve learning word–picture pairings. Out of the participant’s view, a small toy was concealed underneath one of four unique “occluders” that were individuated by familiar nameable objects (e.g. toy car) or unfamiliar unnamable objects (e.g. novelty sink plug). Children were shown a picture of the hiding location and then searched for the toy. Over three sessions, children completed trials with photographs (matched occluders on shape and color), black-and-white line drawings (matched occluders on shape only) and abstract pictures (matched occluders on color only). The results revealed no differences between the groups; neither children with ASD nor
TD children were influenced by the nameability of depicted objects, and both groups performed above-chance with all three picture types. However, both groups made significantly more correct searches when guided by photographs (the pictures that resembled hiding locations the most) and children’s performance was universally predicted by receptive language (i.e. their ability to comprehend spoken words). These findings show that children with ASD and young TD children can use pictures as a source of information about real-world events, however, this ability is significantly influenced by language comprehension and the degree that pictures resemble the things they are intended to represent.

**Title:** Judgments of social awkwardness from brief exposure to children with and without high-functioning autism

**Authors:** Grossman

**DOI:** 10.1177/1362361314536937

**Lay abstract:** We form first impressions of many traits based on very short interactions. This study examines whether typical adults judge children with high-functioning autism (HFA) to be more socially awkward than their typically developing (TD) peers based on very brief exposure to photographs, videos, or audio files. We used video and audio recordings of children with and without HFA captured during a story-retelling task. TD adults were presented with 1-second and 3-second clips of these children, as well as photographs, and asked to judge whether the person in the clip was socially awkward. Our findings show that participants who did not know whether the children in the videos or photographs had an autism diagnosis judged children with HFA to be socially awkward at a significantly higher rate than their TD peers. We found these results, even for videos and audio recordings as short as 1 second, as well as for still images. These data suggest that typical adults use subtle non-verbal cues produced by children with HFA to form rapid judgments of social awkwardness with the potential for significant repercussions in social interactions.

**Title:** Limitations in social anticipation are independent of imaginative and Theory of Mind abilities in children with autism but not in typically developing children

**Authors:** Angus, de Rosnay, Lunenburg, Meerum Terwogt and Begeer

**DOI:** 10.1177/1362361314537911

**Lay abstract:** Anticipating what will happen in conversations is common in our everyday social lives, but very little is known about how children with autism spectrum disorder (ASD) engage in this, and if they use different skills than children without ASD. In our study, we asked children with and without ASD to think about a conversation they would be having with someone in the near future, and then asked them how old they thought the person might be, their gender, what the other person would say to them, and what they would say back. We also had children complete a series of tasks that evaluated their imaginative skills, and their ability to understand what other people are thinking. We found that although the same number of children with and without ASD could say what the other person might
ask them, children with ASD were less likely to say what their own response could be. What is more, the children without ASD and with greater imaginative skills were more likely to volunteer what they – or the other person – could say. For children with ASD, imaginative skills did not predict their responses, but age did. These findings suggest that children with and without ASD may be using different methods to anticipate the content of conversations.

**Title: Cognitive-behavioral therapy for anxiety in youth with an autism spectrum disorder: A follow-up study**

**Authors:** Selles, Arnold, Phares, Lewin, Murphy and Storch

**DOI:** 10.1177/1362361314537912

**Lay abstract:** Cognitive-behavioral therapy (CBT) is a highly supported treatment approach for anxiety that teaches youth to change the way they think in scary situations and gradually face their fears. Recently, CBT has been shown to be helpful in reducing the severity of anxiety symptoms in youth with an autism spectrum disorder (ASD); however, the extent to which these youth continue to show reduced anxiety symptoms after treatment has not yet been studied. Using a sample of 32 youth who had benefited (at least minimally) from a past trial of CBT for anxiety in ASD, the present study assessed anxiety symptoms following the completion of their treatment. Compared with the assessment conducted prior to beginning treatment, ‘follow-up scores’ (taken 10–26 months after treatment) suggested that the youth still had significantly reduced anxiety levels. Relative to the assessment conducted immediately after treatment, ‘follow-up scores’ (taken 10–26 months after treatment) suggested a small overall return in the severity of anxiety symptoms. In addition, significantly fewer individuals were considered to have still responded to the treatment. Future research in this area should investigate what factors are associated with not maintaining treatment improvements. It is also important to ascertain what modifications or additions to the treatment may help youth better maintain gains made at treatment.

**Title: Measuring social communication behaviors as a treatment endpoint in individuals with autism spectrum disorder**

**Authors:** Anagnostou, Jones, Huerta, Halladay, Wang, Scahill, Horrigan, Kasari, Lord, Choi, Sullivan and Dawson

**DOI:** 10.1177/1362361314542955

**Lay abstract:** Difficulties in social communication are characteristic signs and symptoms of autism spectrum disorder (ASD). The severity of social communication is an early sign of ASD and an important predictor of outcomes in the long-term. For this reason, this group of symptoms is an important target for treatment. In order to conduct a research study on the effect of a treatment, it is important to evaluate measures before and after the treatment. An ideal measure would be: (a) relevant to social communication, (b) accurate, and (c) sensitive to change with treatment. The US charity Autism Speaks engaged a panel of experts to evaluate available measures of social communication for use as outcome measures in clinical trials. The panel held monthly conference calls and two face-to-face meetings over 14 months. Among 37 measures evaluated, six measures were considered appropriate for use, with some limitations. This report discusses the relative strengths and weakness of these measures for use in clinical trials and identifies specific areas in need of further development.