THE JOURNAL OF
CHILD PSYCHOLOGY AND PSYCHIATRY

Journal of Child Psychology and Psychiatry 51:2 (2010), pp 116–133 doi:10.1111/j.1469-7610.2009.02191.x

Practitioner Review: Non-pharmacological treatments for ADHD: A lifespan approach

Susan Young and J. Myanthi Amarasinghe

Institute of Psychiatry, King's College London, UK

Background: Attention-deficit/hyperactivity disorder (ADHD) is a chronic and pervasive developmental disorder that is not restricted to the childhood years. **Methods:** This paper reviews non-pharmacological interventions that are available at present for preschoolers, school-age children, adolescents and adults. **Results:** The most appropriate intervention for preschoolers is parent training. For school-age children with moderate impairments there is some evidence to suggest that group parent training programmes and classroom behavioural interventions may suffice as a first-line treatment. For school-age children with severe impairments, interventions are more appropriate when combined with stimulant medication (i.e., integrated treatment packages are likely to be more successful than 'standalone' treatments). Multimodal interventions seem to be best suited for middle school/adolescent children, which most likely reflects that these interventions usually integrate home and school treatment strategies and often include an element of social skills training. Stimulant medication is generally the first line of treatment for adults but CBT has also been found to be effective at addressing the complex needs of this population. **Conclusion:** Current research has largely ignored that ADHD is a developmental disorder that spans the preschool to adult years. Most studies focus on young school-age children and outside of this age group there is a dearth of controlled trials that provide conclusive evidence. As children mature the mode and agent of intervention will shift to reflect the developmental needs and circumstances of the individual. **Keywords:** ADHD, preschool children, school-age children, adolescents, adults, behavioural parent training, classroom interventions, cognitive behaviour therapy, social skills training.

Attention-deficit/hyperactivity disorder (ADHD) is a chronic and pervasive developmental disorder that is not restricted to the childhood years. It is also one of the most studied childhood disorders of our time. A meta-analysis and several recent reviews have been published on this topic: Fabiano et al. (2009), Chronis, Jones, and Raggi (2006), Daly, Creed, Xanthopoulos, and Brown (2007), and Safren et al. (2005). This review extends these reviews by focusing on the progressive and changing needs of a person with ADHD at different stages in their lives. The review adopts a developmental psychopathological framework in order to highlight the treatment options that are most suitable for the different age groups presenting with ADHD symptoms based on research and clinical evidence available to date. Although not a systematic review, a number of literature searches using Pubmed, Psychinfo, Web of Science and OVID search engines were conducted. Primary search terms used were: ADHD + preschool children, children, adolescents, adults, reviews, non-pharmacological interventions, Randomised Controlled Trials (RCTs). Following this, individual searches were conducted for each of the treatments discussed in this review for the appropriate age ranges (e.g., parent training + preschool children, children, and adolescents). The authors aimed to report findings from RCTs but in a majority of cases these were lacking. Therefore, articles that reported non-controlled trials were included and it is made clear when these are cited.

In the United Kingdom, the National Institute for Health and Clinical Excellence (NICE) published ADHD Clinical Guidelines in early 2009. These firmly endorsed the use of non-pharmacological treatments by stating that drug treatments for children, young people and adults with ADHD should always form part of a comprehensive treatment plan that includes psychological, behavioural and educational advice and interventions. The developmental psychopathology framework proposes that, in childhood, prior to confirming a diagnosis of ADHD, the clinician should assess and compare the child's behaviour to developmental norms and ensure that the child's impairments and functioning are assessed across multiple domains (Holmbeck, Greenley, & Franks, 2003). Following this, the child can then be assigned to a treatment that takes into account both his/her level of cognitive development and developmental needs, and is based on normative functioning for the child's age. Children exist in multiple contexts, the two most important being home and school. Therefore, ideally, treatments should be implemented both at home and at school (Pelham, Wheeler, and Chronis, 1998), and take into account differing risk and/or protective factors that exist in either environment (Mash, 1998). In keeping with this framework, a young cognitively immature child will not benefit from didactic sessions but respond better to parent training interventions supplemented with behavioural

Conflict of interest statement: No conflicts declared.

Published by Blackwell Publishing, 9600 Garsington Road, Oxford OX4 2DQ, UK and 350 Main Street, Malden, MA 02148, USA

management sessions to enable him/her to learn behavioural control. Behavioural treatments for younger children must include consequences that are tangible, offered frequently, and presented immediately following their behaviour, as this allows the child to easily comprehend the connection between behaviours and their consequences. For older children, cognitive skills techniques can be introduced to address peer-related and achievement-related issues and, in parallel, involving them more in the treatment process will appeal to their natural desire for autonomy. As individuals move into late adolescence and adulthood, treatments involving a cognitive paradigm are likely to become increasingly beneficial.

Most importantly, clinicians should ensure that across all age groups the goals and methods of treatment are both meaningful and motivating for the individual. Thus, treatments should be modified at key developmental transitions using developmentally sensitive behavioural strategies in order to both reflect the behaviours that are most impaired at the time and also take into account the individual's level of understanding (Chronis et al., 2001). This review aims to identify the strengths of non-pharmacological treatments in order to enable practitioners to identify the best treatment choice for each individual based on their presenting symptoms and associated impairments. In keeping with the developmental psychopathology framework we will consider treatments suitable for preschool children, school-age children, middle school/adolescents and young adults individually. A summary is provided in Table 1.

Preschool children

It is now accepted that ADHD is present in preschool children and occurs in approximately 2–5% children in the age group (Lavigne et al., 1996). The impairments and neuropsychological characteristics seen at this age are similar to those seen in older school-age children (Sonuga-Barke, Dalen, & Ramington, 2003; Lahey et al., 1998; DuPaul, McGoey, Eckert, & VanBrakle, 2001). Thus, ADHD is characterised in both preschool children and young school-age children by inattentive, hyperactive, and impulsive behaviours. These symptoms cause ADHD children to be socially disadvantaged, as they do not listen to instructions, they have difficulty sitting still, they expel their energy by being overly active which disturbs their peers and family members, they interrupt conversations and blurt out inappropriate comments. Additionally, preschoolers with ADHD are more likely to be suspended from preschools due to disruptive behaviours, be involved in accidents and sustain injuries more frequently (Lahey et al., 1998; Rappley et al., 1999; Angold & Egger, 2007). The greater the number of ADHD symptoms, the greater the impairment (Egger, Kondo, & Angold, 2006). Preschoolers also demonstrate similar levels of psychiatric comorbidities as older children, the most common being oppositional defiant disorder, conduct disorder, depression and anxiety disorders (Ford, Goodman, & Meltzer, 2003; Egger et al., 2006). An association between ADHD and mild intellectual and language impairments and poor pre-academic skills has been reported (Gadow & Nolan, 2002; Loe et al., 2008; Iwanaga, Ozawa, Kawasaki, & Tsuchida, 2006). The presence of ongoing language problems may compromise the benefits gained from psychosocial interventions, if these language-based problems are not accommodated in intervention programmes.

Research suggests that at age 3, severity of ADHD is the most significant indicator of chronicity of the disorder into middle childhood (Sonuga-Barke, Thompson, Abikoff, Klein, & Brotman, 2006). This is further underscored by the finding that preschoolers who missed formal diagnostic criteria for ADHD at their initial assessment had increased rates of ADHD over the next three years and were more likely to be impaired than the children who met criteria and received treatment (Lahey et al., 1998, 2004). Research on older children suggests that early onset may be associated with poorer outcome, e.g., greater cognitive and language deficits, higher rates of psychiatric comorbidity and greater social and academic impairments (Taylor, 1999). Thus, it is important to accurately detect and treat ADHD in this population in order to minimise the impact of the disorder on the child's life, yet many preschoolers with ADHD do not receive any treatment (Greenhill, Posner, Vaughan, & Kratochvil, 2008).

Behaviours characteristic of ADHD are often thought to contribute towards the development of impaired parent–child relationships that strain family relationships and consequently lead to increased parental stress (Fischer, 1990). Prevalence rates of psychological disorders have been found to be higher than average in parents of ADHD children; mothers in particular report higher rates of depression, self-blame and social isolation (Johnston & Mash, 2001; Mash & Johnston, 1990). Owing to these and other related factors, parents of ADHD children may develop maladaptive and counterproductive parenting strategies that serve not only to maintain their child's existing behavioural difficulties but potentially to exacerbate them (Patterson, DeBaryshe, & Ramsey, 1989). Additionally, parenting problems have been found to be one of the more robust predictors of negative long-term outcomes in children with behavioural problems (Chamberlain & Patterson, 1995). Thus parent training has become the mainstay treatment for preschoolers; nevertheless, research into its effectiveness is limited.

Parent training for preschool children

Parent training addresses the issue of parenting problems directly by working with parents to enable them to modify and enhance their parenting skills in

Table 1 Recommended psychosocial programmes to treat ADHD from early childhood to adulthood

Age	Recommended psychosocial intervention	Type of intervention	Levels of evidence†	Management strategies
Preschool children	Parent training*	Indirect via parents	I	Provision of psychoeducational information, including written material about ADHD, that takes into account the developmental and behavioural needs of the child. Teach parents behavioural strategies that can be implemented for this age group (e.g., teach parents to learn how to identify and manipulate the antecedents and consequences of their child's behaviour). Teach techniques to target and monitor problematic behaviours (e.g., by using behavioural diaries). Reward prosocial behaviours through praise, positive attention and tangible rewards (e.g., by the introduction of a response cost/token economy system which involves the child being awarded a star/sticker for positive behaviours. Accumulated stars/stickers are exchanged for desired rewards at the end of the day). Decrease unwanted behaviours through planned ignoring, time-out, effective commands and other similar non-physical disciplinary techniques. Address parental risk factors (e.g., depression, marital distress, poor coping skills and lack of support) through open discussion, written material/information, provision of basic strategies and/or direction to relevant support groups and/or counselling.
Young school-age children	Parent training*	Indirect via parents	I	Management strategies as outlined above but adapted for this developmental age group (e.g., by including strategies that aim to develop and improve home–school connections by introducing mediating notebooks or diaries to facilitate teacher–parent communications and the setting and reward of educational goals-both academic and behavioural.
	Classroom interventions*	Indirect via teachers	I	Provision of psychoeducational information, including written material about ADHD, that takes into account the developmental and behavioural needs of the child. Provision of high-level structure and time-management, use of both verbal and written instructions and avoidance of complex sentences that involve several concepts. Provision of advice on behavioural strategies and techniques to identify and manipulate the antecedents and consequences of the child's behaviour. Implementation of contingency management programmes which set the child academic targets and behavioural goals (e.g., by using the Daily Report Card which encourages the child to be rewarded at home. Young children require fewer goals and more regular feedback and reinforcement than older children). Reward achievements and/or prosocial behaviours through praise, positive attention and tangible rewards, (e.g., by the introduction of a response cost/token economy system which involves the use of stars or stickers to reward good behaviour). Decrease unwanted behaviours through planned ignoring, time-out for when the child engages in prohibited behaviours, effective commands and other similar non-physical disciplinary techniques. Implementation of environmental manipulations (e.g., by seating the child away from distractions such as windows, doors and the back of the classroom).

Table 1 (*Continued*)

Age	Recommended psychosocial intervention	Type of intervention	Levels of evidence†	Management strategies
Middle/high school children/ adolescents	Classroom interventions*	Indirect via teachers and counsellors	IV	Provide psychoeducational information, environmental and management strategies as outlined for young school-age children but with adaptations for this developmental age group, e.g., use of a Weekly Report Card instead of a Daily Report Card; tickets or certificates of achievement can be issued to reward good behaviour and/or achievement; report tickets can be awarded for breaking predetermined rules; teach study skills, including test-taking strategies; implement homework completion sessions; reward systems can be extended to introduce longer-term rewards (the accumulation of several small rewards can be exchanged for a larger desired reward). Establish regular sessions attended by parents, teachers and counsellors initially to identify the child's needs and formulate an intervention plan and subsequently to monitor and evaluate the progress of the intervention programme (including addressing any obstacles that may arise). Implementation of individualised programmes if the child does not respond to standard treatment, e.g., provision of one-to-one support, remedial and/or revision sessions, if appropriate.
	CBT + Social Skills Training (SST)*	Indirect via parents and direct via the child	IV	Provision of psychoeducational information (to both parents and child), including written material about ADHD, that takes into account the developmental and behavioural needs of the child. Teach parents basic cognitive behavioural techniques in order that they can reinforce the direct social skills intervention. Achievements and improvement can be rewarded using both short- and longer-term reward systems. Direct intervention (including role plays) with the child to improve social communication skills focusing on both specific micro-skills (e.g., appropriate eye contact, voice volume and tone, body positioning) and macro-skills which involve more complex interactions (e.g., giving compliments, constructive feedback, turn-taking, listening skills, conflict resolution, assertion). Teach problem-solving strategies (e.g., the child is taught how to think constructively about a problem in order to come up with a flexible and effective way to deal with it). Teach implementation strategies using techniques such as verbal self-instruction (e.g., the child follows a series of systematic steps by 'thinking out loud' when engaged in a task). Teach the child self-monitoring skills (e.g., ask the child to monitor their attention levels for a given task and then ask them to rate whether they were paying attention or not). Teach the child self-reinforcement (e.g., the child is taught to recognise and value their achievements).

Table 1 (*Continued*)

Age	Recommended psychosocial intervention	Type of intervention	Levels of evidence†	Management strategies
	Multimodal interventions*	Indirect via parents, teachers and counsellors and direct via the child	I	Parent, teacher and child management strategies as outlined above in the adolescent children section but with proportional input from parents and the integration of home-based strategies, e.g., techniques to develop and improve home–school connections, introduction of school- and home-based reward systems, and loss of privileges in place of time-out sanctions. Teach the child social skill strategies that include the rehearsal of key concepts of communication, cooperation, group participation and emotional control, using direct instruction and role play sessions. Teach the child problem-solving strategies and implement group problem-solving discussions. Engage the child in recreational and sports activities while emphasising adherence to protocols and group skills (e.g., observation of rules, complementary and/or reciprocal behaviour, conflict management skills, team working). Implementation of individualised programmes and interventions if the child does not respond to standard treatment.
Adults	CBT	Direct via adult	I	Determine treatment goals, formulate an intervention plan, monitor and evaluate progress (including analysis of obstacles to success). Prioritise targets for intervention and teach the individual how to deal with procrastination. Implement individualised programmes (and/or group interventions) which include cognitive restructuring strategies that aim to change negative thought patterns. Specific targets may include provision of strategies to address core problems by developing strategies to improve attention; memory (e.g. using self-instructional training and memory aids); impulse-control skills (e.g., using stop and think techniques); time-management; organisational, prioritisation and planning skills (e.g., using diaries and time-schedules). Other targets of intervention will be to provide strategies to address associated problems, e.g., to learn and develop protocols for problem-solving; sleep problems; social communication skills, self-monitoring skills and social-perspective taking; emotional control, coping with lability, management of mood, anxiety, anger and frustration, assertiveness training.

† Levels of evidence:
I: Evidence from meta-analysis of RCTs OR evidence from at least one randomised controlled trial
II: Evidence from at least one controlled study without randomisation OR evidence from at least one other type of quasi-experimental study
III: Evidence from non-experimental descriptive studies, such as comparative studies, correlation studies, and case-control studies
IV: Evidence from expert committee reports or opinions and/or clinical experience of respected authorities.
*Recommended as the first line of treatments unless impairments are severe or not responding to psychosocial interventions.

order to improve parent–child relationships (Pelham et al., 1998). Parent training aims to teach parents to: learn how to identify and manipulate the antecedents and consequences of a child's behaviour, target and monitor problematic behaviours, reward prosocial behaviours through praise, positive attention and tangible rewards and decrease unwanted behaviours through planned ignoring, time-out and other similar non-physical disciplinary techniques (Lonigan, Elbert, & Johnson 1998; Chronis et al., 2001). Parent training generally consists of a highly structured group programme that runs for several weeks such as the *Triple P* (Sanders, Markie-Dadds, Turner, & Ralph, 2004) and the *Incredible Years programme* (Jones, Daley, Hutchings, Bywater, & Eames, 2007, 2008). The goal of parent training is the same as that of behavioural therapy; it is only the delivery that differs. Instead of providing a

child-centred treatment, the intervention is indirect by encouraging parents to increase one-on-one positive parent–child contact and teach them specific management strategies (i.e., behavioural modification techniques) to cope with problem behaviours. Since its introduction in the 1960s, parent training has expanded its curriculum to address low self-confidence, depression, social isolation and marital difficulties in parents (Scott, 2002).

There is limited research on parent training programmes conducted on preschool children to date. However, a few studies have reported the benefits of parent training for preschool children with ADHD. One study evaluated the effects of two versions of the *Triple P* programme (standard vs. enhanced) versus a waitlist condition on 87 preschoolers who presented with both hyperactive/inattentive and disruptive behaviours (Bor, Sanders, & Markie-Dadds, 2002). Results revealed that both versions of the *Triple P* programme brought about clinically reliably reductions in disruptive behaviours and hyperactive/inattentive difficulties in comparison to the waitlist group. These improvements were maintained for over a year. Parental competence was also found to improve following the intervention in comparison to the waitlist group.

The *Incredible Years programme* has also been found to be effective for preschool children presenting with early onset symptoms of both ADHD and conduct disorders. Recent research revealed that parents of the children who received the treatment reported lower levels of inattention and hyperactive/impulsive symptoms in comparison to parents whose children were in the control condition (Jones, Daley, Hutchings, Bywater, and Eames, 2007, 2008). Additionally, 52% of the treatment group in comparison to 21% of the control group demonstrated clinically reliable improvements following the intervention. These improvements were maintained, as 57% of the children in the treatment group were found to be below the level of clinical concern on the Connors at a subsequent follow-up 18 months later (Jones, Daley, Hutchings, Bywater, and Eames, 2008).

The *New Forest Parenting Package* is an intervention that focuses on managing ADHD symptoms and enhancing attention and self-regulation (Weeks, Thompson, & Laver-Bradbury, 1999). An initial examination of this programme assessed the effects of this programme (therapist teaching the mother a number of behavioural strategies) versus a parent counselling intervention (the mother was only given counselling and support) versus a waitlist group condition (no intervention) on 78 three-year olds with ADHD (Sonuga-Barke, Daley, Thompson, Laver-Bradbury, and Weeks, 2001). Findings revealed that the intervention brought about a decrease in ADHD symptoms and an increase in maternal well-being in comparison to the other two conditions. Furthermore, treatment effects were maintained for a period of 15 weeks after treatment cessation. Additionally, a recent small-scale RCT that examined the efficacy of this programme for preschoolers with ADHD reported large effects of the programme (effect size >1) on ADHD symptoms (Thompson et al., 2009). Furthermore, these improvements were maintained for a period of nine weeks post-intervention. Finally, the *Tools Curriculum Programme*, which aims to improve core executive functioning skills such as inhibitory control, working memory and cognitive flexibility, has been found to improve executive functioning skills in 5-year-olds (Diamond, Barnett, Thomas, & Munro, 2007). Thus, it may be beneficial for preschool children who have mild behavioural problems.

Conclusions regarding non-pharmacological treatments for preschool children

The ADHD NICE Clinical Guideline (2009) recommended group parent training/education programmes as a first-line treatment in preschool children. Although most of these programmes have been developed for the treatment of conduct problems as opposed to ADHD, it appears that parent training programmes are beneficial in the treatment of ADHD by helping parents become more competent at dealing with their child's behavioural problems. However, some parents report that 'parent training' is a pejorative term that implies that they are at fault in some way; that they lack parenting skills or are even 'bad' parents. Parents' views should always be carefully considered prior to embarking on this treatment approach as their attitude towards the intervention is likely to strongly influence outcome. We recommend that practitioners adhere to the NICE Clinical Guideline (2009) which emphasises that parent training/education programmes aim to 'optimise parenting skills to meet the above-average parenting needs of children and young people with ADHD'.

Young school-age children

In addition to the core symptoms, school-age children with ADHD often present with comorbid conduct problems, usually characterised by defiance, disobedience and aggressive behaviours. Often these behaviours may be more troublesome than the ADHD symptoms alone. Peer relationships and emotional problems may also be present, leading to the ADHD child feeling isolated, unpopular, sad, anxious, and having a lowered sense of self-esteem. Such problems hamper the child's ability to succeed at school, in social settings and within the family. Furthermore, the child's parents often feel demoralised, tired, irritable, frustrated and unsupported due to being in a constant state of 'alertness' in order to monitor and attend to their child's constant demands.

Therefore, as for preschoolers, the focus of treatment for school-age children is usually the functional manifestation of core problems, i.e., attention, impulsiveness and hyperactivity control. Parent training, which may be supplemented by individual child-centred behavioural therapy, is the predominant choice of non-pharmacological intervention, although a number of additional interventions exist for school-age children, e.g., school-based classroom and academic interventions. In many ways these are a parallel form of parent and child-centred treatments with teachers being the focus of school-based classroom interventions that aim to improve behaviour. Academic interventions are a direct child-centred approach, which aim to improve academic performance. In addition, less commonly used treatments for school-age children such as social skills training, cognitive behaviour therapy interventions and the Summer Treatment Program will also be briefly reviewed.

Parent training for school-age children

A large evidence base exists for the use of behavioural parent training interventions for school-age children with ADHD, oppositional defiant disorder (ODD) and conduct disorders (Pelham et al., 1998; Brestan & Eyberg, 1998). Its efficacy in treating ADHD has been evaluated in a large number of studies which demonstrate a reduction in ADHD symptoms, improved parenting skills, and decreased levels of family distress (see Daly et al., 2007). This is supported by the NICE Clinical Guideline (2009) which recommends the use of parent training for children up to the ages of 12–13. There are factors which clinicians should bear in mind prior to deciding whether to add a parent training programme into a child's care plan, as there is a degree of variability in its effectiveness in the management of childhood ADHD (Anastopoulos, Shelton, DuPaul, & Guevremont, 1993). Success may depend on the age of the child, with parent training being more effective for younger children with problems relating to compliance, rule-following, defiance and aggression (van den Hoofdakker et al., 2007; Kazdin & Weisz, 2003; Anastopoulos et al., 1993). A further factor that needs to be borne in mind is that parent training has been found to be less beneficial for children whose parents demonstrate ADHD symptoms (Sonuga-Barke, Thompson, Abikoff, Klein, and Brotman, 2006; Harvey, Danforth, Eberhardt McKee, Ulaszek, & Friedman, 2003).

School-based classroom interventions for school-age children

Classroom interventions for ADHD have been employed for over three decades. These interventions most often involve instructing the teacher on how to implement specific behavioural techniques such as: praise, planned ignoring, effective commands, time-out and/or more extensive individualised or classroom-wide contingency management programmes. The Daily Report Card (DRC) intervention works by setting the child behavioural goals and the child is rewarded for the goals accomplished each day at home. The number of goals set and the frequency of feedback and reinforcement depend on the child's age, developmental level and severity of symptoms. Thus, a younger or highly impulsive child would be given fewer goals but more regular feedback and reinforcement than that given to an older or less impulsive child.

Direct contingency management strategies employed in classroom settings are usually based upon observational measures and teacher ratings of classroom behaviour and are an empirically supported treatment method of improving the behaviour of ADHD children (Chronis et al., 2001; Fabiano & Pelham, 2003; McCain & Kelley, 1993). An early review of the evidence indicates that these interventions are more effective than traditional outpatient treatments for ADHD-related behaviours (Pelham et al., 1998; Lonigan et al., 1998). This has been validated by a meta-analytic study which found that behavioural classroom interventions showed a very large effect size on measures of treatment outcome, with a larger effect on child behaviour than academic or clinical performances (DuPaul & Eckert, 1997).

Child-centred academic interventions

The association between ADHD and academic underachievement may, in some instances, reflect co-occurring learning problems (Silver, 1992) in addition to behavioural problems. Therefore, academic interventions that focus on modifying academic instructions, materials, and, in some instances, the academic environment are an important target for treatment. Studies that have been conducted to evaluate the effectiveness of such interventions are extremely limited. However, some success has been reported for peer tutoring (Locke & Fuchs, 1995; DuPaul, Ervin, Hook, & McGoey 1998), computer assisted instruction (Mautone, DuPaul, & Jitendra, 2005; Ota & DuPaul, 2002; Shaw & Lewis, 2005; Clarfield & Stoner, 2005; Navarro et al., 2003) and task and instructional modifications (Habboushe et al., 2001).

Cognitive behavioural therapy for school-age children

The effectiveness of cognitive behavioural therapy (CBT) has long been recognised in treating mental health problems and skills development in adults. However, it is less frequently used in the treatment of children. The meta-analysis by Durlak, Fuhrman, and Lampman (1991) concluded that CBT interventions may be helpful for children with behavioural and social maladjustment. A more recent controlled study suggested that CBT could be a promising intervention

for the treatment of the core symptoms of ADHD in children (Froelich, Doepfner, & Lehmkuhl, 2002). However, it has also been reported that CBT may only be effective for the treatment of ADHD when provided in combination with medication (Abikoff & Gittleman, 1985). A RCT examined the effects of a CBT group programme which consisted of a five-step process for problem solving for 7–13-year-old ADHD children who were not on medication. The programme included family sessions where parents were taught about ADHD and about how to apply cognitive behavioural techniques. The control group consisted of children receiving support and their parents only receiving ADHD psychoeducation. Results revealed that children in the CBT group improved on parent ratings of hyperactivity and self-esteem in comparison to the children in the control group (Fehlings, Roberts, Humphries, & Dawe, 1991). The children did not improve on parent or teacher ratings of inattention or impulsivity. Thus evidence for the efficacy of CBT interventions is equivocal.

Social skills training for school-age children

Interpersonal difficulties and impaired social functioning are two characteristic problems faced by ADHD children (Greene et al., 1997; De Boo & Prins, 2007), and it is estimated that up to half of ADHD children are rejected by their peers even after short periods of exposure (Guevremont & Dumas, 1994; Nixon, 2001; Stormont, 2001). Poor peer relationships have been found to be predictive of negative long-term outcomes for disruptive children (Coie & Dodge, 1998), emphasising the need for early interventions to minimise negative future outcomes. Social skills training (SST), developed in the early 1970s, has the primary aim of improving the child's social skills and teaching them to behave in a more socially acceptable manner (Compas, Benson, Boyer, Hicks, & Konik, 2002; Kavale, Forness, & Walker, 1999). However, as a 'standalone' treatment SST does not appear to have a significant effect on social behaviours or social status (Kavale & Forness, 1996). The Antshel and Remer (2003) RCT only demonstrated some improvements in parent and child perceived assertion skills but no beneficial effects were seen across any other domain of social competence. Furthermore, it was not found to be beneficial for children with comorbid ODD and resulted in some of the children with predominantly inattentive ADHD worsening after the intervention. However, studies that combined parent training and SST techniques have demonstrated stronger and more generalised treatment effects (Frankel, Myatt, Cantwell, & Feinberg, 1997; Sheridan, Dee, Morgan, McCormick, & Walker, 1996; Gol & Jarus, 2005). Thus the NICE Clinical Guideline (2009) recommended that interventions consisting of CBT/SST group sessions + parent training groups are likely to be more beneficial together in comparison to any of these treatments.

Multimodal treatments for school-age children

The Summer Treatment Program (STP) is an intensive 8-week behavioural treatment intervention for children with ADHD. The programme includes SST using a reward and response cost system that can be applied in either academic or recreational settings in order to improve peer relationships, self-efficacy and academic performance (Pelham, Fabiano, Gnagy, Greiner, & Hoza, 2004; Pelham et al., 1998). Overall results indicate large behavioural effects reported by multiple raters across areas of functioning such as parental ratings of symptom severity and impairments, productivity in the classroom, sports skills, ability to follow rules and self-esteem as assessed by the teachers and counsellors at the STP (Chronis et al., 2006). Two well-controlled crossover studies have provided strong support for the STP treatment package, when compared to a camp setting void of any behaviour modification components and low-intensity behaviour modification typically found in most outpatient settings (see Chronis et al., 2004). Nevertheless, STP is not routinely used in the treatment of ADHD as this requires heavy investment in resources which limits its use in clinical practice.

The Multimodal Treatment Study of Children with ADHD (MTA)

The MTA study, which is the largest randomised controlled study to date, compared four treatment arms: (1) Medication protocol (Methylphenidate); (2) a Behavioural treatment arm consisting of the provision of parent training, the summer treatment programme and a school-based intervention; (3) a Combined treatment arm consisting of both the medication and behavioural arms; and (4) Community Care (no treatment from the research group but most children in this group were on medication) (MTA Cooperative Group, 1999; Jensen et al., 2001). Results revealed that for core ADHD symptoms both the Medication and the Combined treatment arms were superior to the Behavioural and Community Care arms. The Combined treatment arm was superior to both Behavioural and Community Care arms for the treatment of: oppositional/aggressive symptoms, internalising symptoms, teacher-rated social skills, parent–child relations and reading achievement. Additionally, the Behavioural arm was superior to the Community Care arm for improving parent–child relations.

For children with ADHD + anxiety disorders, the Behavioural arm was as beneficial as the Medication arm. However, if the family was on benefits/public assistance, the Combined arm was more beneficial than Medication for parent-reported symptoms of ADHD, parent–child relations and teacher-reported social skills. Behavioural interventions were once again found to bring about the same beneficial effects as medication. For children with complex problems the Combined arm was the most cost-effective.

Follow-up studies conducted 14 and 24 months later both revealed that the ADHD symptoms of children in the Combined and Medication arms improved significantly compared with those in the Behavioural and Community Care arms. However, the Combined arm was superior to the Community Care arm on all assessed domains, i.e., the Medication arm did not have the same effect (MTA Cooperative Group., 1999, 2004). Importantly, children in the Combined arm were on a lower dose of medication than those in the Medication arm, indicating that it may be possible to achieve a high level of treatment success on lower doses of medication. This outcome will be reassuring for parents who are circumspect about treatment with medication.

Conclusions regarding non-pharmacological treatments for school-age children

There is a large evidence base supporting behaviour modification treatments (i.e., parent training and classroom interventions) in combination with stimulant medication for children with ADHD. There is some evidence to suggest that school-age children with moderate impairments may benefit solely from group parent training programmes and classroom behavioural interventions that are offered as a first-line treatment. Individual parent training programmes may be more suitable when family circumstances are complex.

For those with more severe impairments, integrated treatment packages are more likely to be successful than 'standalone' treatments especially in addressing comorbid problems and broad domains of impairment. However, the MTA study suggests that, for good effect, the standard required (e.g., adherence to a strict medication protocol + parent training + intensive summer treatment + school-based interventions) is well beyond what can be realistically provided and resourced and this seriously limits the generalisability of this study for routine clinical practice. Furthermore, the gold standard of treatment is extremely expensive, e.g., most insurance companies will not cover the costs of STPs. Thus there exists a gap that has not been bridged between efficacy, i.e., whether an intervention is successful under controlled/ideal conditions, and effectiveness, i.e., whether an intervention is successful in routine clinical settings (see review by Carroll & Rounsaville, 2003). This gap between research and clinical practice makes it difficult to realistically determine treatment options for patients.

Middle school/adolescence

Approximately 50% of children will continue to meet diagnostic criteria into adolescence but with this progression the manifestations of ADHD may begin to change. In particular, hyperactivity, although still present, becomes much less visible during this developmental stage. Adolescence is a time when important choices and decisions are made that will affect an individual's future. Adolescents have to cope in a less structured but often more demanding environment. Therefore, it is necessary to take into account the increasing influence of the peer culture and the particular difficulties that adolescence may bring to the teenager whose core problems lie in the area of self-regulation. Additionally, unfolding developmental stages may bring new challenges for the ADHD teenager and a number of comorbid problems may arise, such as antisocial personality characteristics, depression, anxiety and substance abuse problems (Fischer, Barkley, Smallish, & Fletcher, 2002; Biederman et al., 1995). Young people may need treatment for these comorbid conditions in addition to treatment for core symptoms. The adolescent years are a period of interpersonal change when a young person learns autonomy and takes greater responsibility for his/her actions. By young adulthood (age 21) 95% of teenagers will have discontinued taking medication and this sharp decline is unlikely purely to reflect symptom remission (McCarthy et al., 2009).

The psychological experience and meaning of puberty for boys and girls may also entail a difference in course in ADHD adolescents and children, as might the altered reactions of teachers, parents and peers. The presentation of teenage boys may be characterised by aggressive, conduct-related problems (Taylor, Chadwick, Heptinstall, & Danckaerts, 1996). On the other hand, girls may present with emotional and peer relationship problems (Young, Heptinstall, Sonuga-Barke, Chadwick, & Taylor, 2005a, 2005b). Thus, boys may require treatments that have a greater focus on behaviour control, whereas girls may require more social and mood-oriented treatments. Treatments need to address the above factors in addition to the clinical symptoms in order to maximise the beneficial effects of the treatment for the adolescent. Therefore, clinicians should aim to: increase the involvement of the adolescent in the treatment planning process, alter behavioural contingencies to include fewer tangible reinforcers, increase the opportunity to interact with peers, take into account their need for independence, increase collaboration and coordination with teachers, and place a greater emphasis on organisation, time management, homework and the use of self-monitoring strategies.

Research into ADHD in adolescents has primarily focused on the use of medication, as this is the predominant choice of intervention for this age group. Nonetheless, a few studies have evaluated parent training, classroom and academic interventions in ADHD youths. Although CBT has been found to be successful in treating depression and anxiety disorders in adolescence, it is less robust for treating conduct disorders (Reinecke, Ryan, & Dubois, 1998; James, Soler, & Weatherall, 2005; Kazdin, 1997).

Furthermore, there are currently no studies reporting the outcome of CBT for adolescents with ADHD.

Parent training for adolescents

Parent training for adolescents has the same principles as parent training for younger children. However, for this age group both the child and the parent decide what the child's behavioural targets should be (e.g., aim to work harder at school rewarded by having more time to spend with their friends). Furthermore, instead of time-out for inappropriate behaviour, the adolescent loses privileges (e.g., going out with their friends) or is given household tasks/chores to complete. Relative to child parent training, there are far less data reported that parent training is efficacious in adolescents. However, uncontrolled studies have found parent training to be beneficial (Barkley, Edwards, Laneri, Fletcher, & Metevia, 2001; McCleary & Ridley, 1999).

School-based classroom interventions for adolescents

Parents of ADHD adolescents often report difficulties at school as one of their primary concerns (Robin, 1998). This has led to the extension of school-based interventions for adolescent students. The primary difference is that the child generally works closely with teachers and counsellors with the planning and implementation of the intervention. Although studies are limited, these have met with some success in reducing off-task behaviours (Stewart & McLaughlin, 1992; Ervin, DuPaul, Kern, & Friman, 1998). However, these findings are not conclusive as they are based on case studies.

Academic interventions for adolescents

There is a strong association between ADHD and academic underachievement, expulsion, and school dropout rates in adolescents with ADHD (Barkley, 1998; Hinshaw, 1992; Barkley, Fischer, Edelbrock, & Smallish, 1990). One uncontrolled pilot study utilised an academic intervention, during which counsellors taught students a process of note-taking through modelling and practice over an 8-week period (Evans, Pelham, & Grudberg, 1995). The results revealed a significant increase in on-task behaviour, comprehension of material and improvement in scores on daily assignments but did not improve disruptive behaviours or improve quiz/test scores.

Multimodal treatments for adolescents

The Challenging Horizons Program is an after-school programme that includes the use of behavioural strategies administered by counsellors and teachers and includes a monthly parent training group (Evans, Axelrod, & Langberg, 2004). The four primary areas targeted are: interpersonal behaviour, academic success, family functioning, and disruptive behaviour, as these tend to be the most prevalent problems in this population. This is achieved by instructing ADHD groups in note-taking, organisation and study skills, and also through the process of teaching problem-solving steps and core social skills and showing them how to apply these skills. Results revealed moderate to large effect sizes on academic functioning and classroom disturbance of 12–14-year-olds, as rated by parents and teachers, and small to moderate effect sizes for social functioning. This is in contrast to the finding that the Community Care control group showed either no change or a decline on these measures (Evans, Langberg, Raggi, Allen, & Buvinger, 2005). An RCT of an abbreviated form of this programme conducted on 23 middle school youths revealed improvements in functioning in comparison to the control group. Although the results were modest it should be noted that 67% of the control group were on medication in comparison to 18% of the treatment group (Brooke et al., 2008).

Conclusions regarding non-pharmacological treatments for adolescents

Intuitively one would expect parent training, classroom interventions and academic interventions to be beneficial for the treatment of ADHD in adolescents. However, current research does not allow for a conclusive decision to be made with regards to the efficacy of these interventions. The NICE Clinical Guideline (2009) recommends that teachers who have received training about ADHD and its management should provide behavioural interventions in the classroom to help children and young people with ADHD. Parent training is most likely only suitable for the younger age group. The NICE Clinical Guideline (2009) recommends CBT and SST for adolescents with ADHD who have moderate impairments. However, these treatments are not routinely offered, possibly due to a general trend that has assumed that the adolescent experience of ADHD is similar to that of a younger child which in turn implies that their treatment needs are also similar. Multimodal treatments appear to be promising but more research needs to be conducted in order to establish their efficacy.

Adulthood

The prevalence rate of adults who meet full *Diagnostic and Statistical Manual* (DSM-IV) criteria for ADHD falls between 1 and 4% (Faraone, Sergeant, Gillberg, & Biederman, 2003; Kessler et al., 2006). A meta-analysis of 32 longitudinal studies reported the rate of persistence of ADHD to be approximately 15% at age 25, with a further 50% of individuals classified as being in partial remission of their

symptoms (Faraone, Biederman, & Mick, 2006). Thus a sizeable proportion of young adults are sub-threshold of clinical diagnosis but continue to have symptoms and/or associated problems which may require treatment and for which they seek help (Young & Gudjonsson, 2008). Clinical trials suggest that impulsivity and hyperactivity tend to diminish but attentional problems persist into adulthood (Biederman, Mick, & Faraone, 2000; Ingram, Hechtman, & Morgenstern, 1999). Adult symptoms, however, are more often experienced as difficulty with time management and organisation. Additionally, most ADHD adults have experienced a host of negative life events involving academic under-achievement, occupational difficulties and problems with forming and maintaining relationships. Also, adults with ADHD tend to have higher risk for unemployment, divorce and imprisonment (Wilens et al., 2004). Comorbid problems include mood and anxiety disorders, emotional lability, frustration, anger, sleep disturbances and problems with alcohol and substance misuse (Young & Bramham, 2007). Additionally, personality disorders, primarily cluster B, have also been found to co-occur with adult ADHD (Biederman, 2004) and a disproportionately high number of youths and adults become involved with the criminal justice system (Young, 2007; Young et al., 2009).

Some individuals develop effective strategies and skills to overcome their difficulties but others do not, and for those without such skills their symptoms can have a severe impact on their ability to succeed in their adult lives (Wender, 2000). Individuals diagnosed *de novo* in adulthood are often highly motivated to receive psychological interventions and may require psychological support to help them to both adjust to their diagnosis and reframe their past (Young, Bramham, Gray, & Rose, 2008). Psychological treatments are not routinely offered to adults with ADHD even though there is a clear need for such interventions. When treatments are offered, they are most likely to be individual or group CBT, although coaching is becoming increasingly popular.

Cognitive behavioural therapy for adults

CBT has a strong evidence base for many of the comorbid problems associated with ADHD yet there has only been one randomised controlled trial investigating the effects of CBT for ADHD adults (Safren et al., 2005). This trial compared a CBT plus medication group to a medication only group. The CBT group demonstrated significantly greater improvements in ADHD symptoms and significant improvements on scores on anxiety (rated by an independent evaluator and also self-ratings). The CBT group additionally had improvements in self-rated and independent ratings of depression. Rostain and Ramsey (2006) reported that a combined medication + CBT treatment (the latter modified specifically for adults with ADHD) was more beneficial than medication alone. Seventy per cent of the participants in the combination treatment group showed moderate to significant improvements in ADHD symptoms. Furthermore, participants reported significant improvement in depression, anxiety and hopelessness scores. CBT and psychoeducation provided in a brief, intensive group format (Young & Bramham, 2007) has been found to be effective in raising self-esteem and self-efficacy in adults with ADHD in comparison with a waitlist control group (Bramham et al., 2009) and these factors are important in motivating treatment engagement.

Structured skills-training for adults

Preliminary studies of a structured skills-training programme based on the principles of Dialectic Behavioural Therapy have demonstrated improvements in severity of ADHD symptoms, depressive symptoms and personal health status (Hesslinger et al., 2002; Philipsen et al., 2007). Furthermore, in the study by Philipsen et al. (2007), individuals who were also taking medication did not demonstrate any additional benefits compared with those who were not. Further controlled trials are required to confirm these encouraging initial findings.

Coaching

Coaching is a derivative of cognitive behavioural paradigms (e.g., Brief Solution Focused Therapy) involving the development of a collaborative mentoring partnership which draws on an individual's personal strengths and aims to provide structure, support and feedback. However, there is no standard methodology and the process of delivery varies considerably, including face-to-face contact, brief regular telephone conversations and/or email contact. Coaching has been reported to be helpful for individuals who attend ADHD group programmes (Stevenson et al., 2002). It has also been found to be helpful for improving completion rates in non-ADHD group treatments (Hollin & Palmer, 2006). For this reason, a face-to-face structured coaching role was incorporated in the new edition of the Reasoning and Rehabilitation group programme for ADHD antisocial youths and adults (Young & Ross, 2007), which is currently being evaluated in an Icelandic RCT. The role aims to facilitate participants to transfer skills learned in each session into their daily lives.

Conclusions regarding non-pharmacological treatments for adults

As adolescents move into adulthood they will increasingly face responsibility for the structure and management of their time and activities. This is an adaptive phase which, like others identified in this review, requires psychological support and

treatment. Individuals with comorbid psychiatric conditions, especially those who have been diagnosed *de novo* as adults rather than graduating from child services, may require a more intensive treatment programme and this may particularly be the case for specific groups such as those resident in hospital and prison settings.

Unlike the guidelines for treating ADHD in childhood, the NICE Clinical Guideline (2009) recommended that drug treatment should be started first unless the person would prefer a psychological approach. There was an absence of evidence to recommend circumstances when a psychological approach should be adopted first, and controlled studies are yet to examine this possibility. An absence of evidence does not mean that psychological treatments are ineffective and the NICE Clinical Guideline recognised the need to provide an inclusive comprehensive treatment programme to address psychological, behavioural and occupational problems by making this recommendation a key priority. NICE also recommended that for those in whom symptoms are remitting, psychological treatment may be sufficient to target residual functional impairments. ADHD adults are extremely motivated to engage in psychological treatments and CBT is likely to be the most appropriate intervention because it is person-centred and highly structured.

Coaching services, which can provide support on a 'little and often' basis, may be helpful, although these do not draw on any clear methodology and coaches are not required to meet any specific regulations or qualifications. The effectiveness of these interventions therefore may depend largely on the collaborative alliance that is developed between the coach and the client.

Summary and conclusion

By taking a developmental perspective, this review has highlighted the need to take into account the changing manifestations of the core features of ADHD (and associated impairments) from childhood into young adulthood. Early identification of ADHD symptoms by primary care services will mean that early intervention (psychosocial and/or pharmacological) can commence to minimise the impact of the disorder. Treatments must address functional comorbid problems, adaptive functioning and symptom reduction, and the NICE Clinical Guideline (2009) highlights the value of group treatments as these are cost- and resource-effective. Previous reviews have focused largely on young childhood populations and have therefore not considered how treatment approaches which appear ineffective for young children may become more beneficial as they mature.

There is currently no compelling literature to suggest that stimulant medication is capable of improving the long-term prognosis of ADHD (MTA Cooperative Group., 1999). More importantly, research findings have also raised the possibility that stimulant medications may in fact have a 'shelf-life', in that they are only beneficial on a relatively short-term basis (Jensen et al., 2007). Thus, stimulant medication, as a 'standalone' treatment, is unlikely to adequately address the multiple mental health needs and pervasive impairments associated with ADHD. In the long term this leaves most practitioners not knowing what to do as there are few robust, well-controlled studies providing evidence for the efficacy of psychosocial interventions in general practice. Based on the findings of this review, Table 1 charts recommended psychosocial interventions per age group, the level of evidence on which the recommendation is based and a brief description of techniques employed.

Parent training is reported to help preschoolers as a first-line intervention and also young school-age children with moderate impairments. For children with more severe problems psychosocial interventions only seem to help if provided in conjunction with medication. However, one practical problem is that often parents dislike the 'parent training' terminology, as this implies that there is an onus of blame. The general lack of evidence for CBT does not necessarily mean it is not effective. It just reflects the tautology that interventions not advanced are not evaluated and therefore not recommended. This review has highlighted the need for research to evaluate classroom and academic interventions as these appear promising. School interventions were a key recommendation of the NICE Clinical Guideline (2009). However, in order to become established as an empirically supported treatment, these interventions must be assessed in controlled, randomised trials. Children spend a lot of time at school acquiring key skills and gaining knowledge that they will need to be successful in their careers and interpersonal relationships. Classroom interventions should be a priority for younger children and yet in practice these are not provided routinely, perhaps reflecting that behaviour modification techniques are excluded from teacher training and their provision is viewed as an additional burden on stretched education services. Academic interventions, which are provided on an individual basis and therefore can be tailored specifically to a child's academic needs, may be provided by a Special Educational Needs Coordinator for children who have severe problems. Multimodal treatment programmes that integrate school and home treatment strategies may well lead to more positive outcomes and their maintenance over time. However, these are not usually available to children with moderate problems who can only access this support from private providers outside the school setting, e.g., individual tutoring. Over the past few years we have seen the introduction of school holiday camps (both day and boarding) open to all school-age children and the apparent success of intensive

treatments such as the Summer Treatment Program suggest that perhaps more generally there is a missed opportunity for adapting existing holiday camp curricula to include 'treatments' in an enjoyable setting.

It is during the mid to late teenage years that adolescent children are most likely to disengage from services (McCarthy et al., 2009). Both child and adolescent services need to be proactive in providing psychoeducational material to limit this exodus. As teenagers move into young adulthood, they are not only in transition from childhood to adulthood but also in transition of services. This often means that their support structures, both educational and health, may be reduced at a sensitive developmental phase. Practitioners in child services need to respect children as autonomous individuals. They need to talk to the child as opposed to solely talking to their parents. However, there is insufficient research to inform the practitioner about what psychosocial interventions should be provided for this age group. It is important that treatments include interventions for comorbid symptoms because, just as these may interfere with the learning process, they may also interfere with therapeutic processes. Furthermore, it is also important to encourage young people to develop self-efficacy and strategies to effect positive lifestyle changes; this will be most likely achieved using a person-centred approach.

For individuals whose symptoms are not recognised until adolescence or later and are diagnosed *de novo*, psychological treatments will help them accept their diagnosis and reframe their past experiences. At this developmental stage some individuals may experience a decline in their symptoms and individuals in partial remission who stop medication may also benefit from psychological treatments to support and improve their strategies to cope with residual symptoms and/or associated transitional problems. Often, clinicians tend to focus on 'impairments' and 'severity' of symptoms when prioritising treatment leading to this group, although sizable in numbers, being disregarded and not having their needs met.

We have come a long way in the past decade in our understanding of the clinical presentation and prognosis of ADHD and we have recognised a need for early interventions of psychosocial and pharmacological treatments. However, it is important that treatments are tailored to the individual's specific needs and implemented consistently over the long term in all settings in which impairments are present in order to maximise the success of the intervention. There is not only a shift in the focus or target of interventions from preschool to adulthood but there is also a shift in the 'agent' of implementation (e.g., parents for preschoolers, parent + teacher for young school-age children, self and teacher for middle school + high school adolescent children, self for adults). Practitioners continue to feel challenged by the chronic pervasive nature of ADHD, its heterogeneity in symptom presentation, symptom remission and comorbid conditions. This review highlights the dearth of RCTs to evaluate what appear to be promising avenues of treatment interventions and that research has largely ignored the lifespan of ADHD and the developmental needs of those it touches.

Acknowledgements

We would like to acknowledge the contribution of the three referees who gave extremely helpful reviews on previous versions of this article.

Correspondence to

Susan Young, Department of Forensic Mental Health Science, Institute of Psychiatry, PO Box 23, De Crespigny Park, London SE5 8AF, UK; Tel: 02078485280; Fax: 02078480754; Email: susan.young@kcl.ac.uk

Key points

- ADHD is a developmental disorder. It is not restricted to the childhood years.
- As children mature, the mode of intervention will shift to reflect the developmental needs and circumstance of the individual.
- As children mature the agent of implementation will also shift according to the developmental needs and circumstance of the individual.
- More RCTs are needed to provide conclusive evidence for treatment efficacy.
- Parent training is recommended for preschoolers and young school-age children, who may additionally benefit from classroom interventions.
- Multimodal interventions are recommended for middle school/adolescent children.
- CBT interventions are recommended for adults (either group or individual).

References

Abikoff, H., & Gittleman, R. (1985). Hyperactive children treated with stimulants: Is cognitive training a useful adjunct? *Archives of General Psychiatry*, *42*, 953–961.

Anastopoulos, A.D., Shelton, T.L., DuPaul, G.J., & Guevremont, D.C. (1993). Parent training for attention-deficit hyperactivity disorder: Its impact on parent functioning. *Journal of Abnormal Child Psychology*, *21*, 581.

Angold, A., & Egger, H.L. (2007). Preschool psychopathology: Lessons for the lifespan. *Journal of Child Psychology and Psychiatry*, *48*, 961–966.

Antshel, K.M., & Remer, R. (2003). Social skills training in children with attention deficit hyperactivity disorder: A randomized controlled clinical trial. *Journal of Clinical Child and Adolescent Psychology*, *32*, 153–165.

Barkley, R.A. (1998). *Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment*. New York: The Guilford Press.

Barkley, R.A., Edwards, G., Laneri, M., Fletcher, K., & Metevia, L. (2001). The efficacy of problem-solving communication training alone, behaviour management training alone, and their combination for parent–adolescent conflict in teenagers with ADHD and ODD. *Journal of Consulting and Clinical Psychology*, *69*, 926.

Barkley, R.A., Fischer, M., Edelbrock, C.S., & Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria: I. An 8-year prospective study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *29*, 546.

Biederman, J. (2004). Impact of comorbidity in adults with attention-deficit/hyperactivity disorder. *Journal of clinical Psychiatry*, *65*(Suppl. 3), 3–7.

Biederman, J., Mick, E., & Faraone, S.V. (2000). Age-dependent decline of symptoms of attention deficit hyperactivity disorder: Impact of remission definition and symptom type. *American Journal of Psychiatry*, *157*, 816–818.

Biederman, J., Wilens, T., Mick, E., Milberger, S., Spencer, T.J., & Faraone, S.V. (1995). Psychoactive substance use disorders in adults with attention deficit hyperactivity disorder (ADHD): Effects of ADHD and psychiatric comorbidity. *American Journal of Psychiatry*, *152*, 1652–1658.

Bor, W., Sanders, M.R., & Markie-Dadds, C. (2002). The effects of the Triple P-Positive Parenting Program on preschool children with co-occurring disruptive behavior and attentional/hyperactive difficulties. *Journal of Abnormal Child Psychology*, *30*, 571–587.

Bramham, J, Young, S., Bickerdike, A., Spain, D., MacCartan, D., & Xenitidis, K. (2009). Evaluation of group cognitive behavioural therapy for adults with ADHD. *Journal of Attention Disorders*, *12*, 434–441.

Brestan, E.V., & Eyberg, S.M. (1998). Effective psychosocial treatments of conduct-disordered children and adolescents. *Journal of Clinical Child Psychology*, *27*, 180.

Brooke, S.G.M., Flory, K., Bukstein, O.G., Greiner, A.R., Baker, J.L., Krug, V., & Evans, S.W. (2008). Feasibility and preliminary efficacy of an after-school programme for middle schoolers with ADHD: A randomized trial in a large public middle school. *Journal of Attention Disorders*, *12*, 207–217.

Carroll, K.M., & Rounsaville, B.J. (2003). Bridging the gap: A hybrid model to link efficacy and effectiveness research in substance abuse treatment. *Psychiatric Services*, *54*, 333–339.

Chamberlain, P., & Patterson, G.R. (1995). Discipline and child compliance in parenting. In M.H. Bornstein, & H. Marc (Eds.), *Handbook of parenting: Applied and practical parenting* (vol. 4, pp. 205–225). Mahwah, NJ: Lawrence Erlbaum Associates.

Chronis, A.M., Fabiano, G.A., Gnagy, E.M., Onyango, A.N., Pelham, W.E, Lopez-Williams, A., Chacko, A., Wymbs, B.T., Coles, E.K., & Seymour, K.E. (2004). An evaluation of the Summer Treatment Program for children with attention-deficit hyperactivity disorder using a treatment withdrawal design. *Behavior Therapy*, *35*, 561–585.

Chronis, A.M., Fabiano, G.A., Gnagy, E.M., Wymbs, B., Burrows-MacLean, L., & Pelham, W.E. (2001). Comprehensive, sustained behavioral and pharmacological treatment for ADHD: A case study. *Cognitive and Behavioral Practice*, *8*, 346.

Chronis, A.M., Jones, H.A., & Raggi, V.L. (2006). Evidence-based psychosocial treatments for children and adolescents with attention-deficit/hyperactivity disorder. *Clinical Psychology Review*, *26*, 486–502.

Clarfield, J., & Stoner, G. (2005). Research brief: The effects of computerized reading instruction on the academic performance of students identified with ADHD. *School Psychology Review*, *34*, 246–254.

Coie, J.D., & Dodge, K.A. (1998). Aggression and antisocial behavior. In W. Damon, & N. Eisenberg (Eds.), *Handbook of child psychology*, 5th edn. *Social emotional and personality development* (vol. 3, pp. 779–862). New York: Wiley.

Compas, B.E., Benson, M., Boyer, M., Hicks, T., & Konik, B. (2002). Problem-solving and problem-solving therapies. In M. Rutter, & E. Taylor (Eds.), *Child and adolescent psychiatry* (4th edn). Oxford. Blackwell.

Daly, B.P., Creed, T., Xanthopoulos, M., & Brown, R.T. (2007). Psychosocial treatments for children with attention deficit/hyperactivity disorder. *Neuropsychological Review*, *17*, 73–89.

De Boo, G.M., & Prins, P.J.M. (2007). Social incompetence in children with ADHD: Possible moderators and mediators in social-skills training. *Clinical Psychology Review*, *27*, 78–97.

Diamond, A., Barnett, W.S., Thomas, J., & Munro, S. (2007). Preschool program improves cognitive control. *Science*, *318*, 1387–1388.

DuPaul, G.J., & Eckert, T.L. (1997). The effects of school-based interventions for attention deficit hyperactivity disorder: A meta-analysis. *School Psychology Review*, *26*, 5.

DuPaul, G.J., Ervin, R.A., Hook, C.L., & McGoey, K.A. (1998). Peer tutoring for children with attention deficit hyperactivity disorder: Effects on classroom behavior and academic performance. *Journal of Applied Behavior Analysis*, *31*, 579–592.

DuPaul, G.J., McGoey, K.E., Eckert, T.L., & VanBrakle, J. (2001). Preschool children with attention-deficit/hyperactivity disorder: Impairments in behavioural, social, and school functioning. *Journal of the*

American Academy of Child and Adolescent Psychiatry, *40*, 508–515.

Durlak, J., Fuhrman, T., & Lampman, C. (1991). The effectiveness of cognitive behaviours therapy for maladaptive children: A meta-analysis. *Psychological Bulletin*, *110*, 204–214.

Egger, H.L., Kondo, D., & Angold, A. (2006). The epidemiology and diagnostic issues in preschool attention-deficit/hyperactivity disorder: A review. *Infants and Young Children*, *19*, 109–122.

Ervin, R.A., DuPaul, G.J., Kern, L., & Friman, P.C. (1998). Classroom-based functional and adjunctive assessments: Proactive approaches to intervention selection for adolescents with attention deficit hyperactivity disorder. *Journal of Applied Behavior Analysis*, *31*, 65.

Evans, S.W., Axelrod, J.L., & Langberg, J.M. (2004). Efficacy of a school-based treatment program for middle school youth with ADHD: Pilot data. *Behavior Modification*, *28*, 528.

Evans, S.W., Langberg, J., Raggi, V., Allen, J., & Buvinger, E. (2005). Development of a school-based treatment program for middle school youth with ADHD. *Journal of Attention Disorders*, *9*, 343.

Evans, S.W., Pelham, W.E., & Grudberg, M.V. (1995). The efficacy of note taking to improve behavior and comprehension of adolescents with attention deficit hyperactivity disorder. *Exceptionality*, *5*, 1–17.

Fabiano, G.A., & Pelham, W.E. (2003). Improving the effectiveness of behavioral classroom interventions for attention-deficit/hyperactivity disorder: A case study. *Journal of Emotional and Behavioral Disorder*, *11*, 122.

Fabiano, G.A., Pelham, W.E., Coles, E.K., Gnagy, E.M., Chronis-Tuscano, A., & O'Connor, B.C. (2009). A meta-analysis of behavioral treatments for attention-deficit/hyperactivity disorder. *Clinical Psychology Review*, *29*, 129–140.

Faraone, S., Biederman, J., & Mick, E. (2006). The age-dependent decline of attention deficit hyperactivity disorder: A meta-analysis of follow-up studies. *Psychological Medicine*, *36*, 159–165.

Faraone, S.V., Sergeant, J., Gillberg, C., & Biederman, J. (2003). The worldwide prevalence of ADHD: Is it an American condition? *World Psychiatry*, *2*, 104–113.

Fehlings, D.L., Roberts, W., Humphries, T., & Dawe, G. (1991). Attention deficit hyperactivity disorder: Does cognitive behavioral therapy improve home behavior? *Journal of Developmental Behavioral Pediatrics*, *12*, 223–228.

Fischer, M. (1990). Parenting stress and the child with attention deficit hyperactivity disorder. *Journal of Clinical Child Psychology*, *19*, 337.

Fischer, M., Barkley, R.A., Smallish, L., & Fletcher, K. (2002). Young adult follow-up of hyperactive children: Self-reported psychiatric disorders, comorbidity, and the role of childhood conduct problems and teen CD. *Journal of Abnormal Child Psychology*, *30*, 463–75.

Ford, T., Goodman, R., & Meltzer, H. (2003). The British Child and Adolescent Mental Health Survey 1999: The prevalence of DSM-IV disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 1203–1211.

Frankel, F., Myatt, R., Cantwell, D.P., & Feinberg, D.T. (1997). Parent-assisted transfer of children's social skills training: Effects on children with and without attention-deficit hyperactivity disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 1056–1064.

Froelich, J., Doepfner, M., & Lehmkuhl, G. (2002). Effects of combined cognitive behavioural treatment with parent management training In ADHD. *Behavioural and Cognitive Psychotherapy*, *30*, 111–115.

Gadow, K.D., & Nolan, E.E. (2002). Differences between preschool children with ODD, ADHD, and ODD plus ADHD symptoms. *Journal of Child Psychology and Psychiatry*, *43*, 191–201.

Greene, R.W., Biederman, J., Faraone, S.V., Sienna, M., & Garcia-Jetton, J. (1997). Adolescent outcome of boys with attention deficit-hyperactivity disorder and social disability: Results from a 4-year longitudinal follow-up study. *Journal of Consulting and Clinical Psychology*, *65*, 758–767.

Greenhill, L.L., Posner, K., Vaughan, B.S., & Kratochvil, C.J. (2008). Attention deficit hyperactivity disorder in preschool children. *Child and Adolescent Psychiatric Clinic of North America*, *17*, 347–366.

Gol, D., & Jarus, T. (2005). Effect of a social skills training group on everyday activities of children with attention deficit–hyperactivity disorder. *Developmental Medicine and Child Neurology*, *47*, 539–545.

Guevremont, D.C., & Dumas, M.C. (1994). Peer relationship problems and disruptive behavior disorders. *Journal of Emotional and Behavioral Disorders*, *2*, 164–173.

Habboushe, D.F., Daniel-Crotty, S., Karustis, J.L., Leff, S.S., Costigan, T.E., Goldstein, S.G., Eiraldi, R., & Power, T.J. (2001). A family-school homework intervention program for children with attention-deficit/hyperactivity disorder. *Cognitive and Behavioral Practice*, *8*, 123–136.

Harvey, E., Danforth, J.S., Eberhardt McKee, T., Ulaszek, W.R., & Friedman, J.L. (2003). Parenting of children with attention-deficit hyperactivity disorder (ADHD): The role of parental ADHD symptomatology. *Journal of Attention Disorders*, *7*, 31–42.

Hesslinger, B., Tebartz van Elst, L., Nyberg, E., Dykierek, P., Richter, H., Berner, M., & Ebert, D. (2002). Psychotherapy of attention deficit hyperactivity disorder in adults: A pilot study using a structured skills training program. *European Archives of Psychiatry and Clinical Neuroscience*, *252*, 177–184.

Hinshaw, S.P. (1992). Academic underachievement, attention deficits, and aggression: Comorbidity and implications for intervention. *Journal of Consulting and Clinical Psychology*, *60*, 893.

Hollin, C.R., & Palmer, E.J. (2006). Offending behavior programmes: Controversies and resolutions. In C.J. Hollin, & E.J. Palmer (Eds.), *Offending behavior programmes: Development, application and controversies*. Chichester: John Wiley & Sons.

Holmbeck, G.N., Greenley, R.N., & Franks, E.A. (2003). Developmental issues and considerations in research and practice. In A. Kazdin, & J. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents*. New York: The Guilford Press.

Ingram, S., Hechtman, L., & Morgenstern, G. (1999). Outcome issues in ADHD: Adolescent and adult long-term outcome. *Mental Retardation and Developmental Disabilities Research Reviews*, *5*, 243–250.

Iwanaga, R., Ozawa, H., Kawasaki, C., & Tsuchida, R. (2006). Characteristics of the sensory-motor, verbal and cognitive abilities of preschool boys with attention deficit/hyperactivity disorder combined type. *Psychiatry and Clinical Neurosciences*, *60*, 37–45.

James, A., Soler, A., & Weatherall, R. (2005). Cognitive behavioural therapy for anxiety disorders in children and adolescents. *Cochrane Database of Systematic Reviews*, Issue 4. Art. No.: CD004690. DOI:10.1002/14651858.CD004690.pub2.

Jensen, P.S., Swanson, J.M., Arnold, L.E., et al. (2007). 3-Year follow-up of the NIMH MTA study. *Journal of American Academy of Child and Adolescent Psychiatry*, *46*, 989–1002.

Jensen, P.S., Hinshaw, S.P., Swanson, J.M., Greenhill, L.L., Conners, C.K., Arnold, L.E., Abikoff, H.B., Elliott, G., Hechtman, L., Hoza, B., March, J.S., Newcorn, J.H., Severe, J.B., Vitiello, B., Wells, K., & Wigal, T. (2001). Findings from the NIMH Multimodal Treatment Study of ADHD (MTA): Implications and applications for primary care providers. *Journal of Developmental and Behvaioral Pediatrics*, *22*, 60–73.

Johnston, C., & Mash, E.J. (2001). Families of children with attention-deficit/hyperactivity disorder: Review and recommendations for future research. *Clinical Child and Family Psychology Review*, *4*, 183.

Jones, K., Daley, D., Hutchings, J., Bywater, T., & Eames, C. (2007). Efficacy of the Incredible Years Basic Parent Training programme as an early intervention for children with conduct problems and ADHD. *Child Care, Health and Development*, *33*, 740–756.

Jones, K., Daley, D., Hutchings, J., Bywater, T., & Eames, C. (2008). Efficacy of the Incredible Years Basic Parent Training programme as an early intervention for children with conduct problems and ADHD: Long-term follow-up. *Child Care, Health and Development*, *34*, 380–390.

Kavale, K.A., & Forness, S.R. (1996). Social skill deficits and learning disabilities: A meta-analysis. *Journal of Learning Disabilities*, *29*, 226–237.

Kavale, K.A., Forness, S.R., & Walker, H.A. (1999). Interventions for oppositional defiant disorder and conduct disorder in the schools. In H.C. Quay, & A.E. Hogan (Eds.), *Handbook of disruptive behavior disorders*. New York: Kluwer Academic/Plenum.

Kazdin, A.E. (1997). Practitioner Review: Psychosocial treatments for conduct disorder in children. *Journal of Child Psychology and Psychiatry*, *38*, 161–178.

Kazdin, A.E., & Weisz, J.R. (2003). Context and background of evidence-based psychotherapies for children and adolescents. In A. Kazdin, & J. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents*. New York: The Guilford Press.

Kessler, R.C., Adler, L., Barkley, R., Biederman, J., Conners, C.K., Demler, O., Faraone, S.V., Greenhill, L.L., Howes, M.J., Secnik, K., Spencer, T., Ustun, T.B., Walters, E.E., & Zaslavsky, A.M. (2006). The prevalence and correlates of adult ADHD in the United States: Results from the National Comorbidity Survey Replication. *The American Journal of Psychiatry*, *163*, 716–723.

Lahey, B.B., Pelham, W.E., Stein, M.A., Loney Kipp, H., Ehrhardt, A., Lee, S.S., Wilcutt, E.G., Hartung, C.M., Chronis, A., & Massetti, G. (2004). Three-year predictive validity of DSM-IV attention deficit hyperactivity disorder in children diagnosed at 4–6 years of age. *American Journal of Psychiatry*, *161*, 2014–2020.

Lahey, B.B., Pelham, W.E., Stein, M.A., Loney, J., Trapani, C., Nugent, K., Kipp, H., Schmidt, E., Lee, S., Cale, M., Gold, E., Hartung, C.M., Wilcutt, E., & Baumann, M.S. (1998). Validity of DSM-IV attention deficit/hyperactivity disorder for younger children. *Journal of American Academy of Child Adolescent Psychiatry.*, *37*, 695–702.

Lavigne, J.V., Gibbons, R.D., Christoffel, K.K., Arend, R., Rosenbaum, D., Binns, H., Dawson, N., Sobel, H., & Issacs, C. (1996). Prevalence rates and correlates of psychiatric disorders among preschool children. *Journal of the American Academy of Child Adolescent Psychiatry*, *35*, 204–214.

Locke, W.R., & Fuchs, L.S. (1995). Effects of peer-mediated reading instruction on the on-task behavior and social interaction of children with behavior disorders. *Journal of Emotional and Behavioral Disorders*, *3*, 92.

Loe, I.M., Balestrino, M.D., Phelps, R.A., Kurs-Lasky, M., Chaves-Gnecco, D., Paradise, J.L., & Feldman, H. (2008). Early histories of school-aged children with attention-deficit/hyperactivity disorder. *Child Development*, *79*, 1853–1868.

Lonigan, G., Elbert, J.C., & Johnson, S.B. (1998). Empirically supported psychosocial interventions for children: An overview. *Journal of Clinical Child Psychology*, *27*, 138.

Mash, E.J. (1998). Treatment of child and family disturbance: A behavioral-systems perspective. In E.J. Mash, & R.A. Barkley (Eds.), *Treatment of childhood disorders*. New York: The Guilford Press.

Mash, E.J., & Johnston, C. (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and families of physically abused children. *Journal of Clinical Child Psychology*, *19*, 313–328.

Mautone, J.A., DuPaul, G.J., & Jitendra, A.K. (2005). The effects of computer-assisted instruction on the mathematics performance and classroom behavior of children with ADHD. *Journal of Attention Disorders*, *9*, 301–312.

McCain, A.P., & Kelley, M.L. (1993). Managing the classroom behavior of an ADHD preschooler: The efficacy of a school–home note intervention. *Child and Family Behavior Therapy*, *15*, 33.

McCarthy, S., Asherson, P., Coghill, D., Hollis, C., Murray, M., Potts, L., Sayal, K., de Soysa, R., Taylor, E., Williams, T., & Wong, I.C.K. (2009). Attention-deficit hyperactivity disorder: Treatment discontinuation in adolescents and young adults. *The British Journal of Psychiatry*, *194*, 273–277.

McCleary, L., & Ridley, T. (1999). Parenting adolescents with ADHD: Evaluation of a psychoeducation group. *Patient Education and Counselling*, *38*, 3.

MTA Cooperative Group. (2004). The NIMH MTA follow-up: 24-month outcomes of treatment strategies for attention-deficit/hyperactivity disorder (ADHD). *Pediatrics*, *113*, 754–761.

MTA Cooperative Group. (1999). A 14-month randomized clinical trial of treatment strategies for Attention-Deficit Hyperactivity Disorder (ADHD). *Archives of General Psychiatry*, *56*, 1073–1086.

National Institute for Health and Clinical Excellence (NICE). (2009, March). *Attention deficit hyperactivity disorder: Diagnosis and management of ADHD in children, young people and adults*. NICE Clinical Guideline 72. London: Author.

Nixon, E. (2001). The social competence of children with attention deficit hyperactivity disorder: A review of the literature. *Child Psychology and Psychiatry Review*, *6*, 172–180.

Navarro, J.I., Marchena, E., Alcalde, C., Ruiz, G., Llorens, I., & Aguilar, M. (2003). Improving attention behaviour in primary and secondary school children with a computer assisted instruction procedure. *International Journal of Psychology*, *38*, 359–365.

Ota, K.R., & DuPaul, G J. (2002). Task engagement and mathematics performance in children with attention-deficit hyperactivity disorder: Effects of supplemental computer instruction. *School Psychology Quarterly*, *17*, 242–257.

Patterson, G.R., DeBaryshe, B.D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist*, *44*, 190–205.

Pelham, W.E., Fabiano, G.A., Gnagy, E.M., Greiner, A.R., & Hoza, B. (2004). Intensive treatment: Summer Treatment Program for children with ADHD. In E.D. Hibbs, & P.S. Jensen (Eds.), *Psychosocial treatments for child and adolescent disorders: Empirically based strategies for clinical practice*, 2nd edn. Washington, DC: American Psychological Association Press

Pelham, W.E., Wheeler, T., & Chronis, A. (1998). Empirically supported psychosocial treatments for attention deficit hyperactivity disorder. *Journal of Clinical Child Psychology*, *27*, 190.

Philipsen, A., Richter, H., Peters, J., Alm, B., Sobanski, E., Colla, M., Munzebrock, M., Scheel, C., Jacob, C., Perlov, E., Tebartz van Elst, L., & Hesslinger, B. (2007). Structured group psychotherapy in adults with attention deficit hyperactivity disorder: Results of an open multicentre study. *The Journal of Nervous and Mental Disease*, *195*, 1013–1019.

Rappley, M.D., Mullen, P.B., Alvarez, F.J., Eneli, I.U., Wang, J., & Gardiner, J.C. (1999). Diagnosis of attention-deficit/hyperactivity disorder and use of psychotropic medication in very young children. *Archives of Pediatric Adolescent Medicine*, *153*, 1039–1045.

Reinecke, M.A., Ryan, N.E., & DuBois, D.L. (1998). Cognitive-behavioral therapy of depression and depressive symptoms during adolescence: A review and meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 26–34.

Robin, A.L. (1998). *ADHD in adolescents*. New York: The Guilford Press.

Rostain, A.L., & Ramsay, J.R. (2006). A combined treatment approach for adults with ADHD—results of an open study of 43 patients. *Journal of Attention Disorders*, *10*, 150–159.

Safren, S.A., Otto, M.W., Sprich, S., Winett, C.L., Wilens, T.E., & Biederman, J. (2005). Cognitive-behavioral therapy for ADHD in medication-treated adults with continued symptoms. *Behaviour Research and Therapy*, *43*, 831–842.

Sanders, M.R., Markie-Dadds, C., Turner, K.M.T., & Ralph, A. (2004). Using the Triple P system of intervention to prevent behavioural problems in children and adolescents. In P. Barrett, & T. Ollendick (Eds.), *Handbook of interventions that work with children and adolescents: Prevention and treatment* (pp. 489–516). Chichester: John Wiley & Sons.

Scott, S. (2002). Parent training programmes. In M. Rutter, & E. Taylor (Eds.), *Child and adolescent psychiatry* (4th edn). Oxford: Blackwell.

Shaw, R., & Lewis, V. (2005). The impact of computer-mediated and traditional academic task presentation on the performance and behaviour of children with ADHD. *Journal of Research in Special Educational Needs*, *5*, 47–54.

Sheridan, S.M., Dee, C.C., Morgan, J.C., McCormick, M.E., & Walker, D. (1996). A multimethod intervention for social skills deficits in children with ADHD and their parents. *School Psychology Review*, *25*, 57–76.

Silver, L. (1992). *Attention deficit hyperactivity disorder: A clinical guide to diagnosis and treatment*. Washington, DC: American Psychiatric Press.

Sonuga-Barke, E.J.S., Dalen, L., & Remington, B. (2003). Do executive deficits and delay aversion make independent contributions to preschool attention deficit/hyperactivity disorder symptoms? *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 1335–1342.

Sonuga-Barke, E.J.S., Daley, D., Thompson, M., Laver-Bradbury, C., & Weeks, A. (2001). Parent-based therapies for preschool attention-deficit/hyperactivity disorder: A randomized controlled trial with a community sample. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*, 402–408.

Sonuga-Barke, E.J.S., Thompson, M., Abikoff, H., Klein, R., & Brotman, L.M. (2006). Nonpharmacological interventions for preschoolers with ADHD. *Infants and Young Children*, *19*, 142–153.

Stevenson, C.S., Whitmont, S., Bornholt, L., Livesey, D., & Stevenson, R.J. (2002). A cognitive remediation program for adults with attention deficit hyperactivity disorder. *Australian and New Zealand Journal of Psychiatry*, *36*, 610–616.

Stewart, K.G., & McLaughlin, T.F. (1992). Self-recording: Effects on reducing off-task behavior with a high school student with an attention deficit hyperactivity disorder. *Child and Family Behavior Therapy*, *14*, 53.

Stormont, M. (2001). Social outcomes of children with ADHD: Contributing factors and implications for practice. *Psychology in the Schools*, *38*, 521–531.

Taylor, E. (1999). Developmental neuropsychopathology of attention deficit and impulsiveness. *Development and Psychopathology*, *11*, 607–628.

Taylor, E., Chadwick, O., Heptinstall, E., & Danckaerts, M. (1996). Hyperactivity and conduct problems as risk factors for adolescent development. *Journal of the American Academy of Child and Adolescent Psychiatry.*, *35*, 1213–1226.

Thompson, M., Laver-Bradbury, C., Ayres, M., et al. (2009). a small-scale randomised controlled trial of the revised New Forest Parenting Package for preschoolers with attention deficit hyperactivity disorder. *European Child and Adolescent Psychiatry* [e-pub 30 April].

van den Hoofdakker, B.J., van der Veen-Mulders, L., Sytema, S., Emmelkamp, P.M., Minderaa, R.B., & Nauta, M.H. (2007). Effectiveness of behavioral

parent training for children with ADHD in routine clinical practice: A randomized controlled study. *Journal of American Academy of Child and Adolescent Psychiatry*, *46*, 1263–1271.

Weeks, A., Thompson, M., & Laver-Bradbury, C. (1999). *Information manual for professionals working with families with hyperactive children aged 2–9 years*. Available from Dr Margaret Thompson, Child and Family Guidance Unit, Ashurst Hospital, Southampton, SO40 7AR, England.

Wender, P. (2000). *Attention deficit hyperactivity disorder in children and adults*. New York: Oxford University Press.

Wilens, T.E., Faraone, S.V., & Biederman, J. (2004). Attention-deficit/hyperactivity disorder in adults. *The Journal of the American Medical Association*, *292*, 619–623.

Young, S. (2007). Forensic aspects of ADHD. In M. Fitzgerald, M. Bellgrove, & M. Gill (Eds.), *Handbook of attention deficit hyperactivity disorder*. Chichester: Wiley.

Young, S., Bramham, J., Gray, K., & Rose, E. (2008). The experience of receiving a diagnosis and treatment of ADHD in adulthood: A qualitative study of clinically referred patients using interpretative phenomenological analysis. *Journal of Attention Disorders*, *11*, 493–503.

Young, S., & Gudjonsson, G. (2008). Growing out of attention-deficit/hyperactivity disorder: The relationship between functioning and symptoms. *Journal of Attention Disorders*, *12*, 162–169.

Young, S., Gudjonsson, G., Wells, J., Asherson, P, Theobald, D., Oliver, B., Scott, C., & Mooney, A. (2009). Attention deficit hyperactivity disorder and critical incidents in a Scottish prison population. *Personality and Individual Differences*, *46*, 265–269.

Young, S., Heptinstall, E., Sonuga-Barke, E.J.S., Chadwick, O., & Taylor, E (2005a). The adolescent outcome of hyperactive girls: Self-report of psychosocial status. *Journal of Child Psychology and Psychiatry*, *46*, 255–262.

Young, S., Heptinstall, E., Sonuga-Barke, E.J.S., Chadwick, O., & Taylor, E. (2005b). The adolescent outcome of hyperactive girls: Interpersonal relationships and coping mechanisms. *European Child and Adolescent Psychiatry*, *14*, 245–253.

Young, S.J., & Bramham, J. (2007). *ADHD in adults: A psychological guide to practice*. Chichester: John Wiley & Sons.

Young, S.J., & Ross, R.R. (2007). *R&R2 for ADHD youths and adults. A prosocial competence training program*. Ottawa: Cognitive Centre of Canada.

Manuscript accepted 3 September 2009