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Running head: PREDICTIVE PARENTING: A NEW GROUP INTERVENTION

Introducing 'Predictive Parenting': A Feasibility Study of a New Group Parenting Intervention Targeting Emotional and Behavioral Difficulties in Children with Autism Spectrum Disorder

Abstract

Parent-mediated interventions can reduce behavioral and emotional problems in children with ASD. This report discusses the development of the first group parent intervention targeting behaviors *and* anxiety in children with ASD, across the spectrum of cognitive and language ability. 'Predictive Parenting' was developed from the clinical observation (and emerging evidence base) that children with ASD struggle with 'prediction' and anticipating change. It integrates well-established parenting strategies within an ASD-specific framework. The concept was co-created with patient and public involvement panels of parents and adults with ASD. A feasibility study found the programme is acceptable and accessible. Qualitative feedback from participants was largely positive, and critiques were used to inform a larger, pilot randomized controlled trial of the intervention.

Keywords: Autism Spectrum Disorder, parenting, behavior, anxiety, intervention

For children with Autism Spectrum Disorder (ASD), the most impairing symptoms often extend beyond the core difficulties with social communication and repetitive behaviours and interests. Challenges with behaviours (including aggression, self-injury, hyperactivity, and 'meltdowns') are highly prevalent (Hartley, Sikora, & McCoy, 2008; Hill et al., 2014; Simonoff et al., 2008), as are anxiety symptoms (Simonoff et al., 2008; Van Steensel, Bogels, & de Bruin, 2013), affecting up to 84% of children with ASD (White, Oswald, Ollendick, & Scahill, 2009). These co-occurring difficulties often persist over time (Buck et al., 2014; Simonoff et al., 2013), cause a high level of parenting stress (Lecavalier, Leone, & Wiltz, 2006) and can significantly impact adaptive functioning and quality of life (Maskey, Warnell, Parr, Le Couteur, & McConachie, 2013). As such, they constitute important targets for early intervention.

Recent meta-analyses have pointed to significant benefits of behavioral parenting interventions for child disruptive behavior and caregiver stress in young children with ASD (Postorino et al., 2017; Tarver et al., 2019). For example, in the largest randomized control trial (RCT) to date (n=180, age 4-7), the 'RUBI' individual parenting intervention (Research Units for Behavioral Intervention: Bearss et al. (2015)) led to superior reductions in disruptive behaviour compared to a parent-education programme. With regard to parenting interventions for anxiety in children with ASD, the evidence-base is less established. A systematic review and meta-analysis points to the efficacy of Cognitive Behavior Therapy (CBT) for reducing anxiety in school aged children with ASD (Ung, Selles, Small, & Storch, 2015), often closely involving parents in sessions (Wood et al., 2009). Emerging evidence suggests that interventions aimed directly at parents may also have a benefit (Cook, Donovan, & Garnett, 2017), in line with findings in typically developing children (Cartwright-Hatton et al., 2011; Monga, Rosenbloom, Tanha, Owens, & Young, 2015).

Parenting interventions in ASD to date have faced several challenges. First, existing programmes have addressed difficulties with either behaviors *or* emotions, not both.

Targeting one domain neglects the evidence that symptoms of disruptive behavior and anxiety commonly co-occur in young people with ASD (Simonoff et al., 2008; Storch et al., 2012), and anxiety is often a key driver of behavior 'meltdowns' (Lecavalier et al., 2014; Rzepecka, McKenzie, McClure, & Murphy, 2011). Secondly, previous programs have not been 'universal' in their relevance for parents of children with ASD. Some have included only parents of children with clinical levels of disruptive behavior (Bearss et al., 2015) or anxiety (Wood et al., 2009); others have targeted only parents of verbal children or 'high-functioning' children with an IQ above 70 (Ung et al., 2015). Thirdly, most parenting interventions to date have been delivered individually ((Postorino et al., 2017; Ung et al., 2015). This poses limitations for scalability, cost-effectiveness and also limits the social support and collaborative problem-solving that is well-documented in group settings (Williams, Hastings, Charles, Evans, & Hutchings, 2017).

Finally, it is notable that most studies to date have evaluated manualized approaches adapted from programs for typically developing children or those with behavioral or emotional difficulties. Examples include the Stepping Stones Triple P (SSTP) program (Tellegen & Sanders, 2014; Whittingham, Sofronoff, Sheffield, & Sanders, 2009b; Zand et al., 2017); the ASD-adapted Incredible Years group program (Webster-Stratton & Reid, 2010; Williams et al., 2017), Parent-Child Interaction Therapy (Scudder et al., 2019) and 'Coping Cat' for anxiety (McNally Keehn, Lincoln, Brown, & Chavira, 2013). Consequently, parenting interventions to date, although theoretically informed in terms of the target symptoms, do not have a strong ASD-specific framework or underpinning concept.

Objective 1: Developing a new group-parenting approach: Predictive Parenting

The current feasibility study aimed to develop a new parent-intervention, addressing behavior and anxiety difficulties within the same group program. It sought to bring together evidence-based strategies for children with ASD, including common components of functional

analysis, behavioral management and CBT for anxiety. A key aim was to ensure the group has conceptual relevance for *any* parent of a child with ASD following diagnosis, regardless of their child's level of language, cognitive ability or their current levels of anxiety or challenging behavior. It looks to support parents with current challenges, but also to prevent the likelihood of future behavior or emotional difficulties. A further aim was to ensure that the group had a framework with specific ASD-relevance. By developing an approach with strong ties to ASD symptomatology, cognitive style and conceptual theory, it sought to help parents understand *why* certain strategies are effective in targeting challenging behavior and anxiety.

Focus on Prediction

In clinical settings, the observation that children with ASD experience difficulties with predicting change often resonates with parents. Some researchers have queried whether a *core* difficulty with prediction might explain the disparate behavioral traits in ASD (Pellicano & Burr, 2012; Van de Cruys et al., 2014). For example, individuals with ASD may prioritize current perception over past experience, struggling to use expectations to predict future situations (Gomot & Wicker, 2012). This may create a world that they experience as 'unpredictable', in which the causes of events are unclear and predicting what will happen next is difficult and anxiety-provoking (Sinha et al., 2014). According to this idea, the key behavioral hallmarks of ASD are understandable reactions to, and methods of coping with, an unpredictable environment (see Table 1 for examples).

Insert Table 1 around here

To date, there is mixed and insufficient empirical evidence to suggest 'prediction difficulties' are a single underpinning impairment in ASD. However, in terms of clinical utility, it is an idea that provides a helpful organizing framework to bring together well-recognized behavioral strategies.

The current 'Predictive Parenting' program incorporates three main branches (Figure 1):

i) *Learning to predict behavior more effectively:* The first branch aligns with the evidence-based principles of functional analysis (Beavers, Iwata, & Lerman, 2013), encouraging parents to identify the antecedents and consequences of their child's behavior. By considering the 'purpose' of their child's behavior, parents learn to target their strategies more effectively. By becoming 'behavior predictors', parents are supported to gain a greater understanding and empathy for their child's disruptive behaviors. From the beginning, anxiety is considered as a possible setting event for behavior difficulties.

ii) *Making life more predictable:* The second branch supports parents to increase predictability for their child to and prevent challenging behaviors associated with uncertainty, change and anxiety. This branch incorporates well-recognized approaches targeting behavioral antecedents, such as planning-ahead, increasing routine and using visual prompts; using predictable instructions; and improving functional child communication (Bearss et al., 2015; Knight, Sartini, & Spriggs, 2015; Whittingham, Sofronoff, Sheffield, & Sanders, 2009a). There is also a focus on predictable consequences: emphasizing praise and rewards, as well as clear and predictable boundaries. Specific minimally-verbal elements in branch 2 include functional communication and the use of objects of reference (McLarty, 1997) to increase the predictability of communication. In addition to well-known concepts of parental consistency and behavior management (Webster-Stratton & Reid, 2010), this stage also includes 'ASD-specific' approaches such maintaining a predictably 'low arousal' environment (reducing sensory input, managing demands) (Bearss et al., 2018) and using 'social stories' to increase predictability in daily situations (Gray, 2000; Qi, Barton, Collier, Lin, & Montoya, 2018). Understanding and managing autistic 'meltdowns' is also covered, with an increased emphasis on self-injury for minimally-verbal groups.

iii) *Helping children cope with unpredictability*: It is impossible and undesirable to make life

completely predictable for children with ASD. The third branch explores how to help

children tolerate uncertainty. Drawing on established CBT approaches, it includes

psychoeducation about anxiety, and the use of graded exposure to help children face their

fears (Ung et al., 2015). In line with previous ASD programs, it emphasizes the use of

sensory calming strategies, physically active coping skills, and relaxation techniques

(Attwood, 2004; Wood et al., 2009). Parents are encouraged to model anxiety coping skills,

to reduce reassurance, and to increase emotional labeling (Cartwright-Hatton et al., 2011).

The strategies in this stage are also in keeping with CBT techniques targeting 'Intolerance

of Uncertainty' (Boulter, Freeston, South, & Rodgers, 2014; Rodgers et al., 2017). For

example, parents are encouraged to gradually introduce periods of change or uncertainty

during the day to develop their child's flexibility. For parents of minimally verbal,

strategies in branch 3 have a strong emphasis on behavioral exposure strategies and

managing parent responses, rather than a more cognitive CBT approach.

The final part of the Predictive Parenting framework, covered throughout the course,

relates to parent well-being and self-care. Parents are encouraged to be aware of their own

stress symptoms and to take time to look after themselves in a variety of ways. The course

incorporates aspects of 'mindful parenting', encouraging parents to 'step back' and respond to

their child with awareness (in a predictable way), even in stressful situations (Bogels &

Restifo, 2014; Singh et al., 2006). A growing evidence base suggests this approach can reduce

parental emotional reactivity, improve parent-child relationships (Cachia, Anderson, & Moore,

2016), and allow parents to more effectively manage behavior (Singh et al., 2006). To support

the well-being of parents who may experience traits (or a diagnosis) of ASD, in line with the

'Broader Autism Phenotype' (Pickles et al., 2000), the course itself also includes a high level of

structure and predictability, with a clear visual framework and concrete case examples.

Parents are encouraged to set achievable goals and to prioritize strategies, with the aim of being a 'good enough parent' (Winnicott, 1987).

Insert Figure 1 here: Conceptual framework for Predictive Parenting program

Intervention structure

The course comprises 12 weekly, two-hour sessions (for session titles and content, see (Palmer et al., 2019). Teaching methods incorporate didactic and interactive elements, as well as homework tasks to practice new strategies. If sessions are missed, parents are given the opportunity to discuss the session material over the phone or before the next session. Parents are supported to feed back to the group each week, allowing group problem-solving to increase autonomy in choosing and implementing strategies.

In the first instance, the groups were designed for 4-8 year olds, taking into account challenges observed at this developmental stage and bringing together parents with similar experiences. Although the Predictive Parenting concept is universally applicable, separate groups were adapted and run for parents of verbal and minimally-verbal children (verbal n=6; minimally verbal n=6). Certain strategies were added or emphasized for parents of minimally verbal children (as described above), while others were removed or reduced (e.g. social stories; reward charts). This differentiation aimed to tailor content to the child's level of ability, and to encourage greater group cohesion. Two hour-long individual telephone sessions (after sessions 2 and 9) allowed for further tailoring of group content for each family's individual needs. The course is designed to be delivered by professionals with experience of i) working with young people with ASD and their parents ii) facilitating therapeutic and psychoeducational groups iii) delivering behavior interventions.

Public and Patient Involvement (PPI) panels

Two PPI panels (two parents of children with ASD and five adults with ASD) were involved in the development of the intervention. This is in keeping with recent drives for interventions to be 'co-created' with input from service users at each stage of development (Fletcher-Watson et al., 2018).

Following a presentation about Predictive Parenting, the PPI panels reflected positively on the concept of Predictive Parenting, commenting that the theme of 'predictability' was meaningful to them, and that the focus on anxiety was highly relevant to their lived experience. Panel suggestions led to modifications of group design, content, and materials. For example, participants provided ideas for improvement around time-out, reward systems and relaxation approaches.

Objective 2: Evaluating the feasibility of Predictive Parenting

The effectiveness of the Predictive Parenting intervention is being tested as part of the Autism Spectrum Treatment and Resilience (ASTAR) study. ASTAR's main objective is to reduce mental health and behavior difficulties in children with ASD and forms part of a larger project aiming to improve the outcomes for people with autism spectrum disorders (Improving Autism Mental Health: https://iamhealthkcl.net/). A feasibility study to test the acceptability and accessibility of the program was initially conducted (intervention n=12; active psycho-educational control n=12) (method and outcome measures are described in detail by Palmer et al., 2019). Inclusion criteria comprised being a parent/carer of a child with ASD (4-8 years old), with sufficient English to participate. Exclusion criteria included current participation in another behavioral parenting intervention, frequent epileptic seizures (>once a week), significant safeguarding concerns or visual / hearing impairment (parent or child).

To qualitatively assess parents' views on the concept, content, and delivery of Predictive Parenting, semi-structured telephone interviews (n=9 completers, lasting 40-60

minutes) were undertaken by an independent research team. , All interviews were digitally recorded and transcribed verbatim. Analysis of the summarized data followed a structured and systematic approach, supported by MaxQDA qualitative analysis software (VERBIsoftware, 2016). Phone interviews were conducted with parents who declined the intervention (n=10) and parents who dropped out (n=1). Parent satisfaction was also assessed quantitatively post intervention using a 6-item self-report questionnaire, created for the study. Therapist fidelity to the intervention manual was self-rated by the facilitators after each session. The fidelity form rated whether each aspect of content (between 8 and 14 items) had been covered by facilitators. Items were scored on a scale of 0-2 (0=not covered; 1=partially covered; 2=fully covered) and a % fidelity rating was calculated or each session.

Results

Appendix 1 summarizes the demographic and descriptive characteristics of participating families. 11 of the 12 parents had a son with autism (mean age verbal group: 90.17 months (79-105); minimally verbal group: 84.00 months (49-110). Participating parents, from 3 South London boroughs, were diverse in terms of their socio-economic status; a quarter were of mixed / multiple ethnicity and one third had a household income of below £20,000. None of the parents in the minimally-verbal group were in paid employment, compared to 83% in the verbal group. Children in the minimally-verbal group presented with more severe ADOS score and lower levels of adaptive functioning than those in the verbal group.

The intervention was delivered with strong fidelity to the manual. Average fidelity for each session was 97.5% in the 'Verbal' group (range 91-100%), 97.8% (91-100%) in the 'Minimally verbal' group. Retention was good. Only two participants dropped out, both from the verbal group (owing to childcare difficulties / work commitments). On average, parents attended 9 out of 12 sessions (range: 6-12, excluding dropouts).

Key themes from qualitative interviews are summarized in Table 2 (verbal n=5; minimally verbal n=4). Reports were largely positive, with parents reporting that the 'Predictive Parenting' concept was relevant and easy to grasp. Parents noted that the strategies were reflective of their existing parenting approaches, putting a framework around techniques they had developed instinctively. They reported having a greater awareness and understanding of their child's behaviors and triggers and greater confidence in their ability to manage meltdowns and their child's anxiety. They also noted feeling calmer, with less self-blame and stress. Immediate child impacts were less clearly described by parents. However, parents did note some positive changes, including reduced meltdowns, improved cooperation, greater independence and reduced frustration. Table 2 also summarizes several suggestions for intervention refinement (e.g. needing more strategies around self-injury, a slower pace to allow home practice, more 'hands on' activities and practice. Critiques were used to inform a subsequent pilot RCT (n=62), in which the effect of Predictive Parenting on parent and child outcomes was compared to a psychoeducational attention control condition (Palmer et al., 2019). Analysis of the pilot trial is underway.

Parent satisfaction questionnaires (n=9) showed high satisfaction with the intervention (mean 3.89/4 sd 0.31), with no significant differences between the verbal and minimally verbal groups. All parents reported that the group felt "very supportive" and the majority felt it helped them manage behavior and anxiety more effectively (mean 3.78/4 sd 0.42).

Insert Table 2

Discussion

Previous studies have suggested that parent-directed interventions can lead to significant improvements in both symptoms of disruptive behaviour (Tarver et al., 2019) and anxiety (Ung et al., 2015) in children with ASD. This report describes the development and feasibility of 'Predictive Parenting', the first group parent intervention targeting difficulties with

behaviour *and* anxiety in the same program. This focus is needed, given the frequent co-occurrence, interplay and persistence of behavioural and emotional difficulties in this group (Simonoff et al., 2008; Storch et al., 2012). It was designed in consultation with a PPI panel of parents of young people with ASD and adults with ASD, using their lived experience to guide focus and content.

Predictive Parenting has been designed to have relevance for parenting *any* child with ASD, regardless of their level of language, cognitive ability or current difficulties with behaviours and emotions. It encourages a parenting 'style' that addresses current challenges but also seeks to prevent future difficulties with anxiety and behavior. The intervention draws together a number of existing parenting approaches within an ASD-specific framework. It draws on the clinical observation and the proposed theory that children with ASD often struggle with prediction (Pellicano & Burr, 2012; Sinha et al., 2014).

This report presented the findings of a feasibility study (n=12) of Predictive Parenting, carried out with two parent groups (one for verbal, one for 'minimally verbal' children). The results were promising in terms of parent attendance, drop-out rates, and quantitative satisfaction measures. Facilitators' fidelity to the intervention manual was high, along with quantitative measures of parent-satisfaction.

In their qualitative feedback, parents reported that this unifying theme of 'prediction' allowed them to better understand their child's behaviours and emotions. It aligns with approaches that many parents use instinctively, such as incorporating structure and predictability (O'Nions, Happe, Evers, Boonen, & Noens, 2018; Schaaf, Toth-Cohen, Johnson, Outten, & Benevides, 2011). In terms of content, participants reflected that they had found the 'behavior prediction' skill particularly helpful, especially for children with limited language. Strategies in branch 1 align closely with functional analytic approaches, which often form a key foundation of behavioral parenting approaches in typically developing children (Webster-

Stratton & Reid, 2010) and children with ASD (Bearss et al., 2018). Similarly, branch 2 brings together existing behavior management approaches that are well-evidenced and popular with parents of children with ASD (Bearss et al., 2015; Whittingham et al., 2009a).

In the final branch of Predictive Parenting, evidence-based emotion-regulation strategies for children with ASD (Weiss et al., 2018) (e.g. sensory strategies; emotional literacy; graded exposure) are framed within the context of difficulties coping with 'unpredictability' and the anxiety this can cause. Parents are well placed to help implement CBT strategies to manage anxiety, with a key role in reducing avoidance and accommodation, modeling coping, encouraging relaxation and exposure and using reinforcement techniques (Thirlwall et al., 2013; Wood et al., 2009)Parent-mediated strategies targeting children's 'intolerance of uncertainty', such as gradual exposure to change and unpredictability, may also have a beneficial impact on anxiety for children with ASD (Rodgers et al., 2017).

Following this feasibility study, adaptations were made in line with qualitative feedback and PPI panel recommendations. For example, groups for parents of minimally verbal children have been further refined, with greater emphasis on strategies such as functional communication, objects of reference (McLarty, 1997); the immediacy of rewards or consequences; and managing dangerous behavior and self-injury. An even greater focus has been put on active tasks, coaching, and discussion, rather than didactic teaching.

As a feasibility trial, the current study was subject to several key limitations. First, the PPI panel was small, and weighted towards adults with ASD rather than parents. It would have been helpful to have a greater number of parents involved in the initial concept development. The participant sample size was also small and quantitative parent and child outcomes have not yet been explored in comparison to a control condition. The measures of fidelity and satisfaction reported here have not been independently validated. However, given the promising qualitative feedback to date, a pilot randomized control trial of Predictive

Parenting is now underway (http://www.isrctn.com/ISRCTN91411078), exploring the

efficacy of this program compared to an active control condition (Palmer et al., 2019). This

will allow more quantitative investigation of the program's effects on both parent measures

(e.g. parenting behaviors and confidence) and child measures (e.g. disruptive behaviors and

anxiety). The current groups have been designed for younger children (aged 4-8 years) in the

first instance. However, the themes of the course are equally applicable in later childhood and

adolescence, a time of significant physical, social and environmental change and

unpredictability. Further research is currently underway to explore the application of the

Predictive Parenting concept for older groups of children.

Social communication difficulties	Social encounters are inherently unpredictable and require an ability to respond flexibly to changing demands. Difficulties with prediction may be linked with challenges anticipating what others will say, do, or think next.
Repetitive and Restricted Behaviors and Interests	A difficulty predicting future events may be associated with anxiety about change and a strong preference for sameness and routine. Repetitive behaviors and interests may serve to increase predictability and control in an otherwise chaotic environment.
Sensory Difficulties	Problems anticipating, contextualizing, and habituating to sensory input may lead to sensory sensitivity and 'overload'. Individuals with ASD often struggle particularly with *unpredictable* stimuli e.g. dogs barking, babies crying or automatic hand dryers, which often trigger anxiety and associated disruptive behaviors.
Anxiety	Living in an 'unpredictable world' is likely to cause high levels of anxiety and distress for children with ASD. This is in keeping with the recent observations that children with ASD struggle with 'intolerance of uncertainty' (Boulter et al., 2014).
Motor skills	Difficulties with motor co-ordination and fine-motor skills are common in ASD. A challenge interacting with dynamic objects may stem from difficulties predicting the path of moving objects and coordinating one's own motor movements accordingly.

Table 1: Links between 'prediction' difficulties and ASD symptomatology

Topic	Qualitative feedback	Comments
Reasons for getting involved in the study	Parents gave two main reasons for participating in the trial: to gain more information about ASD, and to receive help in understanding and addressing their child's behaviour.	*'I suppose as a mum with an autistic child, you sort of go on so many courses and you hear the same things "Oh yeah, I've heard that before" - but it all sounded very new and very interesting … A "new" intervention, it sounds like, oh hold on a minute, we've found something new that could work differently'*
Acceptability of the intervention	Overall, parents spoke positively about the course. They noted that it was well designed, facilitated and interesting. The concept was easily grasped by parents and intuitively made sense. Many explained that it helped to put a language and framework around strategies that they are using instinctively. The ready-to-use resources (e.g. visual timetables and 'wait cards') were useful and appreciated. The inclusion of homework tasks was generally seen as useful.	**Consolidating existing approaches**: *'I suppose now it's given me a little bit more confidence in what I'm doing; whereas I was doing things and trying to implement certain things but I never knew whether I was going down the right route and I was a bit unsure whether it was the best way to do, it's definitely kind of either confirmed I was doing the right things or said to me, oh perhaps you shouldn't have been doing that, you should do it this way. So now I feel confident.'*

Most parents felt that Predictive Parenting had been appropriately tailored for both verbal and minimally verbal children, even where certain topics or strategies could not be applied to their own child.

In terms of the balance of teaching approaches, parents reported positively about the delivery of Predictive Parenting (including the role-plays, examples and group discussions).

The individual sessions were positively received. Parents reported that this helped them feel that the course was tailored for their family.

Improvements:

- The weekly pace at which topics progressed was not always felt to give sufficient time to implement and evaluate new strategies.
- One parent perceived it was difficult to apply the example scenarios and the strategies to their non-verbal child. They queried whether the

Facilitation: '*They did it in a very sort of non-judgmental way, sort of not saying "This is the right thing to do", but really talking about strategies and helping you to find out what the appropriate thing is for your own family ... It was a lovely sort of warm and inviting group to be part of*'

Resources: *If you have got to come away from the course and then try and make up all your own material, life's sort of hard enough as it is without having to try and make up your own materials then to try it. So it's good that the material has been provided for us*'

'*It's good for me because poor [son] has never had a visual in his life really. It's something that I'm always getting round to and never have. It's so nice that we are given this stuff*'

Individualizing: *There's someone there that is actually trying to help you to your child and not just trying to generalise. So that was very helpful, trying to put things in place that's actually just gonna help* [son] *and not every other autistic child in the world.*'

	intervention could go further to address the severity and complexity of challenging behaviors among some children with autism. - One parent reported that they would prefer more 'hands-on' activities. - One parent reported that they thought the course would benefit from their child being involved. They felt it was difficult to fully demonstrate the severity of the behaviour challenges. - One parent reported that greater emphasis on self-injurious behaviour would have been helpful.	***Homework:*** *'We haven't left what we've learnt at the door when we've left on a Friday. It's been like, OK, this is what we've focused on this week and let's go home and see how that can be applied at home'*
Impact on parent outcomes	Parents felt they had new insights and strategies to help manage challenging behaviour. They reported greater awareness and understanding of behavioral triggers, and more confidence and optimism about their capacity to manage challenging behaviors. Parents reported feeling closer to their child through seeing the world from their perspective.	**Predicting behavior:** *It's nice to know what sets your child off, when you're predicting. Because you don't know sometimes what sets them off, and it's nice to try and look for that'.* *'It helped you to see what was happening, so you could stop the meltdown before it got to that stage'.* *It was helping me to see the world through his eyes…. I didn't actually realise what he was seeing the world like. So it really*

Parents also described feeling calmer and less stressed as parents, with greater acceptance and capacity to let go of self-blame. Some parents had become more aware of their own emotions, anxieties or need for self-care.

brought the world closer- well it brought me and him closer because I was able to sort of pre-predict things, see how his mood was changing and what was coming up'.

Praise and rewards: *'I'll continue to do that forever because I think that she really responds to that ... Just the smile on her face and that she wants to try it again'.*

Consequences: '*And just having that discussion between me and my husband, as a result of the course, and saying, you know, we mustn't be losing our temper with him or shouting at him, and that has helped us and therefore helped us deal with [son]'.*

'I need to just remove myself from the situation once I've told him "No", no matter how much he screams at me. It's fine to just ignore and leave the room if I need to. And it is effective actually'

		Anxiety: It really taught me what anxiety was and made me realise that my son does actually suffer from it, and that was something that we didn't notice before'.
		Mindful parenting: '*I've definitely noticed a change in me and how I feel about everything ... I'm just a lot more aware of how I'm reacting to his needs and his behaviors. I guess I'm just a lot more accepting ... I've just like lifted the pressure off myself, I think*'
		Consistency: '*It's just made me think actually I need to be consistent and I need to select what's appropriate when, and me and my husband need to be consistent in how we approach things with that*'.
Impact on child outcomes	Immediate child impacts were less clearly perceived by parents. Parents did note some positive changes, including reduced meltdowns, improved cooperation, greater independence and reduced frustration.	

Accessibility of the intervention	The duration and pace of the course were generally felt to be appropriate and venues were convenient.	**Normalising:** '*Often we think that we're the only ones that are going through that, and if you're in a group setting then you realise, oh there are people who have stories that are different or similar to your stories and you're able to share your experiences... it really helps you, and it helps you to help your child as well*'.
	Parents in both groups were largely positive about the group format. One parent noted that the small group size allowed everyone to ask questions, speak and be heard. Parents reported that it was helpful to share their experiences with parents in a similar situation.	
		'*It's good to be in that environment where you don't feel like a bad parent because when you've got an ADHD child or autism, sometimes people don't understand that*'
	Improvements:	
	- Timing of the course within the day was not ideal for some working parents. - One parent reported that they found it quite difficult to share their experiences in the larger group, and would welcome more opportunities for smaller group work.	

Reasons for declining the interventions	Main reasons for declining the interventions were perceived lack of need/benefit and practical/circumstantial barriers. Some parents reported they would have found the group setting challenging.
Reasons for dropping out of the intervention	Reasons for dropping out of the intervention were predominantly practical, including childcare and work commitments. No participant had dropped out due to unacceptability of the intervention.

Table 2: Results from the independent qualitative interview

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