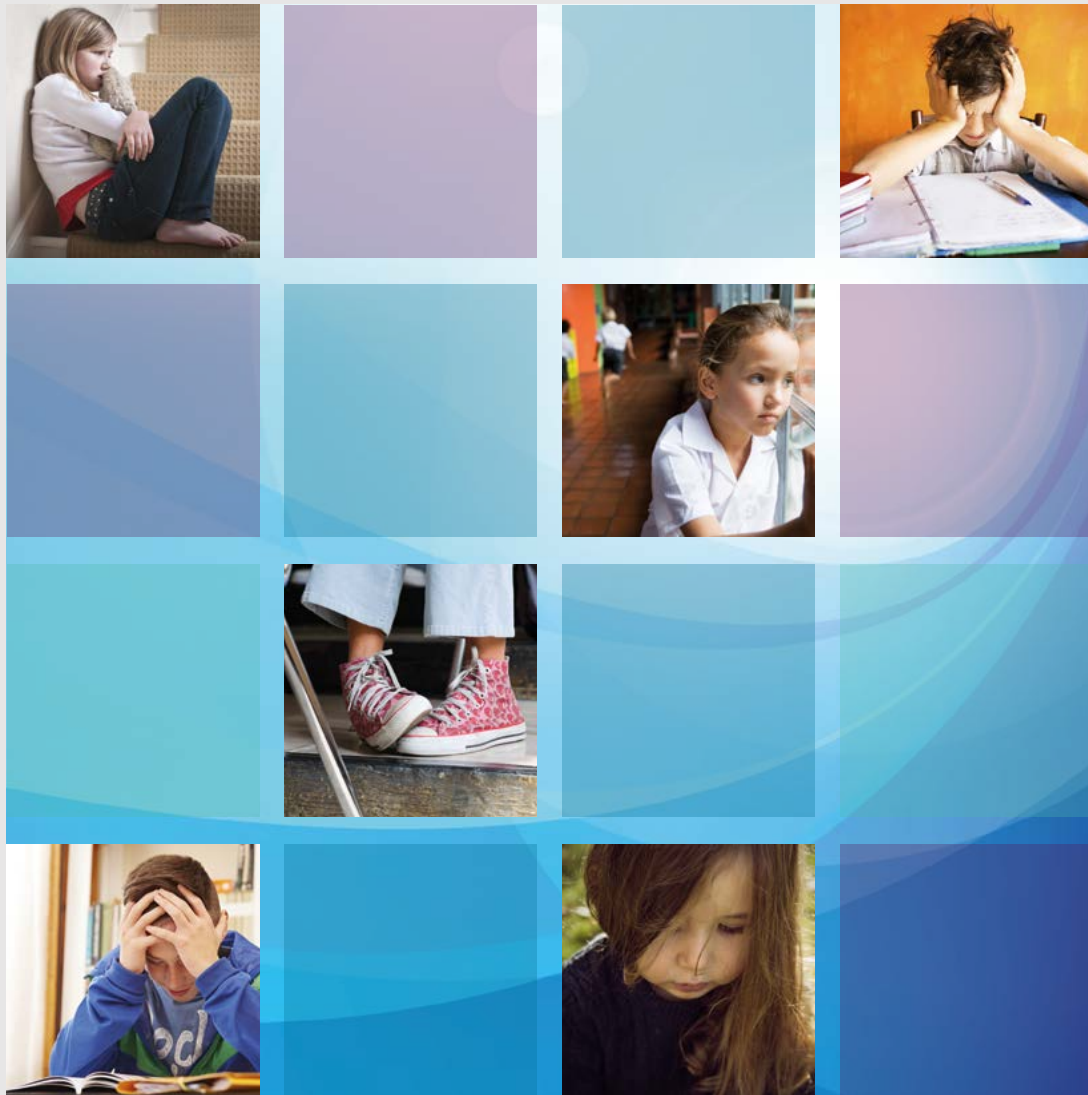




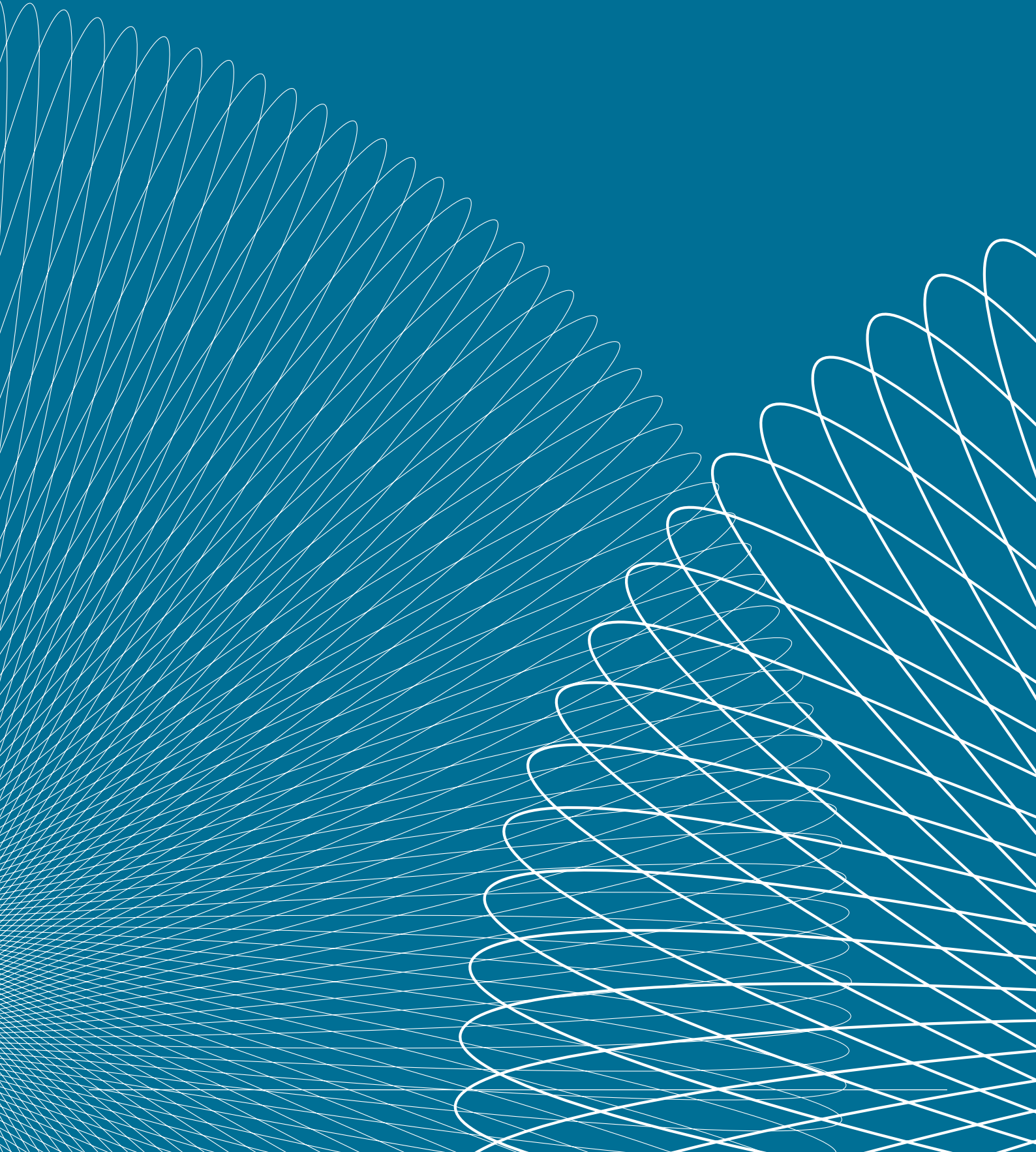
CENTRE FOR AUTISM
MIDDLETOWN

Anxiety Volume 2



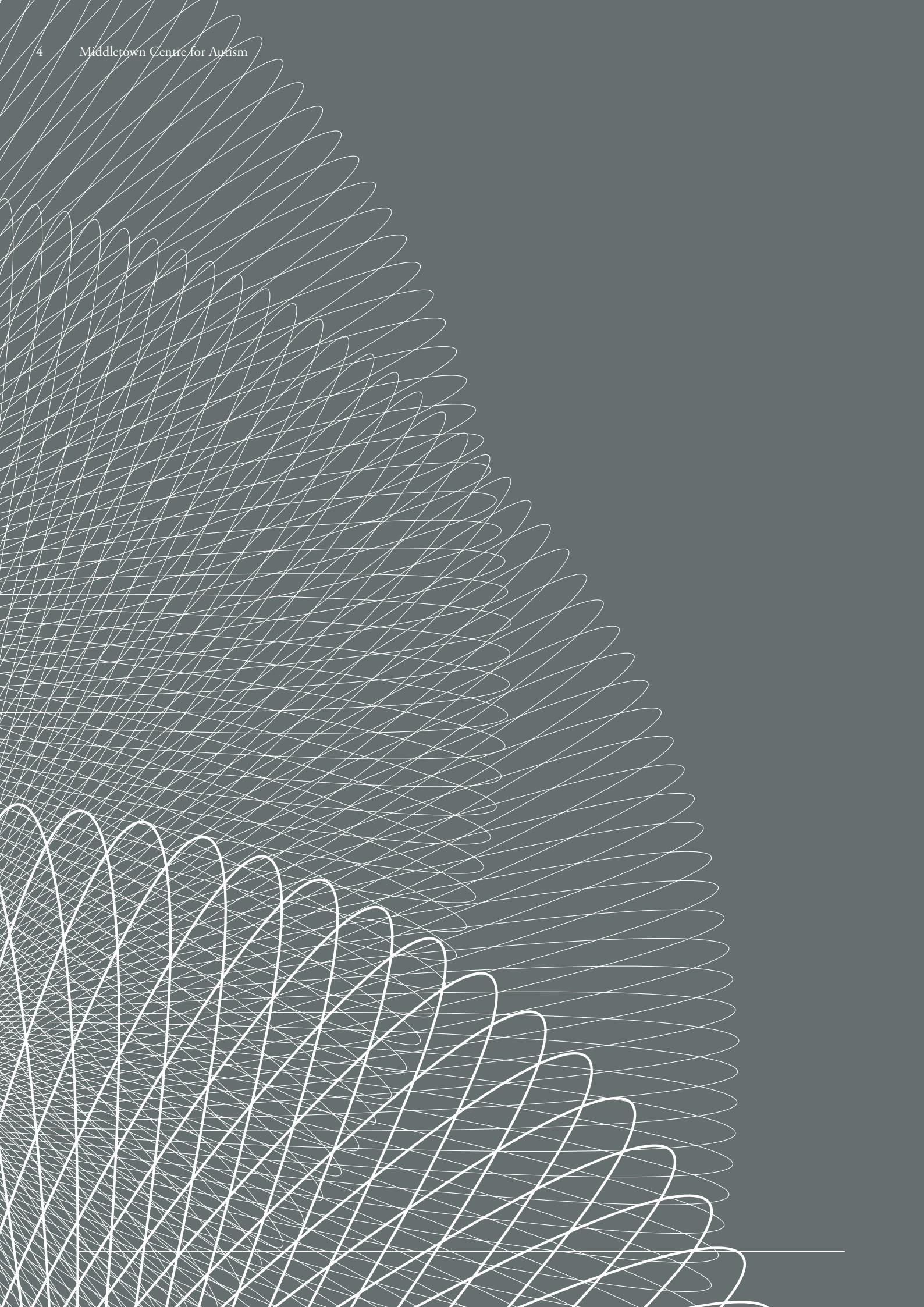
Research Bulletin Issue No. 16

Enhancing the lives of children and young people with autism and their families,
through the delivery of specialist educational services



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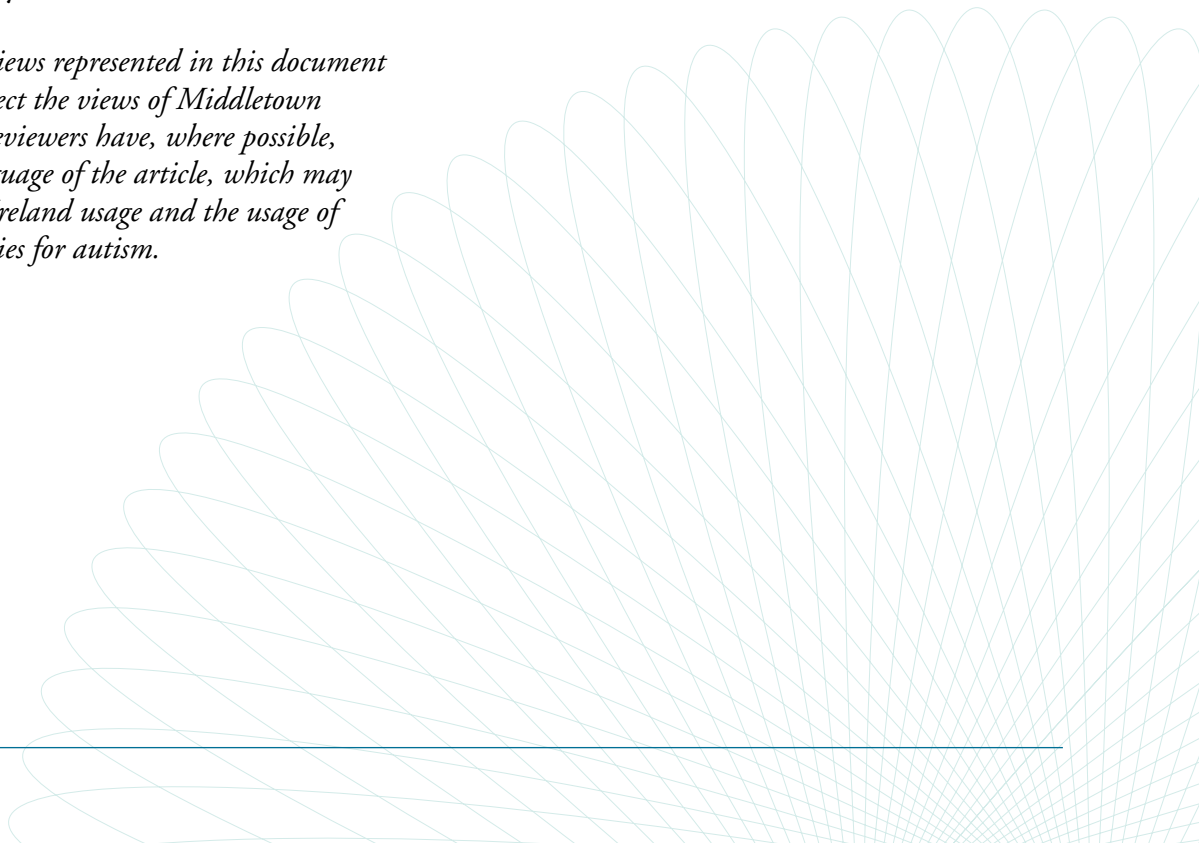


INTRODUCTION

This is the sixteenth Research Bulletin produced by Middletown Centre for Autism. The aim of the Centre's Research Bulletins is to provide accessible summaries of relevant peer-reviewed research articles and reviews of literature. The current Research Bulletin contains nine articles related to Anxiety. Articles are sourced from a range of peer-reviewed journals from the period 2011 to 2014.

The Bulletin commences with an interview with Dr Fiona Knott who is a Senior Lecturer in Clinical Psychology at the University of Reading who has worked clinically with children with autism in the NHS for 20 years. Her teaching and research at the University focuses on the development and manifestation of anxiety in children with autism, with particular regard to parenting and cognitive behavioural treatment. She has examined the nature of family and peer relationships in the context of autism and the impact of beliefs and attributions about autism on family functioning and friendships. Fiona has published extensively on these issues.

Please note that the views represented in this document do not necessarily reflect the views of Middletown Centre for Autism. Reviewers have, where possible, used the original language of the article, which may differ from UK and Ireland usage and the usage of a range of terminologies for autism.





INTERVIEW WITH DR FIONA KNOTT

1. What are the key sources of anxiety in the school context?

Children with ASD experience anxiety in many situations, and about half will have clinically significant anxiety problems. For many children with ASD, school is a major source of stress. While many reasons are shared with typically developing children, there are some key factors relating to their ASD that mean stress and anxiety are more likely.

- Social interaction and communication skills. The school environment is full of unspoken social rules, both in the classroom and in the playground. Not knowing how to make friends, how to 'read' social situations or to interpret complex playground interactions means that children with autism have to work much harder than other children to survive day to day. High rates of bullying and victimisation are common, but even ordinary social experiences can be exhausting. Winning and losing can cause particular problems, as can turn taking and negotiating ideas and activities. Unstructured times such as play and lunchtimes can be particularly problematic as they are noisy, less bound by formal rules and have less direct adult input than the classroom. Other problem times include the school bus and the period before and after school as they are also unstructured. Assembly can be difficult because of the change of routine and the presence of large numbers of children.
- Problems with flexible behaviour mean that dealing with change is a notorious problem. It can encompass a multitude of issues, including moving from one school year to the next, coming back to school on Monday after the weekend or after holidays and dealing with supply teachers.

Normal activities such as transitioning from class to class in secondary school, as well as out of the ordinary events such as trips, can be sources of stress. Even changes that most children would find enjoyable, such as cancellation of lessons for the Christmas party or play rehearsal can be a source of worry.

- Problems with organisational skills. Many children do not know what to do and when to do it; as a result they worry about getting lost, being late, having the right materials with them at the right time, getting into trouble or looking foolish.
- Sensory processing problems can be a further source of stress in school. Walking into the lunch hall may be overwhelming because of the smell from different meals. The playground is noisy and fire alarms and school bells may provoke anxiety. Going barefoot in the gym hall may be unbearable because of the gritty feeling under their feet.
- Many children with ASD have additional problems with coordination, making PE and sports another source of stress.
- School work. Sometimes, children's difficulty with school work is misinterpreted by teachers as being due to emotional problems or disobedience, rather than to the underlying ASD. Children may fear being told off and lack skills to ask for help when needed. Homework is a very common source of stress and anxiety, particularly as the amount increases through secondary school.

2. How can teachers easily identify the triggers of anxiety before it escalates in the classroom?

Sometimes it isn't at all easy to identify triggers. The key thing is to observe and get to know each child as the triggers for anxiety and the way they display anxiety will differ from child to child. Talking to the child's parents is a vital way to gather information about things to look out for. For instance, some children may become increasingly obsessed with their special interest when they are anxious, while others will lose interest in a favourite activity. The most important thing is to recognise that the child's behaviour is signalling anxiety, rather than telling you that they just don't want to do something.

3. What adaptations to a classroom environment can help reduce anxiety?

Many of the strategies that would ordinarily be used with a child with ASD in a classroom help to reduce anxiety.

- Create a predictable routine with as few transitions as possible and provide individual visual timetables so the timetable is clear. Any changes can then be planned and explained via the timetable.
- Break tasks down into manageable chunks and colour code books and other materials so they can find what they need easily.
- Give instructions using clear and nonliteral language, and make sure that expectations relating to the task are clear.
- Pay attention to the sensory environment and reduce sensory overload where possible. Arrange seating to avoid distractions from windows and the door, or to reduce disturbance from noises such as gurgling radiators. For some children, having their own work-station is ideal, or they may find ear defenders helpful.

Other children may need a space to use when they feel overwhelmed, such as a tent or area outside the classroom.

- Provide additional support at times when the child is most likely to be anxious, such as playtimes and lunchtime. Buddies, organising structured playground games or giving the child a job to do at lunchtime can all be helpful, the latter building self-esteem as well as taking them out of stressful social times. Some children may need to spend time chilling out in the library, joining their peers for the last few minutes of playtime outside. Others may need to come in to class late to avoid the crush in the cloakroom.

4. To what extent do sensory sensitivities contribute to anxiety in an individual with autism?

There is very strong evidence of a relationship between problems with sensory modulation and anxiety (Green & Ben-Sasson, 2010, Mazurek et al 2013), and this is apparent from very early childhood. For instance, toddlers with ASD who were rated high on sensory symptoms displayed higher rates of negative emotionality and anxiety symptoms than toddlers with low symptoms (Ben-Sasson et al 2008). High sensory symptoms are also associated with emotion regulation problems in middle childhood (Ben-Sasson et al, 2009). However, it is not clear what the mechanism is behind this relationship. Sensory processing problems may cause anxiety, or anxiety may lead to sensory processing difficulties. Another possibility is that they are both explained by a third, as yet unknown factor. It is also clear that while sensory processing problems certainly play a part, other factors such as genetics, life events, language and cognitive style also play a significant role in the development of anxiety.

5. Are deep pressure activities (e.g. massage, weight lifting, cardiovascular activity) effective in reducing anxiety?

This is quite a controversial area. One of the key exponents of this idea is Temple Grandin, who developed a 'squeeze machine' for herself and then used the ideas when working with cattle. There are lots of anecdotal reports suggesting that deep pressure activities are helpful for a range of problems as well as anxiety, but data from scientific research is less conclusive. For instance, Gringras et al (2014) found that weighted blankets did not help with children's sleep onset or maintenance, using objective measures such as actigraphs. Other researchers have found similar findings, for instance that a 'snug vest' had no impact on stereotypic behaviour (Watkins & Starling 2014) or on challenging behaviour (Davis et al 2013). Only one, by Eldelson in 1999 examined the effect of deep pressure techniques on anxiety, using Grandin's squeeze machine with a small group of children with ASD. They reported benefits in terms of reduced stress (shown by galvanic skin response and parent reported arousal level) but only marginally reduced anxiety. Research Autism (<http://www.researchautism.net/>) reported that of eleven studies examining weighted techniques, nine reported no benefit and two reported mixed findings. There have also been adverse events, such as the tragic death of a child in Canada in 2008 who was using a weighted blanket.

In contrast, there is some evidence that sensory integration therapies (which consist of a combination of techniques) can lead to short term positive effects (Case Smith et al 2014). The authors suggest that this may be because sensory integration therapies are comprehensive, are offered by trained therapists, and are child-led rather than adult led.

It is possible that single sensory techniques such as weighted blankets may not be effective because they are not used with children who benefit from such techniques, or may not be used at the most beneficial time. The contrast in research findings stress the need to make sure that children have been properly assessed, before using sensory techniques that fit their sensory profile.

6. Are there any specific programmes that you would recommend for mainstream secondary students with autism and severe anxiety to help with socialisation with peers?

As far as I'm aware, there are very few programmes specifically designed to help anxious children with peer relationships. One exception is a new cognitive behavioural intervention for adolescents with ASD which is designed to help both anxiety symptoms and social skills (White et al 2010). Crucial elements of the MASSI (Multimodal Anxiety and Social Skill Intervention for adolescents with autism spectrum disorder) are the inclusion of family members to support generalisation, regular practice, immediate feedback on skills and modelling new skills. An initial randomised controlled trial suggest this may be a promising intervention (White et al 2013).

However, there is no reason not to include anxious children in programmes designed to develop social skills and peer relationships, though of course some young people may need extra support to engage in them. Some commonly used social interaction programmes now have a reasonable evidence base to suggest that they can help children develop improved social skills. Video modelling and social skills groups (Reichow and Volkmar 2010) have a good empirical evidence base. Other programmes, such as circle of friends and social stories are reported anecdotally to be helpful but less research has been conducted in these areas.

7. What regulation strategies would you recommend to address anxiety throughout a busy secondary school day?

Many of the strategies described above will also help regulate emotion and arousal levels, but promote children's abilities to manage challenges such as change and friendships problems. Other ideas include:

- 'Sensory snacks'. As discussed above, these need to be assessed by a qualified practitioner, but might include push ups, swinging, or fiddling with blu-tak.
- Exercise and movement breaks – children could be asked to walk round the school to deliver a message, or to carry a pile of books from one part of the room to another.
- Find a way to help the young person record what they are worried about, and provide them with an opportunity to talk them through later. Records might include a diary, voice recorder or a simple tick list to indicate what the problem is. It gives a powerful message that their experiences are important and also helps to teach problem solving skills if the difficulties are later discussed with a mentor or teacher.
- It is also important to ensure their day includes stress free, high pleasure time.

8. With regard to strategies for dealing with anxiety for students with autism in a range of school settings – how is anxiety different for students at university where independent learning is paramount compared to a school setting?

The biggest challenge is that anxiety is less likely to be picked up in time to stop it escalating. Depending on their subject, students may have few face to face contact hours with their lecturers, and may be under the radar for wardens in Hall.

Parents do not have the level of contact that they did when the student lived at home. This means that anxiety problems can build to very significant levels without anyone realising. Pressures are also different. Students who took part in a focus group study at the University of Reading said that for them, problems in daily living caused more challenges than academic and study skills (Knott & Taylor 2014). Negotiating social situations such as the student union and attending large lectures can also cause anxiety. However, students with ASD at university can also struggle with independent study, such as motivating themselves to study topics that may not be of much interest, group practicals and carrying out the final year project.

9. Can you tell when something has moved from anxiety to a phobia? What are the subtle differences to look out for?

Anxiety is an umbrella term that describes the feeling of worry that we may get in a range of situations and about a range of events or problems. Anxiety can actually be useful, as it helps us monitor risks and can even give an edge of alertness when we need it, such as before an exam. Anxiety becomes a problem when it interferes with everyday life or stops us doing the things we want to do. There are several sorts of anxiety, such as generalised anxiety disorder (chronic worry) or social anxiety (worry about what people think of you). A phobia is another sort of anxiety problem. It is an intense and persistent fear of something that isn't dangerous, or that most people don't worry about, such as needles, spiders or buttons. Phobias can lead to panic and unpleasant physical symptoms when confronted by the feared object, and can have a huge impact on the individual's life as they try to avoid the fear.

Fears are normal during certain developmental periods. It is normal for toddlers to fear being separated from parents or for young children to fear the dark, monsters and strangers. In middle childhood, children may worry about sleepovers or thunderstorms. So take this into account when dealing with a fear. Many fears will be 'outgrown' with sympathetic handling such as gentle reassurance and a night light. If the fear seems out of proportion to the event, or is significantly interfering with the child's life, then it may be time to seek further help.

10. Have you any advice or strategies for parents which they can implement to support their child who has had a negative experience with for example a loud sound or an incident with a dog, and the child now appears to have developed a 'phobia' of animals or public places where the loud sound may occur?

It's not unusual for children with autism, like the rest of us, to worry about situations where they have had a negative experience. The problem is that when we have a bad experience, we often avoid that situation or that activity. While this might feel good at the time, the problem is that it sets up a cycle of anxiety where avoiding makes the fear feel worse and actually keeps the problem going. Avoidance trains us that the only way to get rid of the unpleasant feelings associated with the worry, such as a pumping heart or panicky thoughts, is to avoid the problem. The common saying 'when you fall off the horse, you have to get right back on' actually makes a lot of sense.

Calmly encouraging the child to face a stressful situation will help break the cycle of avoidance and will allow the child to develop new skills, coping strategies and build self-esteem. Plan things that will support them at the time, such as wearing ear defenders or carrying a favourite toy.

When children are anxious, it's natural to want to reassure them. However, like avoidance, reassurance can also be counter-productive in the long run. Being pulled into long discussions about the fear will wind up both you and your child, and it's also true that the more reassurance you have, the more you want it. It's better to reassure briefly once or twice, then encourage the child to try it, or distract and find another activity or topic to talk about.

An alternative to avoiding a situation is to tackle the situation little by little, breaking it down into small steps and practising each step one at a time. For example, a child who is afraid of balloons might start by looking at photos of balloons, then progress to watching YouTube videos, then to holding a packet of balloon, touching a part-inflated balloon and finally holding fully inflated balloon. Supporting your child while they tackle their fears with things they find calming can help and of course it's really important to reward them when they achieve a new step!



GROUP COGNITIVE BEHAVIOUR THERAPY FOR CHILDREN WITH HIGH-FUNCTIONING AUTISM SPECTRUM DISORDERS AND ANXIETY: A RANDOMISED TRIAL

BACKGROUND

Children and young people with autism are at an increased risk of developing anxiety which can have a detrimental impact on functioning within home, school and community environments. Cognitive behavioural therapies (CBT) are viewed as the gold standard treatment for anxiety in both children and adults. Modified CBT techniques have previously shown reductions in anxiety in individual case studies, small-group studies and randomised clinical trials.

RESEARCH AIMS

The aim of the study was to examine the efficacy of a family-based group CBT programme developed specifically for children with ASD and clinically diagnosed anxiety.

RESEARCH METHODS

The sample included 50 children aged 7-14 years who had high-functioning autism and clinically diagnosed anxiety. Children were randomised into two groups – a CBT group and a ‘treatment as usual’ (TAU) group for a period of intervention for 12 weeks.

The CBT groups were made up of 3-6 children and parents and each session included large and small group activities and dyadic work. There were 12 multi-family group sessions each lasting 1.5 hours, each led by a clinical psychologist. CBT components such as graded exposure, relaxation and deep breathing, strategies for emotional regulation and use of cognitive self-control were included in the intervention.

The TAU group maintained their current intervention programmes and were allowed to pursue new intervention programmes as they wished over the 12 week period. No CBT was used in this group. Independent clinical evaluators who were blind as to which condition the child was placed in, completed structured interviews (Parent Version of the Anxiety Disorders Interview Schedule

(ADIS) before and after the intervention period for children in both conditions.

RESEARCH FINDINGS

Forty seven children remained in the study and completed a 12 week programme of either CBT or TAU intervention. Those who were in the CBT programme showed better outcomes. Significant differences by group were noted in terms of clinician severity ratings, diagnostic status and global improvement. Of those in the CBT group, 50% had a clinically meaningful positive treatment response, compared to only 9% in the TAU group. Reductions in anxiety were maintained at three and six month follow up for those who received the CBT programme of intervention.

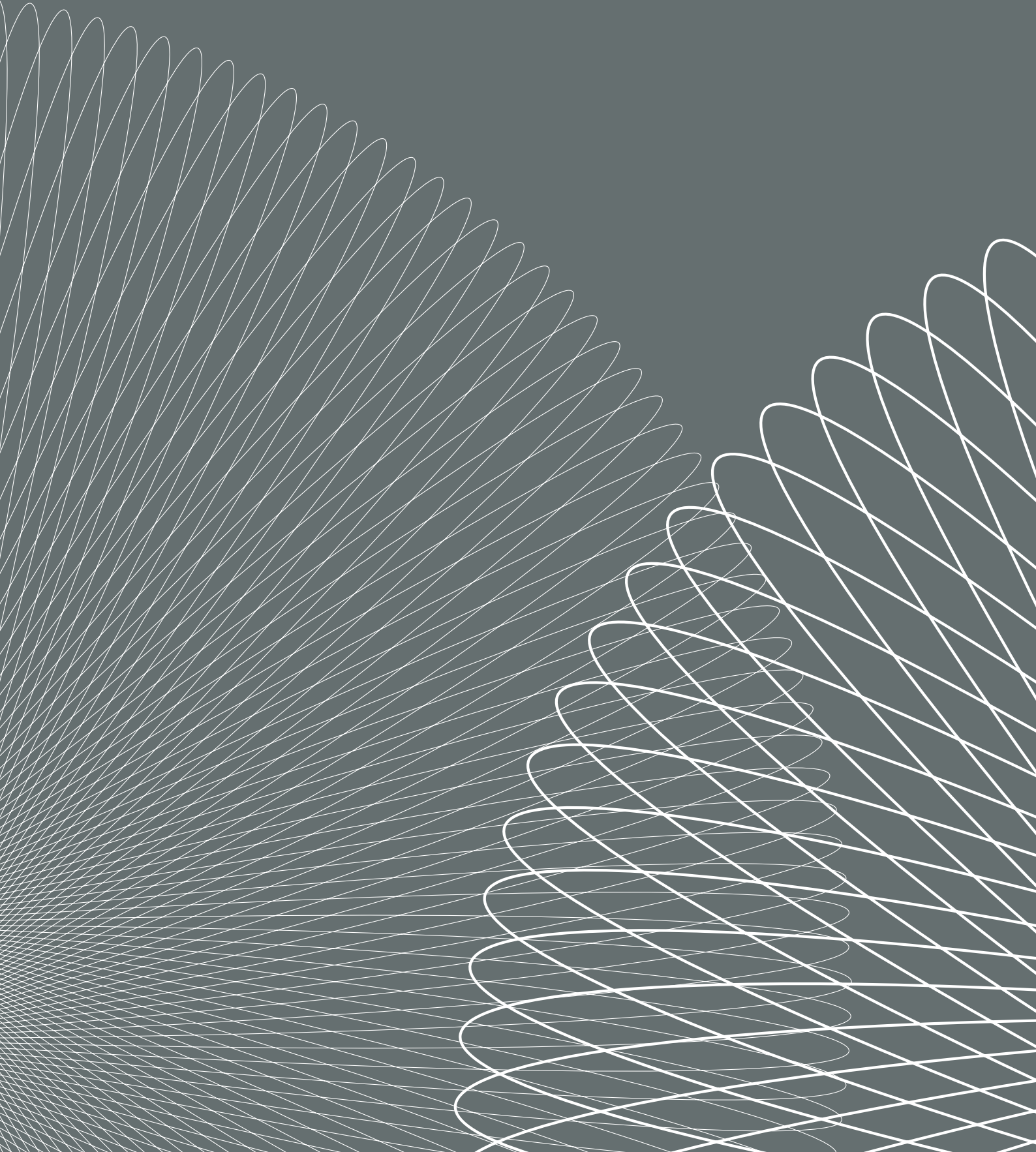
IMPLICATIONS FOR PRACTICE

(by the authors)

Results suggest that a group CBT intervention developed specifically for children with high-functioning autism may be an effective way of significantly decreasing anxiety. Results are consistent with previous research. The overall improvement in anxiety symptoms suggests that group treatment for children with autism may be a feasible and effective modality and particularly valuable in a challenging economic climate. Using group CBT approaches may be an effective treatment option for the increasing number of children presenting with autism and clinically diagnosed anxiety and would be an effective way of meeting the high demand for services.

Full Reference

Reaven, J., Blakeley-Smith, A., Culhane-Shelburne, K. and Hepburn, S. (2012). Group Cognitive Behaviour Therapy for Children with High-Functioning Autism Spectrum Disorders and Anxiety: A Randomised Trial. *Journal of Child Psychology and Psychiatry*, 53:4, p. 410-419.



PARENT AND CHILD PERSPECTIVES ON THE NATURE OF ANXIETY IN CHILDREN AND YOUNG PEOPLE WITH AUTISM SPECTRUM DISORDERS: A FOCUS GROUP STUDY

BACKGROUND

Anxiety is now a well-recognised problem for children and adolescents with ASD. Despite growing knowledge about the prevalence, phenomenology and treatment of anxiety disorders, relatively little is understood about the nature and impact of anxiety on children and adolescents with ASD.

In this exploratory study parents were asked to describe the impact of anxiety on their child's functioning and to describe triggers and behavioural signs associated with anxiety.

Using a cognitive behavioural approach to anxiety, the clinical features are physiological, cognitive, emotional and behavioural. Physiological features include somatic complaints, such as nausea, headaches, sweating and muscle tension. Cognitive features include catastrophic predictions and expectations of failure. Emotional features encompass feelings of fear, worry, dread or irritability. Finally, the predominant behavioural symptom of anxiety is avoidance, although hypervigilance and checking are also common.

Anxiety may be best conceptualised on a continuum with many children experiencing transient worry, stress or anxiety. Anxiety disorders can be differentiated from 'normal' fears and worry on the basis of severity of symptoms, persistence and impact on functioning.

RESEARCH AIMS

This study reports on data obtained from focus groups with parents and children with ASD with the aim of identifying the triggers, behavioural signs and cognitive processes associated with anxiety in children and young people with autism through parental perspectives, with the aim of increasing our understanding of the presentation of anxiety in children with autism.

RESEARCH METHOD

Parents were invited to participate in this study if their children had autism, had any experience of worry or anxiety and were aged 7–18 years. Participants were recruited via the National Autistic Society and parent support groups in Berkshire, London and Surrey, UK. All the children of participating parents were invited to participate in children's focus groups; however, few accepted. Four boys aged 10–12 years with Asperger's syndrome and high functioning autism accepted, and one focus group was held to explore the children's own views.

No incentives were provided for participating and no exclusion criteria were set with regard to children's functioning, comorbid diagnoses or whether they had received treatment for anxiety in the past.

In total 17 mothers attended. They met in groups of two to four for about two hours. They were parents of 19 children with a diagnosis of ASD; seven girls (age range 7–18, mean age: 11) and 12 boys (age range 7–16, mean age: 12).

Before the focus groups were formed, two pilot groups were held with parents from a parent support group to ensure topics were comprehensive and relevant and to develop appropriate questions for use in the main focus groups. The same topic guide and questions were adapted to be age-appropriate and used for the children's group.

The authors obtained ethical approval from King's College London and the University of Reading Research Ethics Committees as the focus groups had the potential to raise upsetting memories for participants. Two of the authors, chartered clinical psychologists experienced in working with children and adolescents with ASD, acted as facilitators to ensure boundaries for 'safe' discussion and confidentiality were set and maintained throughout the sessions.

Information was given to parents about where to seek further support if required

The authors used focus group methodology, and transcripts were analysed using thematic analysis.

RESEARCH FINDINGS

This study yielded consistent descriptions of triggers and behavioural manifestations of anxiety in children and adolescents with ASD across parents' and children's groups.

A number of themes emerged from the rich information that was generated by the focus groups:

Parents' Groups

Six anxiety triggers emerged:

- Change or disruption to routine: examples included getting changed for a PE lesson, making choices, having a supply teacher and changing schools. Non-routine events such as holidays or sports days also featured frequently. Similarly, situations usually considered pleasurable, such as Christmas or birthdays, were often anxiety-provoking because of the element of change and unpredictability.
- Social/language triggers: common social worries such as being the centre of attention. Self-awareness of social difficulties in itself caused anxiety, as children mature and begin to comprehend that they are different to their peers.
- Specific fears and phobias: common fears, such as spiders, lifts and injections were mentioned as well as others that were more idiosyncratic.
- Sensory triggers: such as loud noises, too many voices, certain smells. For another child, a fear of the smell of school (and hence fear of contamination of objects with this smell) related to their obsessive compulsive disorder rituals.

- Routines and obsessions: less frequently but consistently mentioned were triggers relating to obsessions, in particular being prevented from carrying out certain activities.
- Anxiety triggered by too many demands or expectations: these referred to overwhelming expectations placed on the child by themselves or, most frequently, by others (such as expectations of independence, school achievement or social conformity).

Presentation of anxiety

Five themes emerged within behavioural indicators of anxiety:

- Challenging behaviour: the majority of comments fell into this category. 'Meltdowns' and verbally and physically aggressive behaviour were frequently mentioned.
- Avoidance/withdrawal/escape: many comments pertained to avoidance or withdrawal with one parent describing their child as 'unreachable' during these times.
- Arousal: many parents noted an increase in activity levels, hypervigilance or nervous behaviour during anxious behaviour.
- Sensory behaviour: some parents commented on an increase in sensory behaviour at times of anxiety, such as nail-biting, humming and shouting or chewing of clothes.
- Obsessional and repetitive behaviours: many parents reported an increase in sensory, obsessional and repetitive/stereotyped behaviours, for example, repeated questioning, at times of anxiety.

Somatic indicators

Parents occasionally reported somatic or physiological changes at times of anxiety. Disruption to sleep and stomach aches or nausea were most common.

Cognitive indicators

An over-whelming theme was the difficulty that children had in telling others when or why they were anxious, and the 'detective' process that many parents had to go through to access their children's thoughts and experiences. In relation to cognitive indicators, two main themes emerged: cognitive processes and content of cognitions.

- Cognitive processes: comments relating to the difficulty children had in sharing their thoughts were frequent and arose consistently in every group. Some parents described typical cognitive distortions or 'thinking errors'. Another parent described a processing style akin to faulty memory processing described in post-traumatic stress models.
- Cognitive content: most of the cognitions parents mentioned reflected depressive or mixed anxious and depressive thinking and common cognitive errors of predicting the future, all-or-nothing thinking and catastrophising: 'People don't like me'.

Perceived differences between anxiety in children with ASD and typically developing children. Parents reported that anxiety in their children with ASD was typically prolonged and more intense and that their children were more difficult to reassure or soothe compared to siblings without autism.

Impact of anxiety

Parents expressed feelings of guilt, such as not being able to help their child effectively with their anxieties and not always being able to contain their own frustrations. Parents also expressed distress because of how their child's anxiety and behaviour is perceived by members of the public.

In summary, parents' perspectives on anxiety in their children with ASD demonstrates that there are many similarities with anxiety in children with ASD and typically developing children.

These included shared triggers such as social worries, specific phobic stimuli, and expectations that are, or are perceived to be, too demanding. Common features of the presentation of anxiety include an increase in arousal and avoidance/escape behaviours.

Children's Group

Much of what the four boys said in their focus group mirrored the parents' comments.

Many comments pertained to change in routine, sensory triggers (such as loud noises), and social worries (such as being at a friend's house without their parents and not knowing what to say); worries around being bullied also featured frequently.

The children were able to identify behavioural signs of anxiety, reporting that they experienced somatic symptoms such as a racing heart, out of control breathing, butterflies, wobbly legs, feelings of nausea and sweating. They also identified some thought processes such as 'thoughts racing out of control'.

In summary, a number of key autism specific features of anxiety were identified from this study. These were the intensity, pervasiveness and persistence of the anxiety caused by changes and disruptions to routines, sensory sensitivities, processing style, self-awareness of their own difficulties and social difficulties rooted in perspective taking and social expectations. Non-routine events such as sports days, holidays, and other days considered pleasurable by typically developing children such as festivities or birthdays were found to be anxiety-provoking because of the element of change and unpredictability.

Making choices also provoked anxiety for children with ASD, due to the fear of making the wrong choice.

- The majority of comments about the presentation of anxiety fell into the categories of challenging behaviour and avoidance/withdrawal.
- Children with ASD have great difficulty expressing their worries verbally and most use behavioural means to express anxiety.
- The mixed anxious/depressive nature of many of the cognitions reported indicates high comorbidity of anxiety and low mood in children and adolescents with ASD.
- Anxiety has a negative impact on functioning in areas such as academic and social performance. Anxieties about school pervaded all the categories of this focus study.
- This study found that children with ASD were highly dependent on their parents in managing their anxiety. Many parents reported that they had to use a 'detective' process to access their children's thoughts and experiences.

IMPLICATIONS FOR PRACTICE

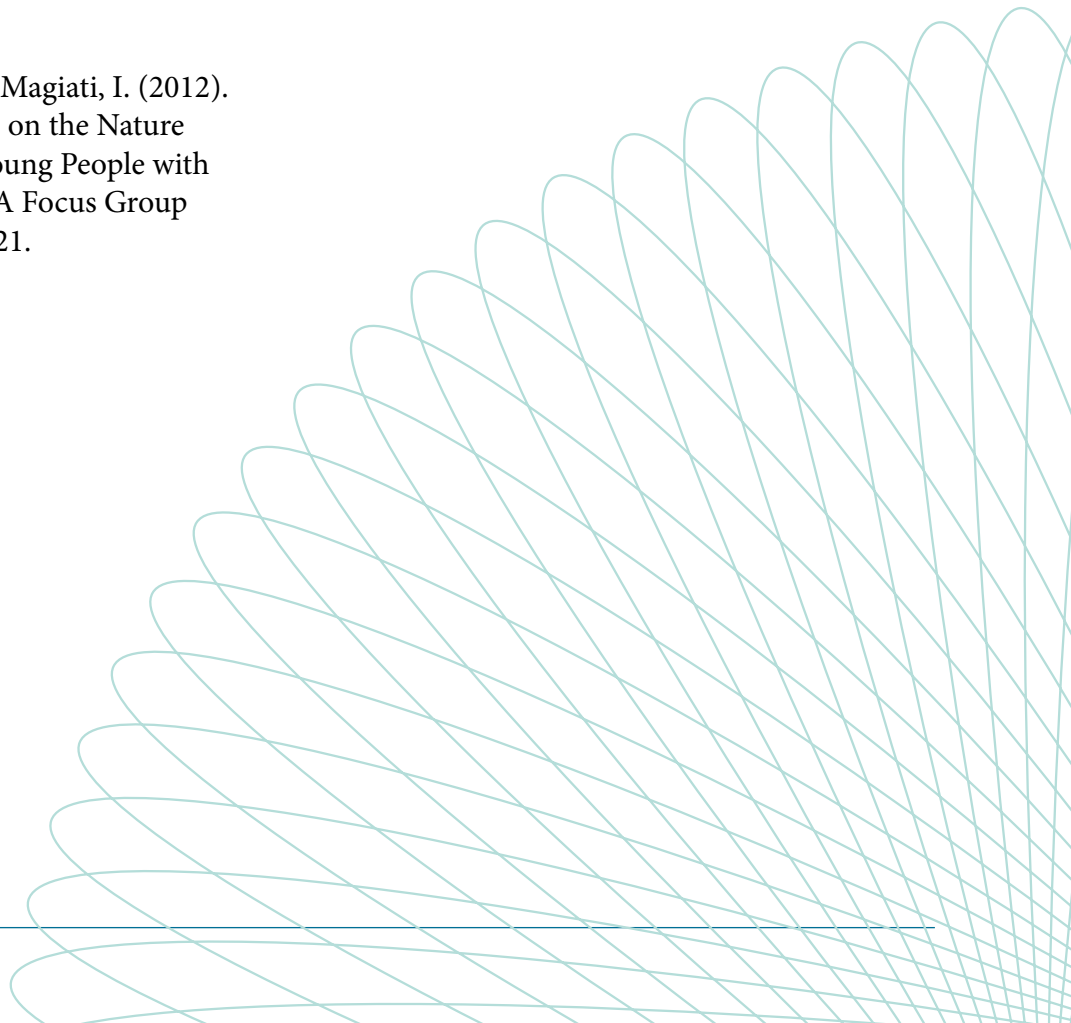
(by the authors)

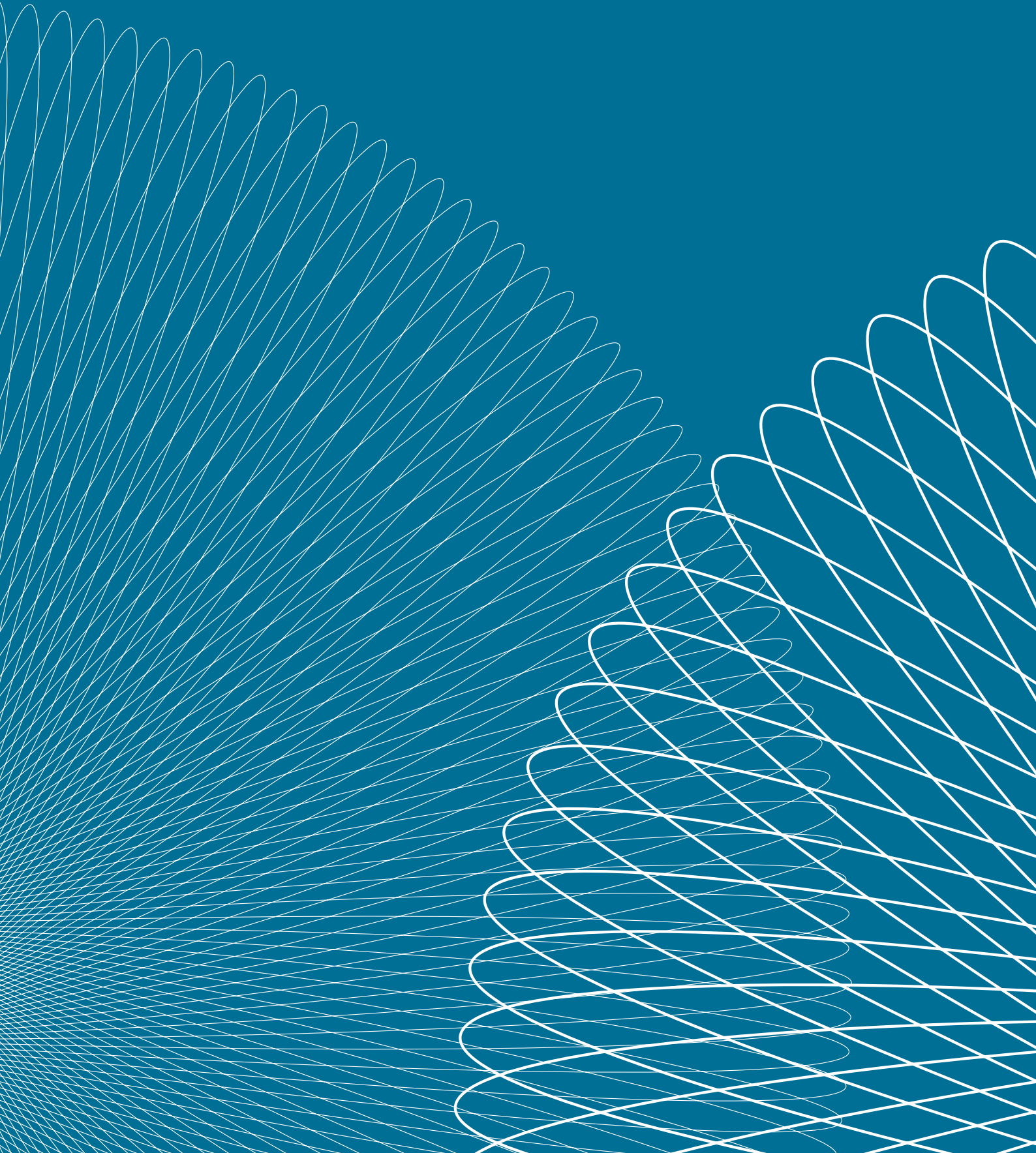
- Interventions to support children and young people with anxiety are most effective when they are matched to child and family characteristics. Understanding more about the factors triggering and maintaining anxiety in autism, and how children with autism and their families experience, think and talk about anxiety, could inform the development and implementation of autism-specific interventions for anxiety for this population.
 - Situations that were reported to trigger anxiety often reflected autism-related difficulties in processing style or sensory sensitivity. When asked about their anxious thoughts, the most prominent theme that emerged was the difficulty that children with autism have in expressing their anxiety verbally, particularly at times of acute distress. For this reason practitioners should employ visual structures and prompts to reduce verbal demands and also be mindful of sensory processing differences that may influence anxiety levels.
 - Practitioners should be mindful that the mixed anxious/depressive nature of many of the cognitions reported indicates the high comorbidity of anxiety and low mood in this group.
 - Those working with children and young people with autism should be aware of the impact the child's anxiety can have on parents, siblings and general family functioning.
 - There are clear limitations of using non-autism specific anxiety measures, therefore assessment should take on a multimodal approach including observational methods and interviews with multiple informants in multiple contexts.
 - Clearly CBT is an effective intervention for many children with autism, and the involvement of parents can further improve outcomes. Findings from these authors support the view that adaptations to CBT, such as adding autism-specific components to the treatment protocol, are important, relevant and acceptable to parents of children with autism.
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- Although there is now good evidence that, with adaptations, CBT can be an effective means of treating anxiety in young people with autism, clinicians may need to consider whether CBT is the most appropriate intervention. Other approaches such as behavioural work, working with parents or environmental modifications may be more appropriate, as even for verbally able children, accessing or modifying cognitions may prove too challenging.
- Finally, exploring the similarities and differences between shared and autism-specific triggers, manifestations and effects of anxiety using a variety of methodologies will contribute to the development of more appropriate assessment measures and autism-specific models of anxiety which can then guide intervention for anxiety more effectively.

Full Reference

Ozsivadjian, A., Knott, F. and Magiati, I. (2012). Parent and Child Perspectives on the Nature of Anxiety in Children and Young People with Autism Spectrum Disorders: A Focus Group Study. *Autism*, 16(2), p. 107–121.





THE EFFECT OF COMMUNICATION DEFICITS ON ANXIETY SYMPTOMS IN INFANTS AND TODDLERS WITH AUTISM SPECTRUM DISORDERS

RESEARCH AIMS

Individuals with autism experience a higher rate of anxiety disorders than the general population (Kim, Szatmari, Bryson, Streiner, & Wilson, 2000). Prevalence rates for anxiety disorders in individuals with autism range from 11 to 84%, with an average rate of around 40-50% (White, Oswald, Ollendick, & Seahill, 2009). The current study aimed to examine the role of communication deficits in the relationship between ASD diagnosis and anxiety, in toddlers.

RESEARCH METHOD

Seven hundred and thirty five infants aged 15 to 36 months who were enrolled in an early intervention programme were assessed for ASD. Following assessment, 107 children were diagnosed with ASD, 110 were diagnosed PDD-NOS, while the remaining 518 children were classified as presenting with 'atypical development'. Toddlers' expressive and receptive language skills were assessed through the Battelle Developmental Inventory-Second Edition, while anxiety symptoms were measured using subscales of the Baby and Infant Scale for Children with Autism Traits (BISCUIT).

RESEARCH FINDINGS

Children in the ASD and PDD-NOS groups were found to have higher rates of anxiety than the atypical development group, with the ASD group showing the highest anxiety levels. Results indicated that in the ASD and PDD-NOS groups, as expressive and receptive communication skills increased so did total anxiety scores. This is in contrast to infants in the atypical development group, in which communication skills were not related to anxiety symptoms.

IMPLICATIONS FOR PRACTICE

(by the authors)

The researchers hypothesised that higher rates of anxiety in children with autism and fewer communication deficits may be due to a greater understanding of emotions, which may lead to more obsessing and worrying. Alternatively, lower levels of anxiety in those with ASD and greater communication deficits may be due to a difficulty in communicating feelings of anxiety. The researchers noted that cognitive behavioural treatments may be effective in treating anxiety in children with autism, particularly for those with higher language skills, who may be in greatest need of support for anxiety.

Full Reference

Davis, T.E., Moree, B.N., Dempsey, T., Hess, J.A., Jenkins, W.S., Fodstad, J.C., and Matson, J.L. (2012). The Effect of Communication Deficits on Anxiety Symptoms in Infants and Toddlers with Autism Spectrum Disorders. *Behavior Therapy*, 43, p.142–152.

THE COPING CAT PROGRAM FOR CHILDREN WITH ANXIETY AND AUTISM SPECTRUM DISORDER: A PILOT RANDOMIZED CONTROLLED TRIAL

RESEARCH AIM

The purpose of this pilot study was to evaluate whether a modified version of the Coping Cat programme could be effective in reducing anxiety in children with autism spectrum disorder (ASD).

RESEARCH METHOD

Participants included 22 children, ages 8-14, diagnosed with ASD and at least one primary anxiety disorder, separation anxiety disorder (SAD), generalised anxiety disorder (GAD), or social phobia (SP). Twelve children were randomized to the CBT condition and ten children were randomized to the waitlist (WL) condition.

Participants were recruited from several sources in the Southern California area including local agencies and non-profit organisations for children and families affected by ASD. Children were included if they met the following criteria:

- a) A diagnosis of ASD based on the Autism Diagnostic Observation Schedule (ADOS), Autism Diagnostic Interview-Revised (ADI-R) and expert clinical judgement based on DSM-IV criteria.
- b) Diagnosis of SAD, SP, or GAD, made on the basis of the Anxiety Disorders Interview Schedule-Parent Version (ADIS-P).
- c) Full-Scale IQ ≥ 70 as confirmed by the Wechsler Abbreviated Scale of Intelligence (WASI).
- d) Age 7-14 (no children age seven were recruited, thus the age of children in the study ranged from 8-14 years).
- e) English as the primary language.

Children receiving additional pharmacological and/or psychosocial interventions at the time of intake were included (no children received concurrent CBT or anxiety-based interventions).

Participants were block randomised to either the 16-week CBT intervention or 16-week WL using a stratified randomisation procedure. Children in the CBT condition received a 16-week manualised cognitive behavioural intervention, including the seven exposure sessions as prescribed in the Coping Cat programme manual.

During the initial evaluation, diagnostic and IQ measures and parent-and child-report measures of anxiety were administered. Anxiety measures were administered within one week of completion of the 16-week CBT intervention or WL period as well as at two-month follow-up for those in the CBT condition.

RESEARCH FINDINGS

The following results were found:

1. Using ADIS-P primary anxiety diagnosis Interference Ratings at post treatment/WL as the recovery criterion, 58% (7 of 12) of children receiving CBT no longer met criteria for their primary anxiety diagnosis at post-treatment.
2. One hundred percent of those in the WL condition continued to meet criteria for the primary anxiety diagnosis at post-WL assessment.
3. Data from 92% (11 of 12) of participants who received the CBT intervention were collected at two-month follow-up. Using ADIS-P primary anxiety diagnosis Inference Rating at post treatment/WL as the recovery criterion, 36% (4 of 11) of participants remained free from meeting diagnostic criteria for their primary anxiety diagnosis at two-month follow up.
4. One participant relapsed and again met criteria for the primary anxiety diagnosis; ten participants retained their diagnostic status from post-treatment.

5. Number Needed to Treat (NNT) was calculated using return to non-clinical levels for the primary anxiety diagnosis on the ADIS-P. Results indicated that approximately two children must participate in the Coping Cat programme in order for one child to return to non-clinical levels for their primary anxiety diagnosis at post-treatment.

IMPLICATIONS FOR PRACTICE

(by the authors)

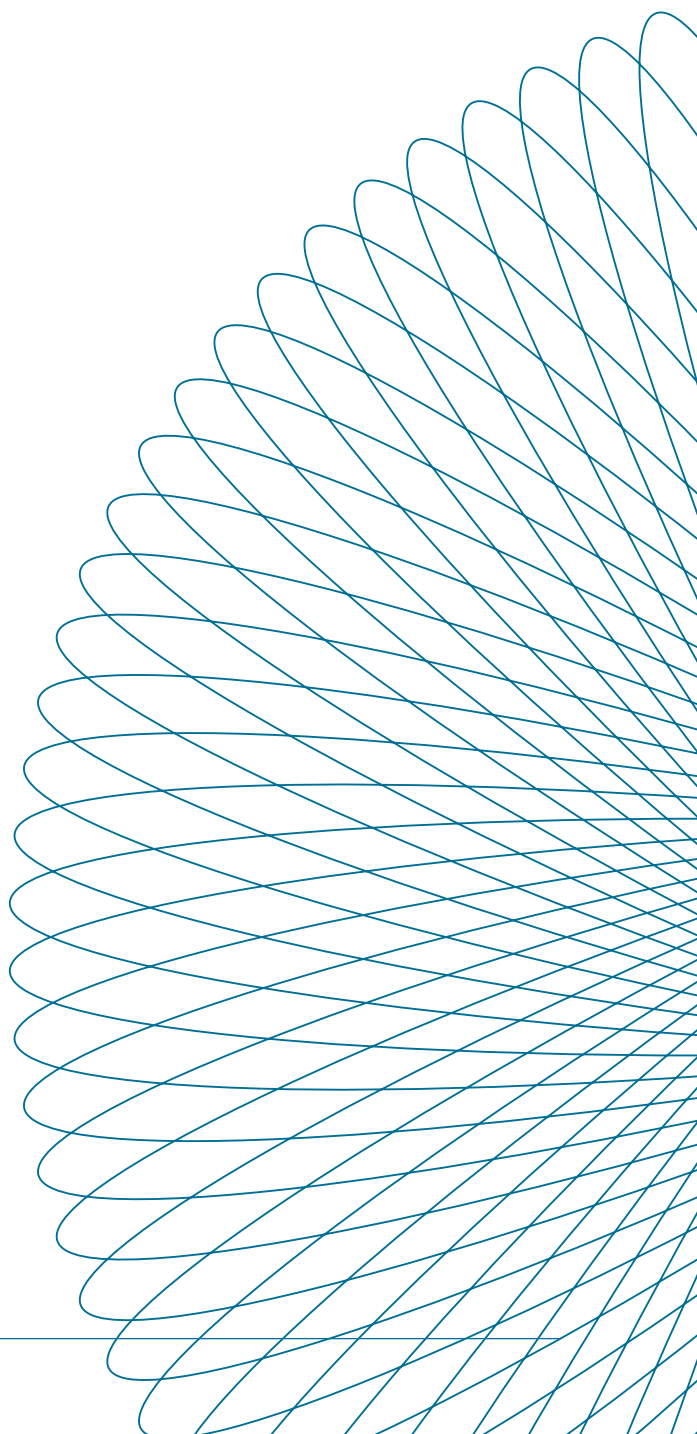
Overall the results provide promising initial evidence that, despite high levels of anxiety and comorbidity, children with ASD who complete the 16-week Coping Cat Programme experience a larger reduction in anxiety symptoms than those receiving no treatment or treatment as usual and these gains are largely maintained at two-month follow-up.

This study highlights that:

- It appears the Coping Cat programme was acceptable to children with ASD and their families as no dropouts occurred during the treatment phase of the study.
- The programme appears to be a feasible treatment to modify and implement for children with ASD and anxiety.
- Although treatment gains were largely maintained at follow-up it may be that children with ASD require booster treatment sessions to fully maintain skills learned in the initial dose of intervention.

Full Reference

McNally Keehn, R.H., Lincoln, A.J., Brown, M.Z., and Chavira, D.A. (2013). The Coping Cat Program for Children with Anxiety and Autism Spectrum Disorder: A Pilot Randomized Controlled Trial. *Journal of Autism and Developmental Disorders*, 43, p. 57-67.



THE TREATMENT OF ANXIETY SYMPTOMS IN YOUTH WITH HIGH-FUNCTIONING AUTISM SPECTRUM DISORDERS: DEVELOPMENTAL CONSIDERATIONS FOR PARENTS

RESEARCH AIMS

Anxiety disorders are one of the most common mental health conditions in childhood. Children and adolescents with autism spectrum disorders (ASD) are at a higher risk of developing mental health conditions, in particular anxiety, when compared with their peers. The purpose of this paper was to review modified cognitive behaviour therapy (CBT) treatment protocols for youth with high-functioning ASD. The researcher further reviewed the parents' role in the treatment of anxiety symptoms in children and adolescents with high-functioning ASD, giving particular emphasis on teenagers.

RESEARCH METHODS

Anxiety symptoms in youth with ASD and the developmental considerations of anxiety across the life-span of children and adolescents were reviewed. Various CBT treatment protocols for anxiety were discussed, including modified CBT treatments specifically for youth with high-functioning ASD. The researcher reviewed the parental role in the ASD specific treatments and in conclusion, offered recommendations for parents in managing anxiety in their children and adolescents.

RESEARCH FINDINGS

The researcher summarised the findings under the following headings:

Anxiety symptoms in youth with ASD

Anxiety is one of the most common mental health symptoms in children and adolescents. Children and adolescents with high-functioning autism or Asperger syndrome are at an even greater risk for developing clinically significant anxiety symptoms. Researchers in a population based study examined co-morbid psychopathology in children aged 10-14 with a diagnosis of an ASD and found that 70% had at least one co-morbid

diagnosis. Forty two percent of these met the diagnostic criteria for an anxiety disorder. Similar research was undertaken within community and clinic based samples in youth with ASD. Seventy two percent of participants met the criteria for a co-morbid diagnosis with anxiety being the most commonly reported. Individuals with ASD who display significant anxiety symptoms are at risk for educational problems, later unemployment, substance abuse and other psychiatric problems. Excessive worrying in relation to social situations may prevent the establishment of meaningful social relationships leading to isolation. Further research explored the relationship between physiological arousal and social deficits in teens with ASD. The researcher found that symptoms of anxiety, including physiological symptoms, are experienced at a greater level than the general population. Furthermore, the researcher noted that the relationship between physiological arousal and social deficits is likely to contribute to the symptoms of social anxiety in adolescents with ASD. Further attention to the physiological measurement of anxiety and its role for intervention programmes may represent a new frontier in anxiety interventions for individuals with ASD.

Developmental considerations: Anxiety symptoms across the age span

Development may play an important role in the presentation of anxiety symptoms across the age span. Researchers found that 'fear of social situations' increased from 21.4% in eight year olds, to 45.75% in 12 year olds and further increased to 55.75% in 17 year olds. Similarly, 'worrying about what others think of me' was reported by 38.6% of eight year olds and increased to 67.1% in 12 and 17 year olds. Thus, concerns about social evaluation increase with age, suggesting that social anxiety symptoms are likely to develop in early adolescence. Although

developmental differences in the presentation of anxiety symptoms in children and adolescents with ASD have yet to be systematically studied, there is evidence emerging that suggests age and level of functioning may play a role in the severity of anxiety symptoms.

Treatment considerations

Cognitive behaviour therapy (CBT) is considered a treatment of choice for anxiety in the general population. Recent studies that have examined the use of CBT as a treatment method for anxiety symptoms in people with ASD are promising. Case and small group studies have yielded reduction in anxiety symptoms following the delivery of modified CBT interventions in both individual and group contexts. Only two treatment studies have specifically targeted adolescents, therefore, this population remains largely unexplored. Effective interventions for adolescents with ASD may be valuable for the person and their families as they are at the cusp of living independently, attending higher education and/or entering the working world. Many researchers agree that CBT strategies are considered best practice when targeting anxiety symptoms, however, whether CBT should be supplemented with social skills interventions for youths and how social skills interventions are best delivered is less clear. Some researchers have argued that social deficits may underlie the development of anxious behaviours, therefore, social skills interventions may be an important component in interventions for youth with ASD and anxiety. Programmes such as 'Building Confidence' and 'Facing Your Fears' incorporate CBT methods and targets for social skills interventions for children with ASD. However, the 'dosage' of social skills intervention, in relation to the time spend on core CBT methods, needs to be empirically determined. Conventional CBT programmes designed for the general

population may be too verbally based and abstract for children and adolescents with ASD. In a review of the most common modifications to CBT for children with ASD and anxiety, it was noted that the use of more concrete, visual approaches to enhance the core components of the programme, incorporation of child special interests and parental involvement are all emphasised. However, information regarding how parents participate is lacking, as is information regarding the evolving role of parent participation throughout the transition from childhood to adolescence.

Parental participation in the treatment of childhood anxiety

In the general paediatric literature, the positive impact of parental participation in the treatment of childhood anxiety is well documented. The greater benefit of parental involvement appears to be more evident in younger children, however, the extent to which these gains are sustained over time is less evident. When the parent component for CBT intervention was further explored, similarities appeared across studies such as parents rewarding courageous behaviour, increase in parental awareness of anxiety and parenting style. Furthermore, there was noticeable focus on parent participation for school aged children and little documentation for parental participation for adolescents.

Parents' role in treatment of children with ASD

Parents of children with ASD often assume critical roles as advocates, coaches, cheerleaders, friends and teachers. Adolescents with ASD may depend more on their parents in comparison to their peers, making emancipation more difficult. Increased parenting expectations can lead to increased stress in parents, particularly during the transition into adolescence.

There is also evidence to suggest that the most stressful aspect to parenting children with ASD is their displays of challenging behaviour. Therefore, given the critical role that parents play in the lives of their children with ASD, it is surprising that very little guidance has been offered to parents, especially when treating one of the most frequently co-occurring mental health symptoms in this population, anxiety. Research using modified CBT treatments for anxiety suggest using parents as ‘co-therapists’. In a study of children aged 10-12 with high-functioning ASD and anxiety, the parents’ role was described as one where parents are taught to encourage the use of strategies in different anxiety-provoking situations, and to encourage completion of the homework. In a separate study, parent training was included as part of the intervention, and involved parents supporting in vivo exposures as well as using positive reinforcement and communication skills to encourage independence in their children. Furthermore, in the Face Your Fears (FYF) programme, the parents attend every session for the 14 week duration and are viewed as critical to their children’s success. Drawn on from literature, a set of specific recommendations was compiled as part of the FYF programme for parents. These included:

1. Encourage and reward the child for their effort and engagement.
2. Ignore excessive displays of anxiety.
3. Distinguish between realistic and unrealistic fears so that an appropriate treatment can be established.
4. Convey confidence in the child’s ability to handle his/her own anxiety.
5. Model courageous behaviours.
6. Work together with spouse/partner to develop a plan for facing fears.

7. Discuss how to share coping skills and the creation of exposure hierarchies with other professionals so that gains in group can be generalised in other settings.

What is lacking in the parent component of the above treatment programmes is the discussion on the impact of development on parents and the extent to which parental involvement may change over time.

ASD and adolescence

For individuals with ASD, adolescence may be a particularly difficult period due to the increase in self-awareness of social differences and increased social expectations combined with social deficits. Teens with ASD have much potential and much to offer, but high levels of anxiety may thwart achievements and successes. Effective treatment programmes for teens with ASD need to be developed, and upward extensions of already existing CBT programmes may not be enough. Recent research has suggested that software programmes on handheld devices such as iPods have been used to assist teens to self-monitor anxiety symptoms as well as provide reminders for coping strategies. The role of the parent in CBT interventions is important to ‘coach’ the teen during exposure exercises, assist in homework, teach new skills, and engage in parent training on anxiety and CBT principles.

RESEARCHER RECOMMENDATIONS

Based on the literature above and ongoing clinical work, recommendations for adolescents were provided:

1. Provide education to families on anxiety and CBT. This will provide an understanding for parents of the anxiety symptoms and best practice treatments so that they have a framework for understanding their children’s symptoms and treatment direction.

2. Encourage the role of the coach. As a coach, parents are not only able to help identify anxiety situations and symptoms, but they may be able to assist the teens to be able to distinguish between realistic fear vs unrealistic 'false alarm' fear.
3. Acknowledge and address family stress. While it may be difficult for clinicians to address all aspects of family stress, it is important to acknowledge and consider the impact that high anxiety levels can have on a family.
4. Increase awareness of parenting factors (i.e. parental anxiety, parenting style) in combination with the social and emotional challenges inherent in ASD and how these factors may lead to protective parenting. It is important to acknowledge the role that parental anxiety may play in the maintenance of teen anxiety symptoms, particularly in relation to excessive protection by parents. While no parent wants their teen to be a failure, there may be some gains by allowing teens to make their own decisions and experience their own successes and failures.
5. Recognise that anxiety symptoms in adolescence may be social in nature. The developmental shifts in anxiety symptoms from school age to adolescence for youth with ASD may be best characterised as increasingly focused on social anxieties. It is important for parents to recognise that teens will likely benefit from direct social skills interventions in combination with exposure experiences.
6. Remember teen strengths and encourage positive interactions. As parents of teens with ASD and anxiety are faced with impending life transitions, there is a tendency to focus on what their teens have not yet accomplished.

It is important as parents to encourage teens to acknowledge their own strengths, as well as building and celebrating strengths and talents throughout the intervention process. Parents and teens should be encouraged to evolve their relationship, by establishing mutually enjoyable activities they can engage in together, which will in turn create and maintain positive interactions.

IMPLICATIONS FOR PRACTICE

(by the author):

Emerging literature on modified CBT interventions for youth with ASD have shown promising findings with regards to anxiety reduction. Although parent involvement is encouraged, the specific details of how to work with parents throughout these interventions is limited. The author suggests that parental involvement that cuts across the developmental stages, parent training on anxiety and CBT, increased knowledge on social/communication challenges and how these impact on anxiety all need to be considered. Furthermore, strategies to teach social skills, as well as encouraging age appropriate activities as children develop towards adolescence, should all form part of the intervention process. Such a shift may in turn promote and enhance positive interactions between parents and teens that can serve as a solid foundation upon which facing fears can occur.

Full Reference:

Reaven, J. (2011). The Treatment of Anxiety Symptoms in Youth with High-Functioning Autism Spectrum Disorders: Developmental Considerations for Parents. *Brain Research*, 1380, p. 255-263.

AGE RELATED DIFFERENCES IN THE PREVALENCE AND CORRELATES OF ANXIETY IN YOUTH WITH ASD

BACKGROUND

Research into the prevalence and correlates of anxiety in autism has revealed a range of results with estimates of prevalence ranging from 11%-84%. Similarly with the correlates, it is suspected that anxiety may correlate highly with age and level of cognitive ability, for example, however these have yet to be demonstrated empirically.

The researchers aimed to clearly determine a prevalence rate and set of correlates in a sample size of 1316 school aged children (2 years – 17.5 years) with a formal diagnosis of autism.

RESEARCH AIMS

The stated research aims were:

1. To compare the mean levels of clinical anxiety in each age group with the prevalence of anxiety in the general population.
2. To compare anxiety across age groups.
3. To examine the relationship between anxiety, IQ and autism symptom severity across groups.
4. To explore whether distinct psychiatric comorbidities are associated with anxiety in each group.

RESEARCH METHODS

The researchers used the following psychometric tests in order to answer the research questions:

- Autism diagnostic observation schedule (ADOS)
- Intelligence tests.
- Child Behaviour Checklist.

RESEARCH FINDINGS

Researchers found that there were higher levels of anxiety in the sample with autism than in the typically developing sample. Children with autism are more anxious than their typically developing peers. This also is demonstrated in the prevalence aspect of the research that indicates that there is a higher prevalence of anxiety amongst children with autism.

This prevalence increases as the child gets older and in the current sample 40% of the adolescents with autism experienced anxiety.

The researchers also highlighted a weak negative correlation between severity of autism and anxiety and a positive correlation between IQ and anxiety. This does confirm some previous studies that indicated that those cognitively more able children tend to experience more anxiety.

In terms of correlates anxiety was correlating highly with a range of other mental health problems; most significantly depression. Children and young people who were reported to have depression had also experienced and continued to experience anxiety.

IMPLICATIONS FOR PRACTICE

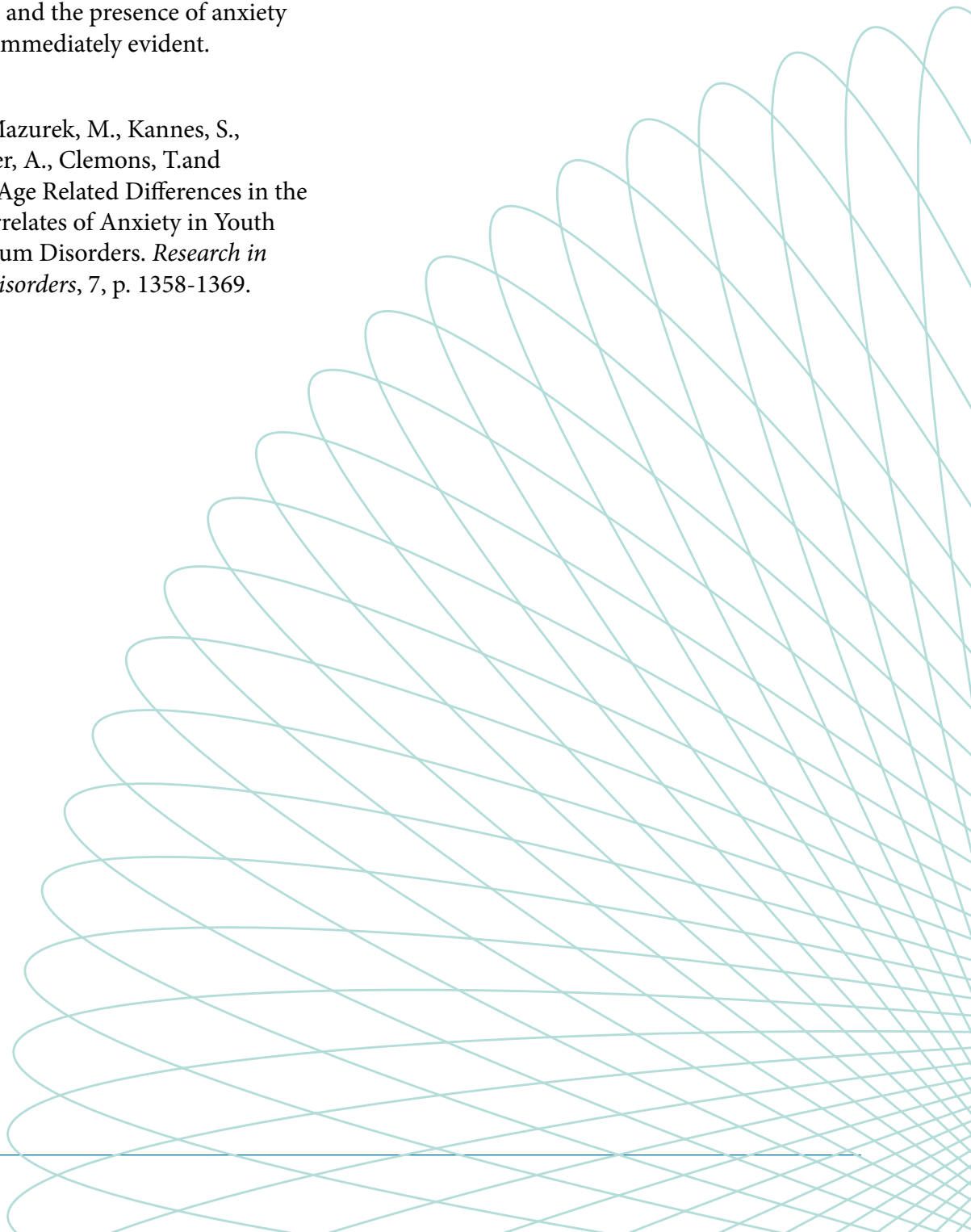
This is a straightforward prevalence study, and as such it does not advise on practice but does indicate where potential areas of need exist.

Teachers and parents should be aware that anxiety is a significant issue, particularly as the child gets older and moves into adolescence. The researchers highlight this transition as particularly important and advise further research into the area of anxiety at this teenage transition time.

A word of caution is also valuable; the researchers indicate that anxiety is weakly correlated with IQ and negatively correlated with symptom severity. While this is evidenced somewhat in other literature, parents and teachers should bear in mind that the presentation of anxiety can be highly personalised and the presence of anxiety may not be always immediately evident.

Full Reference

Vasa, R., Kalb, L., Mazurek, M., Kannes, S., Freedman, B., Keefer, A., Clemons, T. and Murray, D. (2013). Age Related Differences in the Prevalence and Correlates of Anxiety in Youth with Autism Spectrum Disorders. *Research in Autism Spectrum Disorders*, 7, p. 1358-1369.



RELATIONSHIP QUALITY AS A MODERATOR OF ANXIETY IN SIBLINGS OF CHILDREN DIAGNOSED WITH AUTISM SPECTRUM DISORDERS OR DOWN SYNDROME

BACKGROUND

The sibling relationship can be a crucial aspect of development for all siblings in a family structure. However, research suggests that having a sibling with autism may increase the risk of developing a range of mental health problems such as anxiety. Because of the unique social and communication difficulties that occur in autism, it is important to find out if certain effects on the sibling relationship are specific to having a sibling with autism compared to having a sibling with another developmental difficulty such as Down Syndrome (DS).

RESEARCH AIMS

To examine typically developing adolescents' perceived relationship quality with their sibling diagnosed with either autism or DS and to examine whether sibling relationship quality relates to anxiety.

The authors hypothesised that:

1. Siblings of children with DS would report higher overall levels of perceived relationship quality than would siblings of children with autism.
2. Siblings of children with DS would report lower levels of anxiety than would siblings of children with autism.
3. Relationship quality would be related to anxiety regardless of sibling diagnosis, such that overall relationship quality would be related negatively to anxiety.
4. Typically-developing adolescents who perceive having lower levels of sibling relationship quality would report lower levels of anxiety when they have a sibling with DS versus autism.

RESEARCH METHODS

Participants were recruited through a research registry from a local child and adolescent clinical and research facility and through local groups and list-serves for families with children with developmental disorders. Researchers contacted parents of potential participants using email. Interested parents and adolescents consented to take part in the study online then completed separate questionnaires online.

The parent questionnaire included questions related to the number of children in the family, the age of the children and parental demographics. The child questionnaire included child demographics and measures of perceived sibling relationship quality using the Network of Relationship Inventory (Furman & Buhrmester, 1985) and anxiety using the Multi-dimensional Anxiety Scale for Children (March, 1997).

In total, 119 typically developing adolescents (aged 11 – 17) with a sibling diagnosed with either DS (n = 38) or autism (n = 81) participated.

RESEARCH FINDINGS

Using the authors' hypothesis, the following results were found:

1. Siblings of children with DS would report higher overall levels of perceived relationship quality than would siblings of children with autism. (Results supported this hypothesis.)

Results revealed no significant associations between sibling relationship quality and gender of siblings of children with DS or autism, number of children in the family or parental education. However, siblings of a child with autism reported fewer social support qualities, more negative interchanges and lower levels of overall relationship quality than did siblings of a child with DS.

2. Siblings of children with DS would report lower levels of anxiety than would siblings of children with autism. (Results did not support this hypothesis.)

Results revealed no significant associations between level of anxiety and having a sibling with DS or autism. Also, gender and age of the typically developing adolescent and parental education had no relationship to level of anxiety for either group.

3. Relationship quality would be related to anxiety regardless of sibling diagnosis, such that overall relationship quality would be related negatively to anxiety. (Results supported this hypothesis.)

Results indicated that anxiety was significantly and negatively correlated with overall sibling relationship quality. Siblings who reported more negative interchanges within the sibling relationship reported higher levels of anxiety.

4. Typically-developing adolescents who perceive having lower levels of sibling relationship quality would report lower levels of anxiety when they have a sibling with DS versus autism. (Results supported this hypothesis.)

Having a sibling with autism was associated with greater self-reported anxiety when adolescents perceived their sibling relationship quality to be low compared to having a sibling with DS.

IMPLICATIONS FOR PRACTICE

(by the authors)

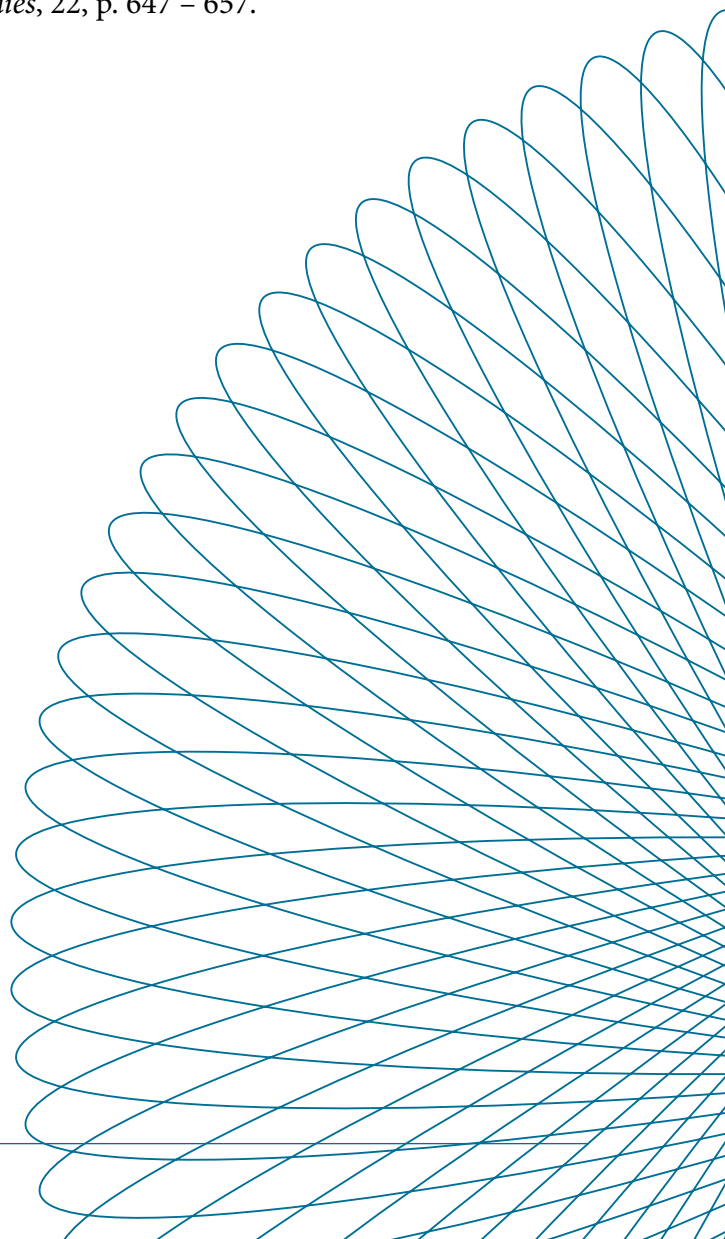
This study highlights challenges faced by some siblings of children with autism.

- Professionals could try to educate parents and siblings of children with autism about anxiety management and how to improve sibling relationships.
- Professionals and parents could offer support to, and develop supportive therapies for siblings of children with autism.

- Future research should focus on the sibling relationship and ways to improve and support the relationship.
- Future research could investigate how the behaviours of children with autism affect the mental health of siblings and parents.

Full Reference

Pollard, C., McNamara Barry, C., Freedman, B. and Kotchick, B. (2013). Relationship Quality as a Moderator of Anxiety in Siblings of Children Diagnosed with Autism Spectrum Disorders or Down Syndrome. *Journal of Child and Family Studies*, 22, p. 647 – 657.



ASSESSMENT OF SOCIAL ANXIETY IN CHILDREN AND ADOLESCENTS WITH AUTISM SPECTRUM DISORDER

BACKGROUND

Anxiety is recognised as a common problem among individuals with autism. Some people with autism may experience symptoms of social anxiety disorder. According to the DSM- 5, symptoms of social anxiety disorder include displaying fear, anxiety or avoidance of a social situation for at least six months or more. However, behavioural similarities between social anxiety disorder and autism often mean many individuals with autism experiencing these symptoms do not receive a diagnosis of social anxiety disorder. Additionally, assessing social anxiety disorder in individuals with autism can be difficult as it may present differently in individuals with autism than in typically developing individuals.

RESEARCH AIMS

This study conducted a comprehensive literature review on social anxiety in children and adolescents with autism to inform best practice of assessment of social anxiety disorder in individuals with autism.

RESEARCH METHOD

The authors of this study performed a stepwise literature search using a range of electronic databases including Medline, PsychINFO and Google Scholar. A combination of keywords and search terms were employed such as autism, Asperger's, social and anxiety. Studies were included if they were peer reviewed, published between 1990 and 2013 and described research regarding social anxiety, assessment and individuals aged under 16 with autism without a co-occurring learning disability (i.e. IQ under 70).

Abstracts of potentially relevant articles were reviewed, the references of all studies meeting inclusion criteria were reviewed and any additional relevant articles were obtained.

ARTICLES REVIEWED

A total of 46 studies met inclusion criteria. These 46 studies used a total of 18 different assessment measures to assess social anxiety disorder.

Articles were categorised according to assessment measure type. A total of 34 studies utilised 11 different self-report and parent report questionnaires; and a total of 24 studies utilised seven different interviews to assess for social anxiety disorder.

RESEARCH FINDINGS

The most commonly utilised questionnaires were broad multidimensional screening measures of anxiety that contain social anxiety subscales such as the Multidimensional Anxiety Scale for Children (March, 1998), the Self-Report for Childhood Anxiety Related Emotional Disorders (Birmaher et al., 1995), and the Spence Children's Anxiety Scale (Nauta et al., 2004).

The most commonly used semi-structured interview amongst these studies was the Anxiety Disorder Interview Schedule Child/Parent Version (Silverman & Albano, 1996). Others used an interview that was specifically developed for use with individuals with autism, the Autism Comorbidity Interview Present and Lifetime Version (Leyfer et al., 2006).

The authors of this study found that the majority of social anxiety measures used in the reviewed studies were designed, normed and validated with typically functioning populations. As such, these measures may not capture social anxiety manifested in children with autism.

Additionally some of the studies reviewed relied on information from parents and children. The authors of this study found that there was poor agreement between child and parent reports. Of the 46 studies in this review, only ten included individuals with autism over the age of ten years.

Parents in the majority of studies tended to report higher levels of social anxiety in their child than the children themselves, suggesting that children with autism under the age of ten years, may be unable to report their own symptoms on self-report measures at a level adequate for diagnostic purposes.

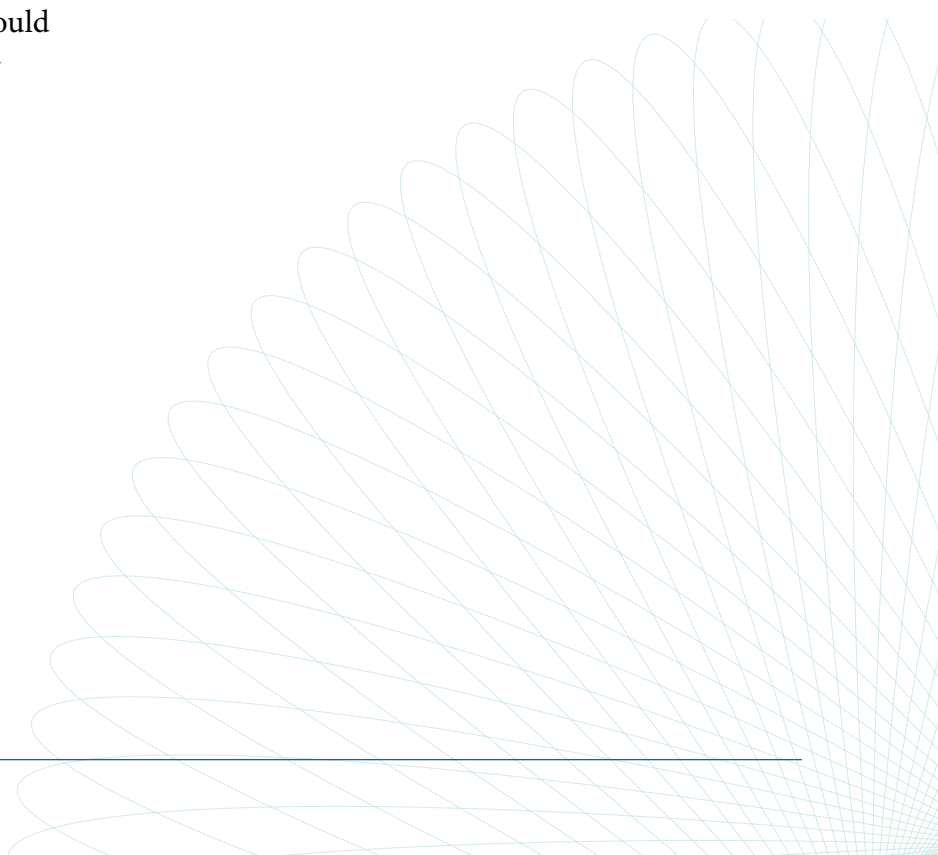
IMPLICATIONS FOR PRACTICE

(by the authors)

- More research is needed to examine the psychometric properties of measures of social anxiety with individuals with autism.
- Social anxiety disorder tends to emerge in adolescence. Most of the studies in this review included children with autism under the age of ten years; more research with individuals over ten years of age is needed.
- The development and subsequent validation of an empirically derived measure designed specifically to assess social anxiety in individuals with autism is needed.
- Until a more appropriate assessment has been designed and tested, professionals should assess social anxiety by using a multi-informant approach.
- Clinicians may wish to supplement existing semi-structured interview questions with additional questions to discern whether avoidance is related to evaluative fears or lack of social motivation. The course of symptoms should also be assessed to determine whether anxiety symptoms represent a change from prior functioning.

Full Reference

Kreiser, N. and White, S. (2014). Assessment of Social Anxiety in Children and Adolescents with Autism Spectrum Disorders. *Clinical Psychology Science and Practice*, 21, p.18 -30.



EFFECTS OF COGNITIVE BEHAVIOURAL THERAPY ON DAILY LIVING SKILLS IN CHILDREN WITH HIGH-FUNCTIONING AUTISM AND CONCURRENT ANXIETY DISORDERS

BACKGROUND

Impaired self-help skills are common in children with ASD and these contribute to high levels of morbidity seen in ASD throughout the lifespan. Research also suggests a link between anxiety disorders and impairments in daily living skills. Children with both ASD and anxiety disorders are thus at high risk of poorly developed daily living skills.

RESEARCH AIMS

This study attempts to investigate the effects of a family-based cognitive behavioural therapy program on parental perceptions of daily living skills in children with ASD and concurrent anxiety disorders.

RESEARCH METHODS

The sample included 40 children aged 7-11 years who had a DSM-IV diagnosis of autism, Asperger syndrome or PDD-NOS and who met the research criteria for separation anxiety disorder, social phobia or obsessive compulsive disorder. All children lived in a metropolitan area in the west of America and were currently not taking any psychiatric medication. One primary parent of each child was also recruited. Each child was randomly assigned to an immediate treatment condition or a 3-month waiting list condition.

Thirteen therapists delivered the intervention (all were enrolled on an educational/clinical psychology doctoral program and had at least 1 year previous clinical experience working with children with autism). Therapists worked with each family for 16 weekly sessions, each lasting about 90 minutes (30 minutes with the child and 60 minutes with the parent) implementing the Building Confidence cognitive behavioural therapy program.

Children's daily living skills were assessed on the basis of semi-structured clinical interviews with the caregivers using the Vineland Adaptive Behaviour Scale (VABS) and the parent reported Parent-Child Interaction Questionnaire (PCIQ). The VABS comprised 297 items, reflecting developmental skills in 5 domains – communication, daily living skills, socialisation, motor skills and maladaptive behaviour. For this study the daily living skills domain of the VABS was used which comprised personal, community and family daily living skills. Parents reported whether the child “Yes usually” (score of 2), “Sometimes or partially” (score of 1) or “No, never” (score of 0) independently performed each activity (e.g. “Washes and dries face without assistance”, “Bathes or showers without assistance”).

The PCIQ uses a rating scale of how frequent each behaviour occurred during a 1 week period – 1 (this never or almost never occurred), 2 (this sometimes occurred) or 3 (this almost always occurred). The questionnaire contained 35 items, 8 which focused on the parent intrusiveness subscale (dressing, bathing, lying with child on child's bed at night, using baby words) were used in this study.

RESEARCH FINDINGS

In comparison to those children who were assigned to the 3-month waiting list condition, those who received immediate treatment via the cognitive behaviour therapy intervention reported increases in their children's total and personal daily living skills and reduced involvement in their children's private daily routines. The reductions were correlated with reduced levels of anxiety. The gains in daily living skills for a subgroup of children who received immediate treatment were maintained over 3 months.

IMPLICATIONS FOR PRACTICE (by the authors)

The results provide preliminary evidence that cognitive behaviour therapy interventions may increase parental perceptions of daily living skills in children with ASD and concurrent anxiety disorders and decrease corresponding unnecessary parental involvement in their children's personal self-care tasks.

Full Reference

Drahota, A., Wood, J. J., Sze, K. M. and Van Dyke, M. (2011). Effects of Cognitive Behavioural Therapy on Daily Living Skills in Children with High-Functioning Autism and Concurrent Anxiety Disorders. *Journal of Autism and Developmental Disorders* 41: p. 257-265.

CONCLUSION

Some useful themes arise from the articles summarised above; these impact both on practice and also on directions for future research in the area of autism and anxiety management.

Key indicators of an anxious response in a child with autism include:

- Avoidance, escape and refusal.
- Agitation and physiological arousal.
- An increase in sensory seeking or avoidant behaviour.
- An increase in obsessional and ritualistic repetitive behaviours.

Common triggers for an anxiety response include:

- A change in routine.
- Overuse of social language.
- Specific fears e.g. injections.
- Sensory stimuli.
- Being overwhelmed by information or demands.

Children and young people have difficulties in expressing their upset and an increase in anxiety results in a decrease in an ability to communicate anxiety – this has clear implications for developing a system where the child can communicate with an adult to express their anxiety and seek help.

Anxious thoughts were also associated with low mood in some children and young people with autism and interventions should also address self-esteem and involve approaches that will improve mood.

Age can be a factor and the presentation of anxiety can change in relation to the age of the child or young person, so anxiety management approaches should be tailored and changed as the child grows up and approaches need to take age into consideration and develop alongside the child.

Finally the whole family can be involved. There is a role for parents and in particular for siblings; sibling relationships may have an impact on the child or young person's anxiety so promoting positive sibling interactions is another useful theme that emerges.

What is clear is that the presentation of an anxious response is often manifest in behaviour rather than a verbal indicator of upset. A proactive approach that involves the parents and family is always best that prevents the development of anxiety; or intervenes in a timely way to prevent an anxiety response from gathering momentum.

YOUR OPINION

The Centre trusts that you have found this Research Bulletin informative. It would be appreciated if you would take a few minutes to provide the Centre with feedback in relation to this bulletin by clicking on the survey link below.

Survey for Anxiety Volume 2





CENTRE FOR AUTISM
MIDDLETOWN

The Centre's Research and Information Service welcomes any correspondence including suggestions for future Bulletins to: research@middletownautism.com

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