Title: Acute pain experience in individuals with autism spectrum disorders: A review
Authors: David J Moore
DOI: 10.1177/1362361314527839

**Lay abstract:** In addition to the social communication and behavioural difficulties used to diagnose autism spectrum disorder (ASD) many of these individuals have often been shown to have problems with sensory processing. One difference commonly reported is that people with ASD either experience less pain than people without ASD or no pain. The current article considers the evidence for and against people with ASD experiencing less pain than people without ASD or no pain. Two different types of research are discussed in this article: (1) where people with ASD directly say how much pain they feel, either in real life or when experiencing pain in a research study compared with people without ASD, and (2) differences between people with ASD and those without in their behaviours when in pain. Studies were classified as being self/parent report, clinical observations (i.e. based on reports of medical professionals), observations of responses to medical procedures (i.e. how people respond to injections), or experimental examination of pain (i.e. in a research study). When people with ASD, their parents, or professionals reported on pain, it was found that people with ASD reported less pain than people without. However, when people were observed under painful conditions (either in medical situations or in research studies) there were either no differences between the groups or the ASD group appeared to experience more pain. This review suggests that the evidence for people with ASD experiencing a different amount of pain to people without ASD is mixed and we cannot say that this is a consistent feature of ASD. More systematic research is needed to understand ASD individuals’ responses to pain.

Title: Temperament and character as endophenotype in adults with autism spectrum disorders or attention deficit/hyperactivity disorder
Authors: Sizoo, van der Gaag and van den Brink
DOI: 10.1177/1362361314522352

**Lay abstract:** Autism spectrum disorders (ASD) and attention deficit hyperactivity disorder (ADHD) are different disorders, but share many symptoms. The question addressed in the current study is whether factors that lead up to symptoms are also shared. The clinical picture of symptoms that we can observe in somebody with ASD or ADHD is called the phenotype. However, the factors that lead up to symptoms cannot be readily observed and are therefore called endophenotypes. In a recent publication Rommelse and colleagues suggested that ADHD might be seen as ‘a light form of ASD’. They based their hypothesis on the finding that all endophenotypes of ADHD were also present in ASD, while some endophenotypes of ASD were not shared by ADHD. We wanted to investigate whether this was also the case for the endophenotypes of temperament and character. Therefore, we studied adults, 75 with ASD and 53 with ADHD, and compared the autistic symptoms and the endophenotypic patterns in temperament and character between the two groups. If ADHD is indeed a light form of ASD, one would expect the scores on the two questionnaires administered to the adults (one measuring autism and one measuring temperament and character) to be closely correlated, and that the scores would differ from the general population (for both ASD and ADHD in a similar manner). However, these expectations were only met by two out of the seven parts of the temperament and character questionnaire (harm avoidance and self-directedness), suggesting that temperament and character as endophenotypes of ASD and ADHD provide only partial support for the hypothesis that ADHD is a light form of ADHD.

Title: Group training in interpersonal problem-solving skills for workplace adaptation of adolescents and adults with Asperger syndrome: A preliminary study
Authors: Bonete, Calero and Fernández-Parra
DOI: 10.1177/1362361314522354

**Lay abstract:** Adults with Asperger syndrome show persistent difficulties in social situations that psychosocial treatments may address. Despite the multiple studies focusing on social skill interventions, few have
specifically focused on learning how to solve interpersonal problems and these have not targeted workplace adaptation training in adults. This study describes preliminary data from a group format intervention, the Interpersonal Problem-Solving for Workplace Adaptation (SCI-Labour) Programme, aimed at improving social problem-solving skills through the presentation and discussion of typical social situations in the workplace. A mediational approach was adopted for learning; this means that the therapist’s aim was to provide the participants with the necessary clues to understand and verbalise, session by session, the phases regarding the solution of interpersonal problems. Using this strategy, particular emphasis is placed on personalised hints to participant needs. Fifty adults with Asperger syndrome received the programme and their performances were compared with typical adults in order to explore the effects of the treatment. Participants were assessed before and after the treatment using a variety of methods. Results showed an improvement on the social problem-solving task and socialisation skills (reported by parents), while differences in comparison with the typical adults had decreased after treatment. The treatment was acceptable to families and participation was high. The SCI-Labour Programme appears to be useful for improving interpersonal problems in Asperger syndrome.

Title: The influence of maternal language responsiveness on the expressive speech production of children with autism spectrum disorders: A microanalysis of mother–child play interactions

Authors: Walton and Ingersoll

DOI: 10.1177/1362361314523144

Lay abstract: Research shows that parents who use more responsive language with their children with autism spectrum disorder (ASD) have children who develop better language skills over time. This study examined two facets of maternal speech: (1) whether maternal speech followed or redirected the child’s focus of attention; and (2) whether the maternal speech made a demand on the child to do something. By analyzing mother–child play sessions, we sought to determine how these two facets of maternal speech influenced children’s rate of speaking during play. The study included two groups of children: 28 preschool-aged children with ASD and 16 toddlers with typical development. The results indicated that mothers’ use of language that both followed the child’s focus of interest AND made a demand on the child to speak was most likely to elicit speech from their children. This was true for both children with ASD and children with typical development. For children with ASD only, the child was also more likely to speak when the mother also used an orienting cue (e.g. saying “look,” touching the child) along with her speech. These findings suggest that following a child’s lead while prompting for language is likely to encourage speaking in children with ASD and children with typical development. Further, using orienting cues may help children with ASD to verbally respond to their mothers during play.

Title: Exploring the agreement between questionnaire information and DSM-IV diagnoses of comorbid psychopathology in children with autism spectrum disorders

Authors: Gjevik, Sandstad, Andreassen, Myhre and Sponheim

DOI: 10.1177/1362361314526003

Lay abstract: Children and adolescents with autism spectrum disorders (ASD) often have psychiatric disorders in addition to their ASD. However, identifying these co-occurring disorders may be challenging. We explored how a questionnaire, The Child Behavior Check List (CBCL), agreed to an interview, The Schedule of Affective Disorders and Schizophrenia (Kiddie-SADS), in identifying co-occurring psychiatric disorders. The study comprised 55 children and adolescents (age 6–18 years) with ASD, including the main ASD subgroups and the broad range of intellectual and language functioning. The questionnaire identified high rates of co-occurring anxiety, and attention and behavioural problems. The interview identified a co-occurring psychiatric disorder in 40 children (73% of the sample), and anxiety and attention deficit/hyperactivity disorder (ADHD) were also the most frequent. We found good agreement between the questionnaire and the interview for identifying ADHD, depressive disorders and behavioural disorders. However, the questionnaire identified a greater number of children than those identified by the interview. There was poor agreement between the questionnaire and the interview for identifying anxiety disorders. We conclude that the CBCL questionnaire may capture core ASD symptoms as well as co-occurring psychiatric symptoms, and clinicians should be aware that the CBCL may be unspecific when used in children and adolescents with ASD.
Title: Working memory arrest in children with high-functioning autism compared to children with attention-deficit/hyperactivity disorder: Results from a 2-year longitudinal study

Authors: Andersen, Skogli, Hovik, Geurts, Egeland and Øie

DOI: 10.1177/1362361314524844

Lay abstract: Working memory (WM) refers to the active maintenance and manipulation of information within a limited time span. The construct is essential for carrying out everyday activities, such as learning, reasoning and planning. Several studies report impaired WM in persons with high-functioning autism (HFA). The aim of the current study was to investigate the development of verbal WM in children with HFA compared to children with attention-deficit/hyperactivity disorder (ADHD) and typically developing children (TDC) over a 2-year period. Thirty-four children with HFA, 72 children with ADHD and 45 TDC were included (ages 9–16) in this research study. The performance of children with HFA on verbal WM tasks did not improve after 2 years, while improvement was observed in children with ADHD and TDC. The results indicate a ‘maturational lag’ in verbal WM abilities in children with HFA compared to children with ADHD and TDC. Since WM deficits have a negative effect on academic achievement, school facilitation is often required for children with impaired WM. Knowledge of how cognitive functions, such as WM develop over time in HFA, can help parents and educators better anticipate developmental challenges and plan accordingly.

Title: Holistic processing of faces as measured by the Thatcher illusion is intact in autism spectrum disorders

Authors: Cleary, Brady, Fitzgerald and Gallagher

DOI: 10.1177/1362361314526005

Lay abstract: Autism spectrum disorders (ASDs) are characterized by difficulties in social interaction which may reflect, in part, underlying problems in perceiving social information such as faces. This study asks whether people with ASD differ in their sensitivity to facial configuration – the relative position of the eyes, nose and mouth within the face. Such sensitivity is superior for upright than for inverted faces, as demonstrated by the Thatcher illusion; here the eyes and mouth are inverted in an upright face which is automatically perceived as ‘distorted’ or ‘grotesque’, whereas, when the doctored stimulus is turned upside down, the distortion is hard to detect. To test whether people with ASD have specific problems in perceiving facial configuration, adolescents with ASD and age and IQ matched adolescents were asked say whether faces – which were shown at a range of orientations from upright to inverted in both original and ‘Thatcherized’ form – were normal or distorted. We found that those with ASD, like their peers in the typically developing group, show strong inversion effects, whereby reaction times were longer and error rates greater at inverted when compared with upright orientations. These findings agree with recent reports that face perception is qualitatively similar in autistic and neurotypical groups.

Title: Implicit and explicit Theory of Mind reasoning in autism spectrum disorders: The impact of experience

Authors: Schuwerk, Vuori and Sodian

DOI: 10.1177/1362361314526004

Lay abstract: Theory of Mind (ToM), the ability to attribute mental states to others and oneself, is suggested to work in two ways. (1) Implicit ToM reasoning allows for a spontaneous sensitivity to other’s mental states, without deliberate reflection. (2) Explicit ToM reasoning enables a deliberate consideration (e.g. a judgment) of others’ mental states. Autism spectrum disorders (ASD) are characterized by a ToM deficit. Interestingly, individuals with ASD show a discrepancy between performance on implicit and explicit ToM tasks. In particular, those of higher verbal ability can pass explicit ToM tasks, presumably owing to compensatory learning. In contrast, recent findings suggest a persisting deficit in implicit ToM reasoning. We tested whether experience influences performance also in an implicit ToM task. Individuals with ASD and a neurotypical comparison group completed implicit and explicit ToM tasks. In an explicit ToM task, no performance differences between the two groups were observed. In an implicit ToM task, gaze behavior of individuals with ASD differed from neurotypical adults, which supports the previously reported deficit in implicit ToM reasoning. However, this group difference disappeared by providing participants with the outcome of an action based on a mental state and subsequently repeating this test trial. These findings support the notion of an implicit ToM deficit in ASD, but give rise to the idea that implicit ToM task performance in ASD may be affected by experience. Additionally, the pattern of results from implicit and explicit ToM measures supports the theory of two independent ToM reasoning systems.
Title: Gestural communication in children with autism spectrum disorders during mother–child interaction
Authors: Mastrogiuseppe, Capirci, Cuva and Venuti
DOI: 10.1177/1362361314528390

Lay abstract: Children with autism spectrum disorders (ASDs) do not develop the ability to produce gestures (e.g. pointing) in line with that of typical children, and gesture impairment is one of the determining factors of ASD diagnosis. Despite the obvious importance of this issue for children with ASD, the literature on gestures in autism is scarce and contradictory. The purpose of the present study was to analyze how children with ASD use gestures to communicate during spontaneous mother–child interactions. Participants were 20 children with ASD, 20 children with Down’s syndrome (DS) and 20 typically developing children, and their mothers. The average age of the children was two years and this did not differ across the groups. Gestural communication was analyzed with a specific coding scheme allowing a quantitative and qualitative analysis of gestural production. Results showed that children with ASD produced fewer and a more limited repertoire of gestures compared with children with TD and DS. Moreover, in the children with ASD we found specific associations between gestural production, cognitive development and autism severity scores. The study of gestures in ASD could lead to the development of new therapies for this group.

Title: Depression and its measurement in verbal adolescents and adults with autism spectrum disorder
Authors: Gotham, Unru and Lord
DOI: 10.1177/1362361314536625

Lay abstract: Findings from clinic-based and community studies suggest that depression is widespread in individuals with autism spectrum disorder (ASD); however, research into this impairing associated disorder has been complicated by challenges in adequately assessing depressive symptoms in persons with ASD. Based on a sample of 50 high functioning adolescents and adults with ASD (aged 16–31 years), we aimed to comment on: (1) the nature of depression in ASD; (2) associations between depressive symptoms and a range of other factors (e.g. age, verbal IQ, and clinical diagnosis of depressive disorders); and (3) the relation between self- and parent-report of depressive symptoms in ASD. Patterns of responses on a questionnaire measuring depressive symptoms (called the Beck Depression Inventory, 2nd edition; BDI-II) in the sample with ASD were compared with results of previously published data from a large, similarly-aged group of typically developing adults. The results suggested that the negative way in which individuals explain the causes of their behavior and events that happen to them (negative attributions) may be particularly prevalent in ASD. Scores on a variety of self- and parent-report measures of depression were not associated with age or verbal IQ; but these were quite highly associated with each other and with a clinical diagnosis of a mood disorder. The BDI-II and another measure (the Adult Self-Report “Depressive” scale) best identified both depressed and non-depressed participants in this sample, though neither measure was particularly strong at doing so. We hope that this work will illuminate the profile of depressive symptoms in ASD and help inform choices of depression assessment or screening measures in future ASD research.

Title: Autism comes to the hospital: The experiences of patients with autism spectrum disorder, their parents and health-care providers at two Canadian paediatric hospitals
Authors: Muskat, Burnham Riosa, Nicholas, Roberts, Stoddart and Zwaigenbaum
DOI: 10.1177/1362361314531341

Lay abstract: Youth with autism spectrum disorder (ASD) are a vulnerable, often poorly understood patient group, who may experience various health challenges in addition to ASD-specific difficulties, which can complicate provision of care in a hospital setting. Currently, little is known about the hospital experiences of children and youth with ASD, their families, and their healthcare providers (HCPs). The purpose of this study was to understand these experiences in order to inform hospital care. Forty-two participants were interviewed (youth with ASD, their parents, and HCPs) at one of two Canadian children’s hospitals, representing 20 distinct patients with ASD. Our results showed that patients with ASD faced challenges at the hospital, as did their families and HCP team. Problems included communication and sensory challenges, and the readiness for flexibility by HCPs and the hospital organization. Supportive HCPs were those who acknowledged parents as experts, asked about patients’ needs, and implemented strategies that accommodated the unique needs of the individual patient. These recommendations have the potential to inform health practice at other hospitals for this patient group.