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ARTICLE

ACT-based interventions for reducing psychological distress in parents and caregivers of children with autism spectrum disorders: Recommendations for higher education programs

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ABSTRACT

Caregivers of children with disabilities experience reduced psychological wellbeing. In existing evidence-based treatments for parents, the parental emotional struggles are often poorly addressed. In this paper, we present Acceptance and Commitment Therapy (ACT) as a contextual cognitive behavioural model, based on behaviour analysis, which may be particularly helpful for parents of children with neurodevelopmental disabilities, such as autism. In fact, ACT may reduce the psychological inflexibility associated with parental distress, and unhelpful strategies for the management of reactive grief. We also present: a narrative review of the current literature about ACT in the field of parent support and ACT-intervention programs and study protocols from Italy and Sweden, which have been developed to support parents of children with ASD, ADHD and other disabilities. The importance of extending ACT interventions to parents of children with disabilities is discussed, and recommendations are made for future training and research in higher education.

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Introduction

Attention deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) are two of the most common childhood-onset neurodevelopmental disorders (NDD). ADHD is characterised by inattention, hyperactivity and impulsivity, observed in a range of situations, which is inconsistent with the child's developmental level and causes social and academic impairment (American Psychiatric Association, 2013). Symptoms of ASD include impairments in social communication and social reciprocity, as well as repetitive behaviour and restricted interests (American Psychiatric Association, 2013). Both ADHD and ASD are severe and chronic neurodevelopmental disorders, with negative

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long-term outcomes in many major life activities (Barkley, 2002; Drmic, Szatmari, & Volkmar, 2018; Shaw et al., 2012), including mental ill-health and high risk of suicidal behaviours (Hirvikoski et al., 2019; Ljung, Chen, Lichtenstein, & Larsson, 2014). ADHD and ASD together constitute a significant percentage of children referred to mental health care from very early stages of life (Bögels, Hoogstad, van Dun, de Schutter, & Restifo, 2008). In addition to the personal cost and family burden, NDDs also have a significant socioeconomic impact, especially up until the age of nine, as they represent the highest societal cost among child psychiatric disorders (Baxter et al., 2015; Erskine et al., 2014; Ganz, 2007).

Behavioural problems, defiant oppositional disorder and conduct disorder are highly represented in both children with ADHD and ASD (Azeredo, Moreira, & Barbosa, 2018), and are seen in children with other disabilities (Brown, Whittingham, Boyd, McKinlay, & Sofronoff, 2014). For example, cooperation in day-to-day activities such as domestic activities, bedtime and homework can be challenging for both the children with ADHD or ASD and their parents, thus negatively affecting the parent–child relationship (Segal, 2000; Segal & Hinojosa, 2006; Simonoff et al., 2008). Furthermore, whether the child has a disability or not, parental stress and a child's behavioural problems have a bidirectional relationship and a mutually escalating or diminishing effect on each other over time (Neece, Green, & Baker, 2012). Whereas parental stress seems to decrease over time for parents of typically developing children, it does not in parents to children with disabilities. This effect may be due to the high rate of behavioural problems in children with developmental delays as well as appearance of recurrent and new stressors, including concern for the child's future, which maintain or even increase over time (Neece et al., 2012).

For all these reasons, raising a child with an NDD or other disability exposes parents to increased psychological and physiological stress responses, especially when the child presents with externalising behaviours or socio-communicative difficulties (Dykens, 2000; Neece et al., 2012). Furthermore, economic hardship as well as insufficient services and supports may further increase parental stress (Hassall, Rose, & McDonald, 2005; Parish, Rose, Weiss-Grinstein, Richman, & Andrews, 2008). An additional stressor is worry for the child's development and future outcome. Parents of children with NDD report a higher level of stress compared to parents of typically developing children (Miodrag & Hodapp, 2010) and many stress-related physical health symptoms have also been observed. These include insomnia and poor sleep quality (Gallagher, Phillips, & Carroll, 2010), as well as a wide range of biological stress markers (Dykens & Lambert, 2013; Gallagher, Phillips, Drayson, & Carroll, 2009; Seltzer et al., 2010) indicating long-term stress exposure (Epel et al., 2004). Moreover, mothers of children with NDD have displayed psychiatric problems such as depression and anxiety symptoms to a greater extent than mothers of typically developing children (Singer, 2006; Taylor & Warren, 2012; Theule, Wiener, Tannock, & Jenkins, 2013). Stress has been associated with decreased parental well-being, which, in turn, has been associated with more rigid and inflexible disciplinary parenting styles and child psychopathology (e.g., Almogbel, Goyal, & Sansgiry, 2017). Therefore, parental stress is important to address not only to improve psychological health in parents but also to support their children.

The primary aims of this paper are to: (1) provide a brief overview of the literature in the field of parenting children with disabilities; (2) present the Acceptance and Commitment Therapy (ACT) model and processes in the context of parenting a child

with a disability (Hayes, Strosahl, & Wilson, 1999), (3) summarize trainer outlines for ACT programs geared to parents of children disabilities in Italy and Sweden; (4) discuss future possibilities and challenges in this area, including the importance of addressing ACT in behaviour analysts' higher education training.

Intervention for parents of children with NDD: what has been done and what is missing

The research addressing interventions for parents of children with NDD has mainly focused on directly improving the parents' ability to manage the child's impairments or behavioural difficulties (Lunsky, Fung, Lake, Steel, & Bryce, 2018). Today, the most empirical evidence exists in behavioural parent training, which is time-limited (typically 10–20 sessions), and emphasises the role of parents as change agents. In children with externalising behaviour problems (not complicated by NDD), behavioural parent training was found efficacious and cost-effective for improving child conduct problems, parental mental health and parenting skills at post-treatment (Buchanan-Pascall, Gray, Gordon, & Melvin, 2018; Furlong et al., 2012; Kazdin, 2005; Piquero et al., 2017).

Behavioural parenting intervention has been found effective in targeting externalizing behaviour in families of children with neurodevelopmental disabilities (Tellegen & Sanders, 2013), specifically in reducing externalising behaviour problems in children with ADHD (e.g., Fabiano et al., 2009; Rimestad, Lambek, Christiansen, & Hougaard, 2016) and ASD (e.g., Postorino et al., 2017; Whittingham, Sofronoff, Sheffield, & Sanders, 2009a, 2009b), among others. A review by Kaminski, Valle, Filene, and Boyle (2008) reported larger effects on externalising behaviour problems in children participating in programs, which included training in behaviour management strategies (e.g., time-out and parental consistency), positive interactions (e.g., positive reinforcement for appropriate behaviour), and in vivo practice with the parents and their child.

Early and Intensive Behavioural Intervention (EIBI), founded on the principles of learning, is the most effective model for treating children with ASD and is therefore recommended by a large number of national guidelines, including Italy (Istituto Superiore di Sanità, 2011) and Sweden (Bohlin et al., 2004). Research has shown that home-based EIBI can produce great progress in young children with autism in terms of acquiring skills repertoire (Eikeseth, 2011; Lovaas, 2003; Moderato, Copelli, Villa, & Molteni, 2013) and in reducing challenging behaviours (Eikeseth, 2009; Eldevik et al., 2009; Reichow, 2011; Scagnelli, Copelli, Presti, & Moderato, 2017). Parental participation is a core component of EIBI programs, as it typically involves at least one parent functioning as a co-therapist (Lovaas, 2003).

Several factors may impact parental stress in families involved in EIBI, both positively and negatively. Parenting stress may be reduced if a child's engagement in an EIBI program leads to gains in important social, academic and self-help skills, and/or less frequent engagement in problem behaviour. Current research indicates that EIBI is either uniquely associated with decreases in maternal stress (Birnbrauer & Leach, 1993; Eikeseth, Klintwall, Hayward, & Gale, 2015) or does not significantly affect parental stress positively or negatively (Remington et al., 2007). These results may suggest that even if a child's intellectual functioning and behaviour improves with EIBI, any decrease in parental stress might be cancelled out by the increased parental workload related to the high-intensity intervention. Another possible explanation is that the decrease in only maternal stress is related to the fact that the mothers, on average,

have a stronger involvement in their children's programs and therefore feel more self-efficacious (Eikeseth et al., 2015). Additional research on this topic may be useful due to the limited number of studies examining associations between EIBI and changes in parental stress, and the mixed results obtained in these studies.

Significantly less attention has been paid, however, to interventions explicitly addressing parents' psychological well-being, beyond parental strategies for the management of the child's behavioural problems (Lunsky et al., 2018). Parent-focused behavioural interventions typically do not emphasise the role that a parent's private events, memories, expectations and emotions can play in a given parenting situation. Acknowledging those factors could be especially crucial for the parents of children with NDDs or other disabilities, who experience the long-term challenges as described above (Whittingham, 2013).

In recent years, there has been a growing interest and research on the so-called third-wave of behavioural and cognitive therapies and interventions (Hayes, 2004). Third-wave approaches include Dialectical Behavioural Therapy (DBT; Linehan, 1993), Functional Analytic Psychotherapy (FAP; Tsai et al., 2009), metacognitive approaches (Wells, 2000), Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2001), Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990) and Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), amongst others. While these models may have different spiritual, philosophical and theoretical roots (Hayes, 2002), all include some form of mindfulness intervention – deliberate non-judgmental attention to moment-to-moment experience – and/or acceptance interventions, as well as, ongoing non-judgmental contact with psychological events (Whittingham, 2013). Moreover, these third-wave therapies highlight the function and context of overt and covert behaviours rather than their form, aiming in different ways to change the function that certain private experiences (thoughts, emotions and sensations) may have on overt behaviours.

In particular, there has been an increasing interest in ways to enhance existing behavioural parenting interventions with acceptance and mindfulness processes, and to investigate the effects of these processes on parenting in general (Cohen & Semple, 2010; Dumas, 2005; Duncan, Coatsworth, & Greenberg, 2009) and on parents of children with disabilities in particular (Cassone, 2015; Greco & Eifert, 2004; Whittingham, 2013). These third-wave approaches may enrich existing behavioural parent training programmes by focusing on the verbal learning mechanisms, reducing highly automatic and resistant to change parenting practices (Coyne & Wilson, 2004; Dumas, 2005). In fact, the function of less effective parenting behaviours may be the avoidance of painful psychological contents. These behaviours may have become automatic and insensitive to contextual contingencies, thus resistant to change despite the long-term negative consequences (Coyne & Wilson, 2004; Murrell, Wilson, LaBorde, Drake, & Rogers, 2009).

Developing a parent's capacity to garner perspective not only on their child's behaviour but also on their own ongoing psychological events, and increasing their ability to choose a non-judgmental and non-reactive stance about them, may help parents to regulate emotional reaction, to produce more context-sensitive parenting behaviour and to handle the stressors connected with parenting (Duncan et al., 2009; Whittingham, 2013). For these reasons, Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2012) is a promising choice to support parents of children with ASD.

What is ACT and why ACT can help parents of children with a disability

In this section, we will describe the theoretical and research basis of ACT as well as its clinical implications for parents and caregivers to children with a disability. ACT is based on functional behaviour analysis and the Relational Frame Theory (RFT), a post-Skinnerian theory of language and cognition (Hayes, Barnes-Holmes, & Roche, 2001). RFT aligns with Skinner's (1969) conceptualizations of verbal and rule-governed behaviour to explain how rules become a context that influences the frequency and shape of emitted operant behaviours. The premise is that humans make rules about everything, including themselves and their children, and from the very moment this verbal processing begins, their experience of their selves, their loved ones, and the world also becomes a function of those verbal rules (Coyne & Wilson, 2004). Research in rule-governed behaviour suggests that when behaviour comes under the control of rigid verbal rules, it becomes less sensitive to direct environmental contingencies and it becomes harder for people to learn from new experiences (Leslie et al., 1993; Murrell et al., 2009; Shimoff, Catania, & Matthews, 1981). Moreover, RFT explains the relevance of language and cognition in processes that lead to psychopathology and offers tools for treatment (Hayes et al., 2001).

Previous research suggests that respondent and operant conditioning contribute to the development and maintenance of problematic parenting behaviour as well as to the failure to respond to treatment (Murrell et al., 2009). It is possible, however, that difficulties in parenting, and in the application of parenting skills, are the result of indirect relational conditioning processes as well. It seems, in fact, that psychologically relevant verbal stimuli (e.g., stressful content) and verbal stimuli inconsistent with previous learning history can negatively impact one's ability and flexibility to learn new and, eventually, more adaptive verbal rules and rule-governed behaviours (Barnes, Lawlor, Smeets, & Roche, 1996; Leslie et al., 1993; Murrell et al., 2009).

Thus, ACT grounds its theoretical roots in applied behaviour analysis, on which the behavioural interventions directed to both children with NDDs and their families are also based (e.g., EIBI and behavioural parent training). The common scientific and applied base between ACT and behavioural interventions is what makes ACT particularly suitable to be used with the caregivers of children with disabilities. For example, it has been suggested that there may be a need for a specific intervention approach for parents engaged in EIBI: the parents' expertise in the field of ABA theory may not agree to therapeutic interventions based on other models, incompatible with their own therapeutic orientation (Grindle, Kovshoff, Hastings, & Remington, 2009).

ACT can be described as behaviour analysis applied to the human condition and suffering (Plumb, Stewart, Dahl, & Lundgren, 2009). In this sense, it is both old and new. On the one hand, it is old in that it commits to apply the basic principles of behaviour and learning to clinical issues. On the other hand, it is new because the frame and the theoretical principles have been extended to effectively address private domains, which have not been empirically explored by behaviour analysts (Wilson, Bordieri, Flynn, Lucas, & Slater, 2010).

The ACT model includes six core processes of psychological flexibility, described as a Hexaflex (Figure 1): Acceptance, cognitive defusion, being present, self-as-context, values and committed action (Hayes et al., 2012). Each of the processes of psychological flexibility has a maladaptive counterpart, respectively: experiential avoidance, cognitive

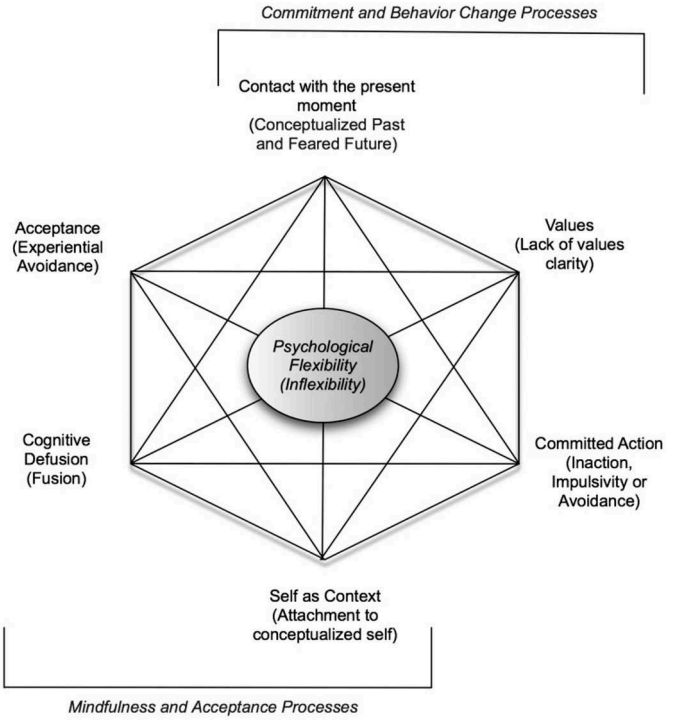

Figure 1. The Hexaflex ACT model of psychological flexibility and inflexibility, where the inflexibility processes of the model are between brackets (Prevedini, Presti, Rabitti, Miselli, & Moderato, 2011).

fusion, conceptualised self, conceptualised future and past, value restrictions and confusion, and inactivity or impulsivity.

In ACT, psychological flexibility is pursued by mindfulness and acceptance strategies together with behaviour change strategies. Mindfulness is pursued through the cooperative activation of four processes (acceptance, cognitive defusion, being present, self-as-context) and it may be explicitly trained and practiced through formal and informal mindfulness exercises (as in MBCT or MBSR). It may also be fostered in other ways, such as experiential exercises that decrease the dominance of language and emotions over behaviour and increase the contact with actual contingencies, in order to find other sources of behaviour regulation (e.g., chosen values, usefulness and so on).

The six core processes are interactive and inseparable parts of the ACT treatment, which aims to increase the psychological flexibility and support meaningful processes of change in behaviour, thus the ultimate goal in ACT (Gould, Tarboxa, & Coyne, 2018; Hayes, Luoma, Bond, Masuda, & Lillis, 2006). In the parenting context, for example, being able to be in the present moment creates a sensitive platform that allows a parent to make context-based choices and commit to values-based actions at the same time as being able to hold a healthy distance in relation to their own inner experiences. Values-work in ACT aims to identify which actions function as reinforcers, especially in the long term, and thereafter help clients to increase the frequency of these actions. Therefore, individuals can create rule-following repertoires that provide direction and serve long-

term goals in parenting and life in general (Gould et al., 2018; Villatte et al., 2016). Acting with awareness and intention are also essential components of promoting the maintenance and generalisation of treatment gains (Hayes, Villate, Levin, & Hildebrandt, 2011). Below, we describe two of the ACT processes in more detail to show how they may be particularly relevant in understanding parenting functioning: an experiential acceptance-avoidance process, and a cognitive defusion-fusion process (Coyne & Wilson, 2004; Greco & Eifert, 2004; Murrell et al., 2009).

Experiential Avoidance (EA) denotes one's attempts to alter the form of negatively evaluated private experiences (thoughts, feelings, bodily sensations) in order to move away from them. While EA may not always entail a problematic course of actions, chronic and excessive EA contributes to individual and interpersonal grief and ineffectiveness among family members (Greco & Eifert, 2004). Parental EA predicts psychological maladjustment in mothers of children who have intellectual disabilities (Lloyd & Hastings, 2009), mothers of children with cerebral palsy (Whittingham, Wee, Sanders, & Boyd, 2013) and mothers of infants born preterm (Evans, Whittingham, & Boyd, 2012; Greco et al., 2005). Moreover, EA is positively correlated with ineffective parental behaviours and stress, and it is also the variable that mediates the reduction of these ineffective behaviours after an intervention (Brown, Whittingham, & Sofronoff, 2015). Further, EA is associated with harsh and coercive parenting practices and behaviour problems in children (Shea & Coyne, 2011). Other authors (Evans et al., 2012) also found EA to interfere with bonding and responsiveness in mothers of premature infants. These findings implicate that people with high levels of EA could profit from early interventions that target EA as a significant risk factor. Therapies that integrate acceptance and mindfulness with behavioural therapy are promising (Fledderus, Bohlmeijer, & Pieterse, 2010).

Cognitive fusion (CF) describes the process through which people respond to thoughts (e.g., rules, reason-giving, etc.) in terms of their literal content, to the exclusion of other directly and indirectly available contextual functions. When people are "fused", they lose the ability to observe the extensive efficacy of their own behaviour in terms of direct environmental contingency, because arbitrary verbal contingencies guide the behaviour. Put simply; individuals engage in a particular behaviour because their learning history reinforced doing what they were told to do (compliance), by others first and then by their arbitrary verbal rules, instead of reinforcing the process of noticing the current contextual contingencies (tracking). It can be a struggle for parents, especially when stressed, to acquire new rules to guide novel, more effective parental behavioural patterns. This is particularly true when emotionally relevant stimuli are present (e.g., a child's outburst in public) and/or the new rule is inconsistent with the previous learning history (e.g., "A good parent makes himself respected by his son!") (Murrell et al., 2009). Coyne and Wilson (2004) proposed that CF supports EA, because fusion with verbal rules, such as "My child cannot be disrespectful to me!", and the private experiences associated with the thought can prompt coercive parental behaviours, which undermine the parent's effectiveness in guiding their child's behaviour in a desired direction.

Mindfulness and acceptance strategies in ACT aim at reducing experiential avoidance and cognitive fusion. Experiential exercises and metaphors enable the parent to be aware of situations in which one's behaviour is driven by the need to get away from the difficulties associated with being a parent. Defusion strategies have the aim of changing the functional relationship with one's cognitive content, lessening their power of control

over behavioural responses to broaden behavioural repertoires in given situations. An alternative use of language and verbal rules (e.g., less literal, more humorous and detached) during training would favour a functional approach to parenting difficulties. When "defused", parents become more capable of adjusting their behaviour depending on what works to move toward what it is important to them, their child and the qualities they wish to cultivate in their relationships.

To conclude, the strategies enable parents to, in spite of their inner experiences, use acceptance in parenting situations that they cannot change, and commit to valued-based actions when change is an option.

ACT for parents of children with disabilities: the research base

There are a limited number of studies published in peer-reviewed journals that investigated ACT with parents. In June 2018, we conducted a research in Medline and PubMed, including the keywords: "Acceptance and Commitment Therapy" and "Parent training OR parent intervention OR parenting intervention OR parent therapy OR behavioural family intervention". We also consulted the ACBS website (Association of Contextual Behavioral Science; http://contextualscience.org). As a result of our searches, we identified several studies, most of them including parents of ASD children. Here, we briefly report experimental or semi-experimental studies that tested the impact of ACT as a stand-alone intervention, or as a way for augmenting existing training for parents based on behaviour analysis, on groups for parents of children with different types of congenital or acquired disabilities.

Regarding the studies that tested the impact of an ACT intervention alone towards a group of parents, Blackledge and Hayes (2006) first demonstrated, in a within-subject repeated-measures design, improvements in psychological adjustment for 20 parents of children with autism after a two-day (14-hour) group ACT training.

Parents reported significant improvements in general distress, depression and overall health scores from pre-treatment to 3-months follow-up. Avoidance and fusion profoundly changed from pre-treatment to follow-up. Changes in depression were more significant among parents who scored at or above the clinical cut-off. Moreover, evidence suggested that fusion was a potential mediator of the relationship between treatment and symptom reduction at follow-up. Furthermore, a recent RCT (Hahs, Dixon, & Paliliunas, 2019) compared the effects of a brief ACT-based workshop (two 2-hour training) for parents (n = 18) of children with autism and a no-treatment-matched randomised control group. The treatment group demonstrated statistically significant improvements and large effect sizes on six of eight self-report measures (depression, mindfulness, thought suppression, shame, acceptance and values) following treatment, suggesting that a brief ACT-based intervention, requiring fewer resources, may be efficacious in treating the psychological challenges of parents of children with autism.

Regarding the studies that tested the impact of ACT as a way for augmenting existing training for parents based on behaviour analysis, a randomised controlled trial demonstrated the efficacy of a combined behavioural parent training and ACT intervention for families of children with acquired brain injury (Brown et al., 2014). A 4-hour ACT training for parents, combined with an evidence-based behavioural parent training for children with disabilities, was given to 59 families of children with acquired brain injuries. The intervention group showed improvements in child behaviour and parenting

style, compared with a wait-list control group. In particular, reductions were found in the intensity and number of the children's behaviour problems, their emotional symptoms and dysfunctional reactions from the parents, alternating between laxness to exaggerated responses. A recent RCT study and the follow-up report were the first to test the additive benefits of ACT above and beyond established behavioural parent education models (Whittingham, Sanders, McKinlay, & Boyd, 2014, 2016). Sixty-seven families of children with cerebral palsy were randomly allocated into one of the three groups: a wait-list control group, a group featuring parents with evidence-based behavioural training alone, and a group of parents who benefitted from behavioural parent training combined with a 4-hour ACT training (Whittingham et al., 2014). Those families who received the behavioural parent training alone displayed a decreased number of behavioural problems and emotional symptoms compared to the wait-list controls, consistent with the existing literature on the benefits of behavioural parent training. Parents who received the ACT-enhanced behavioural parent training showed decreased frequency and intensity of children's behavioural problems and hyperactivity compared to those in the wait-list group. The enhanced training also produced a reduction in dysfunctional parental conduct, including decreased verbosity and disproportionate reactions. Furthermore, the six-month follow-up seemed to indicate that families who received the ACT-enhanced training had effectively reduced child hyperactivity and the parent negligence and verbosity, compared to those whose training involved behavioural practices alone (Whittingham et al., 2014). Additional analysis on the secondary outcomes showed significant improvements in the children's functional performance, their quality of life and parental adjustment in the ACT-enhanced behavioural parent training condition. Such improvements were not noted in families with behavioural training alone or in those given wait-list control conditions (Whittingham et al., 2016). In summary, whereas behavioural parent training alone effectively targeted behavioural and emotional problems in children with cerebral palsy, the combination of behavioural parent training and ACT effectively targeted behavioural problems, hyperactivity, dysfunctional parenting, child functioning, child quality of life and improved a parent's ability to adjust. These results provide what is perhaps a first exhortation on the additive benefits of ACT in established behavioural training models for parents (Backen Jones, Whittingham, Coyne, & Lightcap, 2016).

Finally, in an exploratory quasi-experimental study on an ACT-oriented training program for parents of children recently diagnosed with autism (Corti et al., 2018), 20 parents received twelve 90-min sessions every 2 weeks of behaviour analytic strategies and ACT. Lower parental stress was observed in the ACT parent training group than in the wait-list control group. The ACT-group also showed a significant reduction in parental distress from pre- to post-treatment. This study, as well as the other reviewed here provide preliminary evidence that ACT-based interventions for parents of children with different kinds of disabilities may be associated with decreases in parenting stress (Corti et al., 2018), decreases in parental psychological symptoms (Blackledge & Hayes, 2006; Whittingham et al., 2016), improvements in parenting styles (Brown et al., 2014; Whittingham et al., 2016), improvements in overall health scores (Blackledge & Hayes, 2006), increased ACT processes measures (Blackledge & Hayes, 2006), decreases in child problematic behaviour (Brown et al., 2014; Whittingham et al., 2016) and children's decreases in emotional symptoms (Brown et al., 2014).

Of course, these studies are not without limitations, such as small sample sizes and/or probable sampling biases (Blackledge et al.; Corti et al., 2018), which limit ability to generalise the findings of a given study to the larger population. This also limits the possible analyses that can be made due to reduced statistical power. Well-controlled randomized trials including reasonable sample sizes are needed to further strengthen the evidence base of ACT. In addition, a detailed analysis of the ACT processes related to treatment outcomes would be informative to learn about possible treatment outcome mediators. Moreover, since no single intervention is suitable for all, factors moderating treatment effects, attrition and clinical feasibility may be important to study to further adjust the intervention for each individual parent. Therefore, these results of these studies should be considered promising, but preliminary.

Description and evaluation of systematic group leader education programs may facilitate future up-scaling and implementation in clinical practice. Group leader education programs can also provide a template for curricular components in higher education training programs that aim to help professionals learn to support parents. Currently, we are conducting ongoing research projects in Italy and Sweden that aim to systematize training and address research concerns in order to better serve parents to children with disabilities. In the next section of this paper, we will present these research projects.

ACT-group parent programmes and study protocols in Italy and Sweden

In this section, we will describe ACT-based interventions aimed at parents of children with different kinds of disabilities as currently conducted by our research and clinical groups in Italy and Sweden. Table 1 summarises the contents of the treatment protocols from both countries, while Table 2 details the research study protocols, including materials and methods. Table 3 includes a summary of the group leader training to ensuring high treatment integrity. This final table can also serve as a curricular framework for higher education programs.

Training programs for parents of children with ASD are now a primary subject of research at various centres in Italy, which offer centre-based early intensive interventions for children with autism. The Italian protocols outlined in Table 1 (contents of the treatment) and Table 2 (the study protocol) are based on the aforementioned results of the study on ACT-oriented training for parents of children recently diagnosed with autism (Corti et al., 2018).

The Italian training model for parents of children with ADHD is composed of 12 sessions. Table 1 describes the first five of these sessions, which are ACT-focused. The next six sessions are focused on more traditional behaviour management strategies, although ACT-processes are reviewed during the whole 12 session training. This is in regards to both the application of behaviour change strategies and experiential practices recommended in and between sessions (e.g., planned ignoring, privileged time, mindfulness practices, etc.). The 12th session is dedicated to the review of the whole programme, including the ACT module. Starting from the very beginning of this study in 2012, the ACT-enhanced behavioural parent training was built and then tested with groups of parents of children with ADHD in a hospital setting. Parents were assigned with a purposive criterion to one of two different groups: traditional cognitive-

Table 1. ACT parent-support groups: clinical protocols, formats and themes in Sweden and Italy.

	Sweden: Navigator ACT	Italy: ACT groups for parents to children with ASD	Italy: ACT groups for parents to children with ADHD
Target group	Parents to a child (0–17 years of age) with (some kind of) disability, experiencing psychological distress.	Parents to a child (0–17 years of age) with ASD	Parents to a child (0–17 years of age) with ADHD
General structure of the program			
Group format	Closed group; 2 facilitators	Closed group; 2 facilitators (video-recording of session for research purposes)	Closed group; 2 facilitators
Group size	8 to16 parents/group (parents to same child in different groups)	16 parents per group (parents to same child in different groups; groups are homogeneous by child age)	4 to10 parents per group (parents to same child in the same group; groups are homogeneous by child age)
Sessions	5 sessions of 3.5h and a 1.5h booster session (total 19h)	6 sessions of 3h every other week and 3h booster session (total 21h)	12 sessions of 1.5h every other week: first 5 sessions focused on ACT (total 7.5h), 6 sessions of behavioural PT (9h), and 1 final recap session (1.5h); total = 18h
Session themes			
1.	"Where am I?": Parenting a child with a disability; parenting stress and grief; workability of avoidance and control strategies; acceptance as an alternative.	"Two mountains metaphor": Workability of avoidance and control strategies (being a guide or a gate keeper metaphor); flexible parenting (an introduction to psychological flexibility with the ACT matrix point of view, all 6 ACT processes).	"Introducing each other": Parenting a child with ADHD; two mountains metaphor; trainers and parents are both humans; the rules of the group: how we create a safe place for sharing; don't believe the trainer and put in practice and notice what works.
2.	"What is important to me?": Defusion (creating distance to thoughts and feelings; role of language in suffering); values work in different areas of life and parenting; mindfulness in play and activity with the child; guided mindfulness in everyday life; observing self and self-compassion.	"What I have noticed in my parenting?": Obstacles and barriers to committed action; the Hooks metaphor and identifying behaviour function and tracking outcomes with the ACT Matrix; diffusion and acceptance as adaptive coping strategies: metaphors and experiential exercises; the role of language in human suffering; self as a content (self-judgments as parent and developing an observing self); flexible perspective taking and self as a context for adapting behaviour (for parent and child).	"What influence parents' and child's behaviours?": External and internal context of parents and child; Fusion and Experiential Avoidance (how thoughts and emotions can drive our behaviour toward unwanted directions); mind as a radio metaphor.
3.	"What can stop me?": Values-based goals; identification of behavioural triggers and barriers; alternative to barriers; accept or change; mindfulness in everyday life and with the child; finding ways to recuperate.	"The contexts of interactions": Functional analysis of parent-child interaction: noticing hooks in parent-child interaction and switching to values as a parent to reinforce and expand the repertoire of functional behaviour in child.	"Open up to move toward what's important to me": Fusion and Experiential Avoidance exploration (quicksand metaphor and the Hooks metaphor); Acceptance as an alternative coping strategy (the unwelcome party guest metaphor); Values work (values as lighthouse metaphor); My 80th birthday party experiential exercise.

(*Continued*)

Table 1. (Continued).

	Sweden: Navigator ACT	Italy: ACT groups for parents to children with ASD	Italy: ACT groups for parents to children with ADHD
4.	"What do I need to do?": Observer-perspective and perspective change; further values work connected to change agenda; mindfulness in challenging parenting situations.	"Being present with my values"" DRAIN and LOVE: from short term contingencies to long term values; further values exploration as a long-term guide" in parenting experiential exercises.	"Coming back to training and what is important": Mindfulness: Being present and slowing down as strategies to be the parent I want to be; Hand as thoughts metaphor and experiential exercise; mindfulness of the breathing and recorded mindfulness tracks for home practice.
5.	"What do I promise myself?": Balance in everyday challenges; commitment to values-based actions, mindfulness in pleasant situations; hope and self-compassion; repetition of all sessions: ACT for life.	"Acting my values: flexible strategies": My commitment to change and promoting a nurturing environment for my child with ASD; flexible use of contingency of reinforcement. ABA and ACT integration in planning a nurturing and reinforcing environment for child and parents.	"What it will be difficult to me and what I want to do in the moment?" Further Mindfulness work (informal mindfulness practices; mindful eating experiential exercise; mindfulness in challenging parenting situations for noticing the details and functions; commitment to values-based actions.
6.	Booster session 3 months post-intervention: R epetition of all sessions.	"Flexible problem solving and being a mindful speaker for my child and myself"; Using the ACT Matrix verbal AIKIDO as a guide in difficult situation; mindfulness exercise with other parents and your child to promote also a mindful internal speaker.	Traditional behaviour management strategies and review of the ACT processes discussed in the first sessions.
7.	N/A	Booster session 3 months post-intervention: feedback on generalization of flexibility skills in parent-child interaction and review of all processes with the matrix.	Traditional behaviour management strategies and review of the ACT processes discussed in the first sessions.
8 – 11	N/A	N/A	Traditional behaviour management strategies and review of the ACT processes discussed in the first sessions.
12	N/A	N/A	Review of the whole programme.

Table 2. ACT parent-support groups: research protocols in Sweden and Italy.

	Sweden: Navigator ACT for parents to children with disabilities	Italy: ACT groups for parents to children with ASD	Italy: ACT groups for parents to children with ADHD
Study design and progress	Data collection finished in an open feasibility study (n = 94); on-going data collection in a pragmatic multicentre randomized controlled trial (n = 51 included so far); on-going data collection in a study of treatment effect and attrition moderation (n = 183 included so far)	Pilot study on different session and feasibility of different format (n = 20 on 1.5 h format, and n = 22 on control waiting list; n = 102 on 3.0 h format); on-going homogenous data collection in a multicentre study.	Data collection finished in an open feasibility study (n = 50); data collection finished in a quasi-experimental between groups trial (n = 128 included).
Context of ACT group delivery	Outpatient disability services: all clinics in Stockholm and 11 additional regions nationwide.	Outpatient Autism Services in 3 cities in the North of Italy.	Inpatient and outpatient hospital for developmental disabilities and disorders in the north of Italy.
Treatment fidelity	Trainer preparation (see Table 3); structured, non-published manual, including, e.g., power points with facilitator instructions, lecture notes, exercises; use of a commercial app/manual for mindfulness exercises; workbook for the parents.	Trainer preparation (see Table 3); non-published program protocol, exercises derived from the published literature; workshop material (slides, worksheets, values cards and audio podcasts with exercises).	Trainer preparation (see Table 3); structured non-published material including power points with written instructions for facilitator, lecture notes and worksheets for parents; use of recorded files for mindfulness exercises.
Outcome measures			
Feasibility	Program completion defined as 75% of the participants taking part of at least 4 out of 5 sessions	Program completion defined as 75% of the participants taking part of at least 5 out of 6 sessions.	Program completion defined as 75% of the participants taking part of at least 9 out of 12 sessions
Treatment satisfaction	Session evaluation form after each session; program evaluation form after session 5; Credibility Expectancy Questionnaire pre and post treatment.	Patient evaluation form after session 6 and before booster session.	Patient evaluation form after session 12.
Efficacy, effectiveness	Parental Acceptance and Action Questionnaire (PAAQ); The Mindfulness Awareness Attention Scale (MAAS); Parental Stress Scale (PSS); Hospital Anxiety and depression scale (HADS); The Strengths and Difficulties Questionnaire, extended version (SDQ P4-17).	Parental Acceptance and Action Questionnaire (PAAQ); Acceptance and Action Questionnaire (AAQII); The Mindfulness Awareness Attention Scale (MAAS); Parental Stress Index (PSI); Valued Living Questionnaire (VLQ), Cognitive Fusion Questionnaire (CFQ) Strumento di Indagine della Qualità di Vita della Famiglia (SIQF).	The Mindfulness Awareness Attention Scale (MAAS); Cognitive Fusion Questionnaire (CFQ); Parental Stress Index (PSI); Adult Self Report (ASR); Conner's Rating Scales for parents; Child Behavior Check List for parents.
Assessment time-points	0–2 weeks pre-intervention; 0–2 weeks post intervention; 3 months post-intervention.	0–2 weeks pre-intervention; 0 weeks post intervention; 3 months post-intervention.	0 weeks pre-intervention; after 6 sessions (mid intervention); 0 weeks post intervention; 1 year post-intervention.

Table 3. Trainer preparation for ACT parent-support groups.

	Sweden: Navigator ACT	Italy: ACT groups for parents of children with ASD	Italy: ACT groups for parents of children with ADHD
Group leader background	Experienced clinicians in disability services (Licenced psychologists, social workers, speech and language pathologists or special education teachers).	Experienced clinical Psychologists (PsyD level) trained in EIBI.	Clinical Psychologists (PsyD students or graduates) trained in CBT and ADHD.
Training Components Areas	*Theory*: ACT & Psychological flexibility; stress/ psychological distress in parents to children with disabilities; practical issues (recruiting, screening/ needs assessment, group preparations); group leader role in an ACT intervention; mastering the clinical conversation in groups; review of each session. *Experiential learning*: Modelling of experiential exercises, metaphors and role playing. *Homework*: Four step mindfulness training, value-based work. *Required reading*: Harris (2012). The reality slap. Finding peace and fulfilment when life hurts. Harris (2009). ACT made simple.	*Theory*: ACT & Psychological flexibility; stress/ psychological distress in parents to children with disabilities; practical issues (recruiting, screening/ needs assessment, group preparations); group leader role in an ACT intervention; mastering the clinical conversation in groups; review of each session. *Experiential learning*: Modelling of experiential exercises, metaphors and role-playing. *Homework* All the experiential exercises included in the training for the parents. *Minimum required reading*: Harris (2009). ACT made simple Harris (2008). The happiness trap. Moderato, Pergolizzi, and Anchisi (2016). Roots and Leaves: radici e sviluppi contestualisti in terapia comportamentale e cognitive. Polk, Schoendorff, Webster, and Olaz (2016). The essential guide to the ACT matrix: A step-by-step approach to Using the ACT matrix model in clinical practice.	*Theory*: CBT, ACT & Psychological flexibility; stress/ psychological distress in parents to children with ADHD and behavioural problems; practical issues (recruiting, screening/needs assessment, group preparations); group leader role in an ACT intervention; mastering the clinical conversation in groups; review of each session. *Experiential learning*: All the experiential exercises included in the parent training; Modeling of experiential exercises, metaphors and role-playing. *Homework*: All the homework included in the training for the parents. *Minimum required reading*: Harris (2009). ACT made simple Harris (2008). The happiness trap. Moderato et al. (2016). Roots and Leaves: radici e sviluppi contestualisti in terapia comportamentale e cognitive. Polk et al. (2016). The essential guide to the ACT matrix: A step-by-step approach to Using the ACT matrix model in clinical practice.
Lectures/workshops	Total 24.5h 7 h introduction to ACT/Navigator ACT group intervention; 5 × 3.5 h lectures/experiential workshops *before* each session.	Total 40h One 2-day introduction to ACT workshop (8hx2) and one 2-day advanced ACT workshop (8hx2), both with lectures and experiential work; 1-day mindfulness experiential training (8h).	Total 32h One 2-day introductory ACT workshop (8hx2) and one 2-day advanced ACT workshop (8hx2), both with lectures and experiential work.
Clinical training	Training before facilitating their first group (22h of training).	Participation as an active auditor to one full parent training (7 sessions = tot 21 h); co-leading a full parent training with a senior leader (7 sessions = tot 21 h); total of 32h of training.	Participation as an active auditor to one full parent training (12 sessions = tot 18h); co-leading a full parent training with a senior leader (12 sessions = total of 18h); total of 36h of training.

(*Continued*)

Table 3. (Continued).

	Sweden: Navigator ACT	Italy: ACT groups for parents of children with ASD	Italy: ACT groups for parents of children with ADHD
Clinical supervision	Length and time: 5 sessions, a 2.5 h session (Total 12, 5 h) of supervision with a senior group leader in small groups *after* each group session. Focus: challenges and experiences as a group leader, shaping and reinforcing psychological flexibility, practical issues and own process as a group leader.	Length and time: 3h supervision with a senior group leader before the beginning of the parent training; 1 h before each session (7h); 1h after each session (7h). Total = 17h. Focus: sharing relevant data about parents' specific needs; preparing the materials and reviewing all the session contents; analysing critical issues and verifying session targets.	Length and time: During the auditing period (1h before each session with the two group leaders (12 sessions = tot 18h); during the first parent training as leaders (1h before each session with the at least one senior leader (12 sessions = tot 18h). Total = 24h. Informal: one 2h supervision group every two weeks Focus: preparing the materials and reviewing all the session contents; discussing any possible problems during the PT group.
Recommended additional learning activities	Scientific articles (delivered during group leader training); completion of the same homework as parents; mindfulness exercises in workshop.	Scientific articles (delivered during group leader training); completion of the same homework as parents; mindfulness exercises in workshop.	Scientific articles (delivered during group leader training); completion of the same homework as parents; mindfulness exercises in workshop.
Activities for continuous education in ACT	Group leader continuing education events every year (e.g., ACT workshops, research updates, exchange of experiences).	-	-

behavioural PT and ACT-enhanced behavioural PT. A manuscript presenting the first results within and between groups is in preparation.

The Swedish program (Navigator ACT), a manual-based intervention developed by the Habilitation and Health, the publicly funded disability services in Region Stockholm. The development of the program has run for several years parallel to clinical work on ACT-groups for parents of children with ASD and other disabilities (see Table 1). The treatment aims to target parental depression, anxiety, stress and other variables through the general working mechanisms of ACT.

Moreover, the secondary goals in Navigator ACT are to provide a sense of belonging through the peer-support of parents in similar life-situations, increasing the quality of parent–child relationships and decreasing emotional or behavioural problems of the children with disability. Table 1 describes the central themes and processes targeted in the Navigator ACT treatment protocol. Addressing the six core processes in ACT, both in the Navigator ACT and the Italian trainings, includes exercises that aim to increase parental skills (1) in mindfulness through step-by-step exercises on guided meditations to challenging real-life situations with the child; (2) in the creation of distance to observe thoughts and feelings instead of trying to escape or avoid them; (3) in taking perspective; (4) in willingness and acceptance, with special focus on the acceptance of child's disability and the current life situation; (5) in practicing committed action; and (6) in helping parents to get in touch with their core values in parenting and life in general through exposure and other techniques, in order for them to do more of what makes life more enjoyable and meaningful despite the challenging life circumstance.

The Swedish Navigator ACT model is currently being evaluated in an ongoing research project (Table 2). The first step will be a feasibility study in a clinical disability services context in a sample of parents to children (0–17 years) raising a child with an ASD and/or other disabilities. The feasibility study aims to evaluate the feasibility and treatment credibility from two perspectives; the participating parents as well as group leader perspective. The preliminary efficacy will also be evaluated.

The second step is to conduct a pragmatic, randomised, controlled multi-centre study in co-operation with several disability clinics in different regions throughout Sweden. The primary purpose of the study is to investigate the effects of treatment in the final version of the Navigator ACT manual when applied in the different treatment centres and by different group facilitators who all receive a structured group facilitator education including supervision. Finally, we aim to analyse the moderation and mediation of the treatment's effect and attrition in a large sample of parents receiving Navigator ACT (Table 2).

Trainer preparation for ACT parent-support groups

To guarantee that the treatment has a high degree of integrity, even experienced clinicians need specific training to be effective ACT group leaders. Most effective dissemination and implementation of evidence-based methods is performed through direct supervision and coaching, rather than didactic (reading, lectures) training alone (McHugh & Barlow, 2010). Through a manual and various components, the leader training aims to teach leaders to independently implement the ACT processes to facilitate an increase in parents' psychological flexibility through the six core processes of ACT.

This kind of preparation will increase the likelihood of highly competent professionals who serve their communities and can be gainfully employed. In this section, we describe how the group leader training has been organised in Italy and Sweden, respectively. The group leader education in both countries has been summarised in Table 3.

The training and preparation of leaders vary across countries. In Italy, the group leaders are all clinical psychologists, who are currently studying or have already completed a CBT Psy-D higher education programme. They have all attended, at least, one 2-day introductory workshop and one 2-day advanced workshop in ACT held by experienced ACT trainers, read at least 4 manuals and some scientific articles about ACT and contextual behaviour sciences, and have all participated in a full ACT parent support group, taking part in all the requisite exercises and homework. In Sweden, parallel to developing the Navigator ACT manual for parents, a Navigator ACT group leader education takes place within Habilitation and Health services. To secure commitment and fidelity, the training was designed to encourage competence and perspective taking. In order to integrate ACT, the group leaders have to undergo the Navigator ACT treatment themselves with homework related to all six ACT processes. They also practice changing perspective between their private person, identifying with being a parent and switching perspective to the professional role. The group leader training sessions are held directly prior to the group leaders facilitating a parent group of their own and are followed by a supervision session. Both the Italian and Swedish programs involve supervision and support to assist the leader in implementing the ACT groups successfully.

Discussion

Enhancing the quality of the parent–child relationship is vital for both typically developing children and children with NDD or other intellectual disabilities, such as ASD. The quality of the parent–child relationship has a significant impact on several childhood outcomes, including developmental, emotional, cognitive, behavioural, relational and academic progress. In a word, the parent–child relationship has an impact on the outcome of a life. High parental responsiveness – e.g., timely, child-directed and contingent parenting – is associated with improved cognitive, emotional, behavioural and social outcomes (Backen Jones et al., 2016). Children who have experienced a warm and emotionally available parent–child bond are more likely to be socially competent and emotionally well adjusted and are more likely to establish stable relationships later in life (e.g., Evans et al., 2012). Moreover, many basic skills like language, cognitive reasoning and pre-academic skills can be learned through the day-to-day parent–child interactions. Therefore, the quality of the parent–child relationship is critical in many ways for children with developmental disabilities such as ASD. This relationship may be supported and strengthened by the combined action of a traditional parent behavioural intervention and ACT-based procedures, with the specific aim of increasing the psychological flexibility, as well as the perceived stress and burden placed on parents of children with ASD.

EIBI and ACT-based parental support interventions share many features, concerning both the theoretical background of their principles and procedural application. The common theoretical behaviour-analytic framework of EIBI and ACT facilitates implementation in clinical practice, while at the same time avoiding inconsistent, and potentially confusing and

disruptive, interventions for families. The main criticisms of EIBI focus on three central issues (Gernsbacher, 2006 as cited in Morris, 2009; Schreibman et al., 2015), p. 1) its highly structured nature, 2) its lack of naturalism and 3) its poor sensitivity to developmental changes. Despite these criticisms being only partially true (Moderato, Antonioli, Cavagnola, & Giannattasio, 2017; Morris, 2009; Presti & Moderato, 2016, 2013), it is also true that parents may be at risk of falling into a vicious circle: ABA-based interventions may accidentally reinforce the parents' psychological inflexibility and, in turn, this psychological inflexibility may contribute to rendering an EIBI programme that is too structured, less naturalistic and insensitive to developmental changes. In other words, we, as behaviour analysts, are aware of the importance of behaviour analysts being aware of the risk of inadvertently inducing psychological inflexibility as a side effect of successful behavioural interventions with children.

Behaviour analysts in EU, as in the USA, come from different backgrounds, some of studied a psychological curriculum and have a degree in psychology, some others come from the educational field and may not have the clinical tools to understand a parent's psychological situation and to cope with stress and suffering. For that reason, we highlight the importance of ACT being addressed at least to some degree in the training of behaviour analysts in their higher education training. In fact, ACT is a very viable complement as it can be learned and applied as Acceptance and Commitment Training, which does not require a clinical degree. In other words, to be sensitive to parent's and to the psychological health of the child's primary agents for change and support across the lifetime, EIBI practitioners need to have a basic understanding of the important and relevant role that ACT may play in improving clinicians' skills in supporting a psychologically flexible, sensitive mode of parenting (Blackledge & Hayes, 2006; Grindle et al., 2009). Currently, we do not know much about the most optimal and parsimonious methods for producing competent ACT leaders. We believe that further research, practice and knowledge will facilitate implementation and feasibility of ACT interventions across several clinical contexts. That is one of the reasons that the systematic evaluation of the group leader education is included in the Swedish study protocol.

Including ACT trainings in an ABA course sequence is also beneficial beyond parent-training. ACT-based interventions, for example, have also been applied to individuals in the upper part of the ASD spectrum to reduce inflexible behaviour (Pahnke, Lundgren, Hursti, & Hirvikoski, 2014; Szabo, 2019), to teach interview skills to adults with ASD (Hutchinson, Rehfeldt, & Root, 2019) or reduce aggression (Singh, Lancioni, Karazsia, Myers, Kim, et al., 2019), to mention just a few applications. Though ACT was originally researched in adult populations, clinicians and researchers have developed protocols (e.g., Hayes & Ciarrochi, 2015) and assessment tools (Oppo et al., 2019; Ristallo et al., 2016; Schweiger et al., 2017) specifically designed for children and adolescents.

Therefore, we support the notion that the future of effective parental intervention may lay in an integration of traditional behavioural intervention and ACT in several alternative ways (Backen Jones et al., 2016), such as delivering ACT training to support parents' wellbeing; incorporating ACT into existing evidence-based behavioural intervention for parents; and rethinking behavioural interventions for parents from the perspective of the ACT model, such as introducing subtle changes in behavioural training techniques to promote parents' and children's psychological flexibility, rather than relying on previous models of rigid and de-contextualised rule following (Leeming &

Hayes, 2016; Whittingham et al., 2014), while considering, on aside, the use of ACT interventions in ASD individuals too.

As we illustrated it in the present paper, promising data are beginning to emerge from the research on ACT parent interventions. The research in this field is still germinal and the methodological quality varies. As described above, certain of these studies are open trials characterised by small sample sizes, whilst others, more recently, are rigorous and randomised controlled trials. It is our hope that these studies will add a brick to existing, but limited, knowledge of what and how ACT might add to established behavioural treatments for all stakeholders (parents, children and trainers/consultant, healthcare organisations, etc.). In fact, in addition to being outcome-oriented, this research is becoming increasingly cogent as process focused work (Hayes & Hofmann, 2018).

We hope that these ongoing research projects in Italy and Sweden will add to the literature regarding treatment feasibility, efficacy and effectiveness of ACT for parents of children with ASD. Moreover, mediators and moderations of treatment effect and attrition, are important to study for future individualization of ACT for each parent. And most importantly, the procedures for preparing effective ACT interventionists to work with families who have children with ASD are being described and evaluated. These specifications and protocols can serve as templates for instruction in higher education programs preparing behaviour analysts to work with children with ASD and their families. Systematic evaluation of the group leader education will help us form effective and resource-saving methods for training, within and outside of higher education. In this way, effective implementation will be facilitated and ACT can be made accessible for larger groups of families with ASD.

Disclosure statement

No potential conflict of interest was reported by the authors.

Ethics statement and statement about conflict of interest

All the studies reported here have been approved by the appropriate institutional research ethics committee or regional ethics committee and have been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

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