



The Association  
for Child and Adolescent  
Mental Health

# THE BRIDGE

January 2020

**Sleep problems from  
infancy are linked with  
impaired well-being in  
middle childhood.**

**Do children with social  
anxiety disorder benefit  
from social skills training?**

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## Dr Stephanie Lewis

*The Bridge* Editor

This issue of *The Bridge* features summaries of recent child and adolescent mental health research. I hope you enjoy reading about this excellent work which improves our understanding of a wide range of conditions and informs mental health care for young people.

If you'd like to know more about some studies we feature, or you'd like to build skills in critical appraisal of research, consider joining our informal journal club sessions called *CAMHS around the Campfire*, led by ACAMH and the Mental Elf. During each free online webinar, a panel of experts discuss a research paper and its implications for young people, and answer questions posed by the audience. The expert panels include researchers, clinicians, and young people with lived experience, who provide their unique perspectives.

At our first *CAMHS around the Campfire*, held last month, we had a really thoughtful and informative discussion about sleep, anxiety, and depression in young people, based on a paper recently featured in *The Bridge*. If you missed the webinar and would like to catch up, you can find the recording and resources here: <https://www.acamh.org/freeview/camhs-around-the-campfire-sleep-anxiety-and-depression/>

At our next *CAMHS around the Campfire*, on Thursday 28th January at 5pm GMT, we will discuss a qualitative study which explored adolescents' experiences of voice hearing. This research, conducted by Dr Sarah Parry and Dr Filippo Varese, found that voices heard by young people can have a range of forms and functions. This interesting research is summarised in this issue of *The Bridge*. To join our discussion about this topic at the next *CAMHS around the Campfire*, book your place here: <https://www.acamh.org/event/voice%E2%80%90gohearing-in-adolescence-camhs-around-the-campfire/>

Please read on to find out about this and many other important studies.

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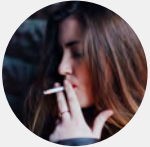
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### Dr Jessica K. Edwards

Research highlights in this edition are prepared by Dr Jessica K. Edwards. Jessica is a freelance editor and science writer, and started writing for 'The Bridge' in December 2017.





# Cognitive inflexibility contributes to both externalising and internalising difficulties in ASD

By Dr. Jessica Edwards

Children with autism spectrum disorder (ASD) commonly experience internalising and externalising symptoms, but the underlying cognitive mechanisms are unclear. In their latest study published in the *Journal of Child Psychology and Psychiatry*, Ann Ozsivadjian and colleagues examined the role of three cognitive factors that might contribute to these difficulties. Specifically, they hypothesized that intolerance of uncertainty (IU) together with alexithymia might lead to internalising symptoms while cognitive inflexibility (CI) might lead to externalising behaviours and indirectly contribute to internalising symptoms via increasing IU.

To test their hypotheses, Ozsivadjian *et al.* recruited a sample of 95 5-18-year-olds with a clinical diagnosis of ASD and asked caregivers to complete questionnaires on ASD symptoms, internalising and externalising difficulties, CI, IU and alexithymia. They then analysed the relationships between these measures. In support of their hypothesis, they found that CI predicted externalising symptoms directly and contributed to internalising problems indirectly via IU. Meanwhile, IU was directly related to internalising but not externalising problems, and alexithymia contributed to internalising problems only via IU.

The finding that CI is involved in both externalising and internalising difficulties in children with ASD suggests that addressing CI could have wide-ranging benefits. As such, the researchers propose that targeting CI might be more beneficial than standard ASD-adapted cognitive behavioural approaches that tackle internalising or externalising symptoms separately.

## Referring to:

Ozsivadjian, A., Hollocks, M.J., Magiati, I., Happe, F., Baird, G. & Absoud, M. (2020), *Is cognitive inflexibility a missing link? The role of cognitive inflexibility, alexithymia and intolerance of uncertainty in externalising and internalising behaviours in young people with autism spectrum disorder*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13295.

## Glossary:

**Alexithymia:** difficulty identifying and describing one's own emotions.

**Cognitive inflexibility:** the tendency to focus on one's own thoughts, beliefs or activity/behaviours with difficulty moving on to other thoughts and behaviours.

Internalising symptoms: emotional symptoms which tend to be expressed internally, such as anxiety and low mood.

**Intolerance of uncertainty:** the tendency to have a negative perception, interpretation, or experience of uncertainty.

**Externalising symptoms:** maladaptive behaviours which are directed externally towards the environment, such as aggressive behaviours and impulsivity.





# Do children with social anxiety disorder benefit from social skills training?

By Dr. Jessica Edwards

Social anxiety disorder (SAD) in children can be difficult to treat, as evidenced by the varied outcomes reported post-treatment.<sup>1,2</sup> Although childhood treatments for SAD commonly involve at least some social skills training,<sup>3</sup> it isn't clear whether children with SAD have particular difficulties with social skills. There is therefore a need to better establish whether social skills are an effective target for treating SAD.

Samantha Pearcey and colleagues have been working to address this knowledge gap and published their latest findings earlier this year as a Research Review in the *Journal of Child Psychology and Psychiatry*. “The presentation of SAD and social skills difficulties can look very similar, creating problems for observational studies”, explains Pearcey. “We thus performed a systematic review and meta-analysis to establish whether or not there is a relationship between social anxiety and the cognitions that underlie social skills (e.g. Theory of Mind) as well as disorders typically associated with social cognition deficits (i.e. autism spectrum disorder, ASD)”.

The researchers identified 50 studies from which they could calculate an effect size to measure the relationship between social anxiety and social cognition. Together, these studies included data from >15,000 children and adolescents. Overall, they found a significant, moderate effect to support an association between increased social anxiety and lower social cognitive ability. However, this association appeared largely accounted for by elevated social anxiety among children with ASD, and those with difficulties in specific aspects of Theory of Mind, but not broader social skills such as emotion recognition.

Based on these findings, Pearcey *et al.* consider that treatments for SAD in neurotypical children may benefit from focusing on particular aspects of Theory of Mind rather than emotion recognition and other broad social skills. “Research into what other targets might best facilitate improved treatment outcomes for children with SAD is needed,” says Pearcey. “At this point it is worth carefully considering whether social skills training is really applicable in treatment plans for children with SAD”.

*“The presentation of SAD and social skills difficulties can look very similar, creating problems for observational studies.”*

#### Referring to:

Pearcey, S., Gordon, K., Chakrabarti, B., Dodd, H., Halldorsson, B. & Creswell, C. (2020), *Research Review: The relationship between social anxiety and social cognition in children and adolescents: a systematic review and meta-analysis*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13310.

#### References:

- <sup>1</sup> Beidel, D.C. *et al.* (2000), *Behavioral treatment of childhood social phobia*. *J. Consult. Clin. Psychol.* 68, 1072–1080. doi: 10.1037/0022-006X.68.6.1072.
- <sup>2</sup> Spence, S.H. *et al.* (2000), *The treatment of childhood social phobia: The effectiveness of a social skills training-based, cognitive-behavioural intervention, with and without parental involvement*. *J. Child Psychol. Psychiatr.* 41, 713–726. doi: 10.1111/1469-7610.00659.
- <sup>3</sup> National Institute for Health and Care Excellence (2013). *Social anxiety disorder: Recognition, assessment and treatment (NICE Quality Standard, CG159)*.

#### Glossary:

**Social anxiety disorder:** Fear of negative evaluation by others in particular social situations, leading to marked anxiety and distress or avoidance of these social situations.

**Theory of mind:** The ability to identify and understand how someone else is thinking or feeling.



# Sleep problems from infancy are linked with impaired well-being in middle childhood

By Dr. Jessica Edwards

Researchers in the USA and Australia have found that sleep disturbances from early childhood are associated with reductions in well-being at age 10-11 years old. Ariel Williamson and colleagues came to this conclusion after analysing data from >5,000 children enrolled in the Longitudinal Study of Australian Children – Birth Cohort. They evaluated caregiver reports on child sleep problems every two years from birth to age 10-11 years, and the outcomes of caregiver-reported, teacher-reported and child-completed tasks that indicated a child's well-being at age 10-11 years.

Williamson et al. found five distinct sleep problem trajectories: persistent problems from infancy through to middle childhood (7.7% of the sample), limited infant / preschool sleep problems (9.0%), increased middle childhood sleep problems (17.0%), mild sleep problems over time (14.4%) and no sleep problems (51.9%). Compared to children with no sleep problems, they found that those with persistent problems had impairments in emotional and behavioural functioning, health related quality of life and academic skills, but not perceptual reasoning. Children with other sleep problem trajectories also had impairments in some domains compared to those with no sleep problems.

In a press release published by the Children's Hospital of Philadelphia, Williamson said "For both teacher-rated and parent-rated mental health concerns, such as internalising and externalising problems, children with persistent sleep problems had the greatest impairments. But we also found that even kids with sleep problems limited to early childhood or mild sleep problems over time had more emotional and behavioural concerns compared to the children with no sleep problems". Williamson went on to urge caution, explaining that "just because [a] child has a sleep problem, it doesn't mean they are destined for mental health concerns later in life."

The researchers suggest that any parent who is concerned about their children's sleep should consult their paediatrician and consider seeking sleep treatment. Similarly, they believe that screening for child sleep problems at every well child visit is important to address sleep concerns. Going forward, they consider that studies which investigate whether early interventions targeting sleep problems could prevent later impaired child well-being are now warranted.

## Referring to:

Williamson, A.A., Mindell, J.A., Hiscock, H. & Quach, J. (2020), *Longitudinal sleep problem trajectories are associated with multiple impairments in child well-being. J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13303.

## Glossary:

**Internalising problems:** emotional symptoms which tend to be expressed internally, such as anxiety and low mood.

**Externalising problems:** maladaptive behaviours which are directed externally towards the environment, such as aggressive behaviours and impulsivity.





# How effective is medication for ADHD symptoms in children with ASD?

By Dr. Jessica Edwards

Clinically significant attention-deficit/hyperactivity disorder (ADHD) symptoms are common and impairing in children with autism spectrum disorder (ASD).<sup>1</sup> Moreover, ADHD is the most common co-occurring mental health diagnosis driving increased rates of medication use in children with ASD.<sup>2</sup> Today, the rates of polypharmacy in this population are high and a variety of medication classes are being prescribed, without established evidence to support their use.<sup>3</sup> To address this knowledge gap, Rebecca Rodrigues and colleagues compiled a Practitioner Review for the *Journal of Child Psychology and Psychiatry* on the pharmacological treatment of ADHD symptoms in children with ASD.

“Prior to our study, a small number of reviews were available that synthesized efficacy evidence and provided clinical recommendations for assessment and management of ADHD in ASD; however, since their publication, new empirical studies have been published that examine efficacy of additional medications”, explains study author Stephanie Ameis. “Therefore, our Practitioner Review aimed to provide one comprehensive resource to: (1) synthesize the available evidence testing efficacy of all pharmacological treatments for ADHD symptoms in children and youth with ASD through our systematic review and meta-analysis; and (2) provide guidance to translate the current evidence base into recommendations for clinical care”.



Ameis and colleagues identified 25 randomized controlled trials (RCTs) involving participants <25 years-of-age diagnosed with ASD and that evaluated ADHD outcomes after treatment with medication. Results from their meta-analysis showed that methylphenidate, atomoxetine, and guanfacine seem to have small-to-large effects on hyperactivity and inattention in children with ASD. However, the overall quality of the available evidence was low to very low. Additionally, indirect low-quality evidence indicated that aripiprazole and risperidone might reduce hyperactive symptoms in children and youth with ASD who were treated for significant irritability, but these results are only exploratory and may not generalise. They also found that the evidence for long-term medication treatment is limited, and the evidence for effects on real-world function (e.g., adaptive, cognitive, academic) is minimal or altogether lacking in the current literature.

The researchers' take-home message for clinical care is that methylphenidate remains the first-line medication treatment option, while emerging evidence suggests that atomoxetine and guanfacine might reduce ADHD symptoms in ASD. "Clinicians should evaluate the current evidence-base with families, consider personalized child, any familial and environmental factors, the adverse effects, the administration and discontinuation profiles of each second-line option and ultimately undertake a shared-decision making process to support choice among second-line medication treatment options", says Ameis. "Ongoing evaluation of the need for continuous pharmacological treatment has to be an integral component of care for children and youth with ASD and ADHD".

Going forward, Ameis and colleagues hope that future studies will evaluate the impact of medication treatment for ADHD in ASD on academic performance and school adjustment to examine whether clinical effects translate into improvement in real world functioning. They also consider that long-term efficacy studies are needed that can provide information on whether initial ADHD treatment effects are maintained or enhanced with longer-term treatment in children with ASD.

### Referring to:

Rodrigues, R., Lai, M-C., Beswick, A., Gorman, D.A., Anagnostou, E., Szatmari, P., Anderson, K.K. & Ameis, S.H. (2020), *Practitioner Review: Pharmacological treatment of attention-deficit/hyperactivity disorder symptoms in children and youth with autism spectrum disorder: a systematic review and meta-analysis*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13305.

See Figure 3 in this paper for a helpful medication choice pathway.

### References:

- <sup>1</sup> Lai, M-C. et al. (2019). *Prevalence of co-occurring mental health diagnoses in the autism population: A systematic review and meta-analysis*. *Lancet Psychiatry*, 6, 819–829. doi: 10.1016/S2215-0366(19)30289-5.
- <sup>2</sup> Jobski, K. et al. (2017). *Use of psychotropic drugs in patients with autism spectrum disorders: A systematic review*. *Acta Psychiatr. Scand.* 135, 8–28. doi: 10.1111/acps.12644.
- <sup>3</sup> Houghton, R. et al. (2018). *Psychiatric comorbidities and psychotropic medication use in autism: A matched cohort study with ADHD and general population comparator groups in the United Kingdom*. *Autism Res.* 11, 1690–1700. doi: 10.1002/aur.2040.



# Do brain function abnormalities lead to substance use, or vice versa?

By Dr. Jessica Edwards

New research has, for the first time, investigated the direction of links between brain function and substance use throughout adolescence. Jungmeen Kim-Spoon and colleagues studied 167 adolescents who were assessed annually for four years from 13-14 years old. The researchers assessed risk-related brain function by measuring blood-oxygen-level-dependent responses in the insula (a brain region involved in processing risk information) during a lottery choice task. They assessed substance use by asking about cigarette, alcohol, and marijuana use. Additionally, they assessed cognitive control, a possible moderator, by evaluating behavioural performance during the Multi-Source Interference Task (which required participants to indicate the identity of a unique digit within a sequence despite this digit not matching its position on the button-press).

Kim-Spoon and colleagues found that greater substance use predicted subsequent increased insula activation during risk processing, and this relationship was particularly strong for adolescents with low cognitive control. Cognitive control might, therefore, moderate neurological changes after substance use. In contrast, insula activation was not significantly linked with subsequent substance use. Although the researchers acknowledge important limitations to their study, they hypothesize that cognitive control might serve as an important target in preventing and treating substance use in adolescents.

## Referring to:

Kim-Spoon, J., Herd, T., Briand, A., Peviani, K.M., Lauharatanahirun, N., Lee, J., Deater-Deckard, K., Bicket, W.K. & King-Casas, B. (2020), *Bidirectional links between adolescent brain function and substance use moderated by cognitive control*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13285.





## Voice-hearing can be positive for some young people

By Dr. Jessica Edwards

Researchers in Manchester have described the diverse forms and functions of voices heard by young people. Sarah Parry and Filippo Varese collected demographic, contextual and qualitative data from 68 adolescents (13-18 years old) from around the world who had direct experience of voice-hearing. They then performed what is known as a Foucauldian-informed narrative analysis to capture phenomenologically meaningful individual accounts and systemically informed narratives about voice-hearing. Using this approach, the researchers analysed the form and function of voices, including relational, protective, distressing and nuanced experiences.

Parry *et al.* found that, although most participants (56%) identified negative emotions about their voices, 23% reported only positive feelings, and 21% described mixed emotions. Moreover, some participants explained that some potentially distressing voices were somewhat valuable, for example by increasing their creativity. The researchers also found evidence for reciprocal relationships with pleasant voices, as some reported that the voices gave them someone to talk and listen to, and reduced feelings of loneliness. Thus, while most adolescents explained that voice-hearing reduced their control in their day-to-day activities and negatively influenced their wellbeing, positive effects of voice-hearing were also reported.

“For children and young people who experience friendly and comforting voices, it is important that we don’t unnecessarily medicalise their experience”, proposes Parry. “Voice-hearing in childhood is common and doesn’t need to be seen as problematic unless the voices are causing the child distress or difficulties.”

Children, young people and parents have been largely overlooked in terms of research about voice-hearing and other sensory experiences. Based on their findings, Parry et al. consider that it is now important that young people’s experiences inform recommendations to provide more effective support where necessary, and to recognise the possible value of these experiences without unnecessary pathologising.

“Many of the interventions delivered to children and young people who hear voices are based on evidence extrapolated from research with adult voice-hearers”, explains Parry. “We really hope our findings from young people will help inform policy and practice particularly for younger children, and will encourage more research with children, benefitting from their experiences and insights.”

*“Voice-hearing in childhood is common and doesn’t need to be seen as problematic unless the voices are causing the child distress or difficulties.”*

#### Referring to:

Parry, S. & Varese, F. (2020), *Whispers, echoes, friends and fears: forms and functions of voice-hearing in adolescence*. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12403

#### See also:

The authors of this paper have recorded a video abstract discussing this research which is available online:

<https://www.acamh.org/freeview/whispers-echoes-friends-and-fears-forms-and-functions-of-voice%E2%80%90hearing-in-adolescence/>

The authors of this paper have also created two short animations. The first video is suitable for health and social care professionals to raise awareness of voice-hearing; the second video is suitable for teachers to explain how they can support young people affected by voice-hearing:

<https://www.youtube.com/watch?v=sMknuzMsPiM>

<https://www.youtube.com/watch?v=CYIWbZO6qZo>

#### Glossary:

**Foucauldian-informed Narrative Analysis:** a method of analysing in-depth qualitative responses, which recognizes that people use storytelling to develop understanding about their experiences and to portray themselves to others.



# Can childcare attendance reduce externalising behaviour in children exposed to adversity?

By Dr. Jessica Edwards



Childcare attendance has been proposed as a public health initiative to help close the developmental gap between children from disadvantaged families and their wealthier peers.<sup>1,2</sup> Now, Marie-Pier Larose and colleagues have investigated whether childcare attendance might modify the association between exposure to family adversity early in life and later externalising behaviour by buffering cognitive function. To do so, the researchers harnessed data collected by the Avon Longitudinal Study of Parents and Children.

“In this study, we specifically examined if children’s cognitive abilities partly explained the association between exposure to adversity and higher levels of externalising behaviours during adolescence”, explains Principal Investigator, Edward Barker. “We chose children’s cognitive abilities as a potential explanatory factor for two main reasons. First, several theoretical models suggest that cognitive deficits, which can be associated with difficulties to express and regulate oneself, might be associated with the expression of higher levels of externalized behaviours. Second, many studies have documented an association between childcare attendance and higher cognitive abilities, particularly among children from socially disadvantaged environments”. With this in mind, the researchers then tested whether childcare attendance may attenuate the deleterious effect of early life adversity on children’s cognition and later behaviour.

Larose *et al.* found that children exposed to adversity in early childhood had lower cognitive abilities in middle childhood, which were then associated with higher levels of externalising behaviour in adolescence. Moreover, childcare attendance was found to buffer this indirect effect. “Although significant social selection processes were taken into account in our paper, this finding highlights the importance of childcare attendance for children exposed to early life adversity”, says lead author, Larose. “But unfortunately, children who might benefit the most from childcare attendance are also the least likely to attend because of social, administrative and financial barriers. To achieve a childcare social equalising effect, stakeholders need to need to implement policies that diminish the influence of these barriers on family’s propensity to attend childcare services”.

This study has highlighted a potential mechanism that could be targeted to prevent externalising behaviour in children exposed to adversity. Future studies that explore additional biological and psychosocial pathways which link adversity to impaired development are now needed and could reveal other complementary intervention targets.

## Referring to:

Larose, M-P., Cote, S.M., Ouellet-Morin, I., Maughan, B. & Barker, E.D. (2020), *Promoting better functioning among children exposed to high levels of family adversity: the protective role of childcare attendance.* *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13313.

## References:

<sup>1</sup> Berry D. *et al.* (2016), *Household chaos and children’s cognitive and socio-emotional development in early childhood: Does childcare play a buffering role?* *Early Child Res. Q.* 34, 115–127. doi: 10.1016/j.ecresq.2015.09.003.

<sup>2</sup> Dearing, E. *et al.* (2009), *Does higher quality early child care promote low-income children’s math and reading achievement in middle childhood?* *Child Dev.* 80, 1329–1349. doi: 10.1111/j.1467-8624.2009.01336.x.

## Glossary:

**Externalising behaviours:** maladaptive behaviours which are directed externally towards the environment, such as aggressive behaviours and impulsivity.



# Emotional abuse during childhood is linked with differences in brain structure

By Dr. Jessica Edwards

Delia Gheorghe and colleagues at the University of Oxford have harnessed data from the UK Biobank to delineate the relationship between adverse experiences and brain structure. The researchers accessed brain imaging data together with retrospective reports of childhood adversity and adulthood partner abuse from more than 6,000 adults (mean age, 62.1 years). They tested for associations and found that emotional abuse in childhood was associated with smaller volumes of the cerebellum (which supports emotional processing) and the ventral striatum (involved in reward processing).

“We suspect that inter-individual differences in key brain regions may mediate the relationship between experiences of adversity and later psychopathology”, explains Gheorghe. “Our results provide further evidence that structures involved in stress-related information processing might be particularly important. Findings such as these help generate further avenues to explore novel treatment strategies, such as non-invasive brain stimulation, or pharmaceutical targets.”

Although the study findings were statistically significant, the effect sizes for these associations were relatively small. This means that differences in brain structure might not necessarily translate to differences in behaviour, so might not be clinically significant.

“It is relatively unprecedented to be able to investigate neuroimaging associations with adverse lifetime experiences in such large, well-phenotyped population cohorts, like the UK Biobank”, says Gheorghe. “Further progress in shaping our understanding of the neurobiological consequences of adverse experiences is likely to be built around large datasets, but also longitudinal data and rigorous assessment of adverse events.”

## Referring to:

Gheorghe, D.A., Li, C., Gallacher, J. & Bauermeister, S. (2020), Associations of perceived adverse lifetime experiences with brain structure in UK Biobank participants. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13298.





# How does parenting style affect development in infants with a visual impairment?

*By Dr. Jessica Edwards*

Earlier this year, researchers from Great Ormond Street Hospital and the UCL Great Ormond Street Institute of Child Health in the UK published their latest findings from the OPTIMUM project: a national, longitudinal study investigating early development and interventions for young children with visual impairment. We asked the Principal Investigator of the study, Naomi Dale, to explain this research.

“We set out to undertake an ambitious national, longitudinal study (the OPTIMUM project), to ensure sufficient recruitment of 8-12 month infants with rare eye disorders and chronic visual impairment who we could follow through a 2-year period (with three time points)”, says Dale. “We reached our target number of 100 infants after 20 months with funding from a new consortium involving Fight for Sight, the Royal National Institute of Blind People and Great Ormond Street Hospital Children’s Charity. This part of the study presented in the *Journal of Child Psychology and Psychiatry* focused on parenting style. Here, the question raised by our research team of clinicians and researchers was whether parenting styles impacted on infant development through their early years, as well as vision itself. We already knew from previous research and clinical experience that lack of vision, particularly at the most severe end, has highly disruptive effects on development from the earliest days”.

The study used an observational approach. Researchers filmed 55 mothers playing with their infants, and coded the mother-infant interactions for 'parent sensitivity' and 'parent maintaining'. They then assessed the infants' cognition and language ability annually. With the data in hand, they tested whether parenting style was linked with developmental outcomes, while controlling for vision level. The analytical approach chosen "allowed us to take into account that each infant has an individual rate of development, which is the case in a very heterogeneous sample of infants with vision disorders", explains Dale.

The researchers found that higher maternal sensitivity was linked with increased verbal comprehension from infancy to age 3 years. "This is of interest because verbal comprehension is more at risk in infants and young children with visual impairment, as the child cannot see the 'language referent' visually and may respond to language without having semantic understanding", says Dale. "It would suggest that early parent-infant interactions provide a socio-emotional framework to help the infant with visual impairment learn more about the world around them, as language is key for helping these young children access the world".

Going forward, Dale and colleagues propose that supporting parents to interact sensitively with visually impaired infants might help their children's longer term language development and understanding of the world around them. This insight will likely help to design more effective early interventions for parents of infants with visual impairments. "Our larger OPTIMUM study showed that a structured developmental framework (the Developmental Journal for babies and young children with visual impairment) fostered greater sensorimotor understanding and expressive language development whereas this study showed that parenting style fostered greater verbal comprehension development", concludes Dale. "Now, we are starting to understand the different needs that may benefit from early intervention and to support the complex development of these infants".

#### Referring to:

Sakkalou, E., O'Reilly, M.A., Sakki, H., Springall, C., de Hann, M., Salt, A.T. & Dale, N.J. (2020), *Mother-infant interactions with infants with congenital visual impairment and associations with longitudinal outcomes in cognition and language*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13308.

#### See also:

<https://www.optimumstudy.org/>

#### Glossary:

**Parent maintaining:** holding the child's interest and focus of attention

**Parent sensitivity:** empathic and accepting responses to the infant's cues about their mental states

*"We set out to undertake an ambitious national, longitudinal study (the OPTIMUM project), to ensure sufficient recruitment of 8-12 month infants with rare eye disorders and chronic visual impairment who we could follow through a 2-year period (with three time points)."*





# How much do we really know about ‘Theraplay’ for young children?

By Dr. Jessica Edwards

‘Theraplay’ is an intervention that aims to enhance attachment, self-esteem and trust in others for children with behavioural, emotional or developmental difficulties. The intervention, founded on attachment theory,<sup>1</sup> harnesses natural and playful interactions between caregivers and children to develop healthy and positive relationships. Although Theraplay is used worldwide in various settings, its effectiveness is unclear. For this reason, researchers at the University of Lincoln, UK conducted a systematic literature review on the effectiveness of Theraplay for children <12 years-of-age and the quality of Theraplay research.

Rebecca Money and colleagues found only seven quantitative studies using Theraplay as a single treatment for children, which were most commonly case series. Within these studies, they found wide variation in the quality of research methodology, as well as in Theraplay practice and evaluation. Although the evidence base was small and limited, Money et al. did find some indication that Theraplay might be helpful for children with internalising or externalising symptoms, dual diagnoses and developmental difficulties, when compared to the same children pre-treatment or a waitlist control group. However, they found less promising evidence to support an effect in looked-after children with social and/or emotional difficulties.

For now, it seems that firm conclusions about Theraplay’s effectiveness cannot yet be drawn due to a lack of rigorous research. Money et al. conclude that high quality evaluations of Theraplay and its mechanisms of change are needed to inform the use of this intervention in practice.

## Referring to:

Money, R., Wilde, S. & Dawson, D. (2020), Review: The effectiveness of Theraplay for children under 12 – a systematic literature review. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12416.

## References:

<sup>1</sup> Bowlby, J. (1973). *Attachment and loss. Separation Anxiety and Anger, Vol. 2*. London: Hogarth Press.

## Glossary:

**Attachment theory:** proposes that the child–caregiver relationship established during childhood can influence emotion regulation and other aspects of development; originally proposed by Bowlby in 1969.

**Internalising symptoms:** emotional symptoms which tend to be expressed internally, such as anxiety and low mood.

**Externalising symptoms:** maladaptive behaviours which are directed externally towards the environment, such as aggressive behaviours and impulsivity.

**Theraplay:** A child and caregiver therapy for building and enhancing attachment, self-esteem, trust in others, and joyful engagement. It is based on the natural patterns of playful, positive interaction between caregiver and child and is personal, physical and fun.



# Mothers' prenatal BMI is linked with foetal brain connectivity

By Dr. Jessica Edwards

New data suggest that a high maternal prenatal body mass index (BMI) is associated with differences in functional connectivity in the foetal brain that might confer a risk of mental health and cognitive problems in childhood. Megan Norr and colleagues used non-invasive magnetic resonance imaging in utero to see how foetal neural networks in the brain varied with maternal prenatal BMI. They performed their analyses in 109 fetuses at 26-39 weeks' gestation.

The researchers found that connectivity between foetal frontal and insular brain regions varied with maternal BMI, with a tendency for increased within-hemisphere connectivity and reduced cross-hemisphere connectivity between these regions when maternal BMI was higher. These brain regions later support behavioural regulation (including control of eating behaviour) and integrative processes (including processing food- and appetite-related information). These findings therefore provide initial evidence that neural differences associated with maternal BMI begin before birth affecting key brain regions that underlie behaviour impairments.

Further research is now needed to determine whether and how these differences in foetal brain connectivity effect future physical health, mental health, and cognition. With this information, it might be possible to develop interventions for mothers' prenatal health to improve their children's health and functioning.

## Referring to:

Norr, M.E., Hect, J.L., Lenniger, C.J., Van den Heuvel, M. & Thomason, M.E. (2020), An examination of maternal prenatal BMI and human fetal brain development. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13301.



# Which disorders precede the development of mood disorders in young people?

By Dr. Jessica Edwards

Mood disorders such as bipolar disorder (BPD) and major depressive disorder (MDD) typically emerge in childhood or adolescence. Now, researchers in Switzerland, the USA and Canada have investigated whether certain other mental health disorders precede the onset of mood disorders. They analysed data from a cohort study involving 449 children of patients with BPD (n=88), MDD (n=71), substance use disorders (n=30) and medical controls (n=60).

The children and adolescents began the study at 10 years old on average, were interviewed using the Kiddie-Schedule for Affective Disorders and Schizophrenia every 3 years, and were followed up for an average of 13 years. The researchers analysed associations between potential precursors and the subsequent onset of manic/hypomanic episodes or MDD (depressive episodes in those who did not experience mania or hypomania). They found that first manic/hypomanic episodes were predicted by earlier depressive episodes, conduct disorder or drug use disorders. These links tended to be stronger in children of parents with BPD compared to those of parents without BPD. Meanwhile, MDD onset was predicted by earlier anxiety disorders.

“Although we found children who presented with depressive episodes, conduct disorder or cannabis use disorders to be at an elevated risk of developing manic/hypomanic episodes, there were still many children with these psychopathological manifestations who did not develop manic/hypomanic episodes”, explain researchers Caroline Vandeleur and Martin Preisig. “As such, even in children of parents with bipolar disorders, the occurrence of depressive episodes, conduct disorder or cannabis use disorders would not yet justify the installation of a preventive treatment with mood stabilizers. However, these children should be closely followed by a clinician and one focus should be the avoidance of drug use”.

Overall, these findings suggest that BPD and MDD might develop via distinct pathways. Now, these findings need replication in larger cohorts of offspring. Clinical studies of treatments and preventive measures in youth with anxiety, behavioural or depressive disorders are also critical to understand what helps reduce the debilitating impact of later mood disorders.

## Referring to:

Rudaz, D., Vandeleur, C.L., Gholan, M., Castelao, E., Strippoli, M-P. F., Marquet, P., Aubry, J-M., Merikangas, K.R. & Preisig, M. (2020), *Psychopathological precursors of the onset of mood disorders in offspring of parents with and without mood disorders: results of a 13-year prospective cohort high-risk study*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13307.

