Efficacy of Psychosocial Treatments for
Attention-Deficit/Hyperactivity Disorder: A Literature Review

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Attention-deficit/hyperactivity disorder (ADHD) is a chronic disorder characterized by inappropriate levels of inattention and/or hyperactivity-impulsivity, which requires developmental sensitive treatment across the lifespan (Knight, Rooney, & Chronis-Tuscano, 2008). Psychosocial and pharmacologic treatments have empirical evidence to support their efficacy in the management of ADHD. Recent developments noted by Smith, Barkley, and Shapiro (2006) over the past decade have resulted in “important developments related to the treatment of ADHD” (p.65). Psychosocial treatment has received increased attention, and provided some insights into alternative treatment methods. Debate exists within the field regarding components of treatment outcomes; as a result psychosocial treatment research has served to clarify efficacy issues. Current research supports a variety of psychosocial treatments alone or in combination with psychostimulants, within the different settings that demonstrate impairment as a result of ADHD. The discussion in this paper will examine the literature regarding concepts of ADHD, empirically supported psychosocial treatments, questions of efficacy, limitations, relevant implications and areas for future research.

A general investigation into the topic was initiated with a review of the chapter concerning treatments for ADHD discussed by Smith et al. (2006), in which psychosocial developments and issues provided a background of knowledge regarding efficacy. Prominent studies and researchers in the field were identified for further investigation. An exploration of the National Institute of Mental Health (NIMH) website was completed on the topic of ADHD that provided information on relevant current studies regarding treatments for ADHD. Studies and reviews were located from the ERIC, PsychINFO, and Medline databases. Successful search
terms used in the research process included: psychotherapy, psychosocial, treatment, ADHD, children, adolescent, efficacy, and intervention. Criteria selected during the search incorporated peer reviewed journals from the year 2000 to present, although two significant meta-analyses of psychosocial treatments outside the time frame were also included: DuPaul and Eckert (1997), and Pelham, Wheeler, and Chronis (1998) due to evident contributions to the field and frequent references in the literature. Throughout the literature search procedure it was evident that reviews outnumbered empirical studies, and that additional studies providing further research expanding the efficacy of psychosocial treatments are needed. Six reviews were chosen to include in the review that provided additional insights into the topic of psychosocial treatments and further references of clinical studies. To complete the investigation a total of twenty three articles composed of psychosocial studies, meta-analyses, and multimodal studies were chosen for this discussion on the basis of empirical evidence, quantitative data, and study quality. The focus of this paper is efficacy of psychosocial treatment; however, some studies including pharmacological treatment in combination with psychosocial treatments were included as they reflect current clinical practice and contributions to psychosocial treatments. Direct comparisons between the two treatments will not be discussed, and studies of purely pharmacological treatment were not included in this review.

Attention-Deficit/Hyperactivity Disorder

Definition

ADHD, by definition, is a disorder in which symptoms of inattention and/or hyperactivity-impulsivity are displayed to a degree that results in cross-situational impairment relative to developmental levels with prevalence rates ranging between 3% and 7% of youth worldwide (American Psychiatric Association [APA], 2000; Antshel & Barkley, 2008). ADHD
symptoms typically appear during the preschool years and can extend into adolescence and adulthood, thus “ADHD typically is viewed as a life-long disorder that must be addressed through ongoing treatment that is developmentally appropriate and that focuses on the unique needs and specific impairments of individual children” (DuPaul, 2007, p.2). Two sub-types of the disorder are generally recognized: combined type (ADHD-C) which is characterized by both inattentive and hyperactive symptoms, and inattentive type which is characterized predominantly by inattentive symptoms (ADHD-I). The majority of treatment research has been explored for the combined type of ADHD, however the inattentive type is now undergoing further attention and research (Pfiffner et al., 2007). Problems in current diagnostic criteria are of note: possible gender discrimination and underrepresentation of females, empirically unjustified age of onset, the required cross-setting impairment is possibly confounded by poor parent-teacher agreement, and a lack of developmental sensitivity; which need to be recognised by practitioners in both diagnosis and treatment selection (Smith et al., 2006). The majority of samples in the research match the local community and include individuals that meet diagnostic criteria, Additionally, limitations in generalizing treatment outcomes to the minority populations of ADHD (females, preschoolers, adolescents, and non-European ethnic groups) are recognized (Pelham & Fabiano, 2008).

Individuals with ADHD typically exhibit a variety of difficulties including: sustaining attention to tasks, resisting distractions, reengaging in tasks after disruptions, comprehension of events, alertness, and processing speed that create problems of attention that have been linked to cognitive domains of executive functioning and working memory (DuPaul, 2007; Pfiffner et al., 2007; Smith, Barkley, & Shapiro, 2006). Difficulties resulting from impulsivity are demonstrated in off-task behaviour, disruptive behaviour, behaviour inhibition,
oppositional/aggressive behaviour, difficulties interrupting ongoing response patterns, increased activity levels and restlessness, poor self-regulation, adherence to rules and instructions, and problems complying with commands (DuPaul, 2007; Pfiffner et al., 2007; Smith et al., 2006). Significant fluctuations in symptomology and developmental manifestations exist for each individual. A complete discussion of developmental pathways is beyond the scope of this review, therefore, only critical developmental issues regarding efficacy of treatment will be included.

**Critical Outcomes**

Potential adverse outcomes in social and academic functioning can be related to symptoms of the disorder and resulting impairments at home, in school, and in the community, and “children with ADHD have higher likelihood of having other medical, developmental, adaptive, behavioural, emotional, and academic difficulties than do peers who do not have ADHD” (Smith et al., 2006, p. 72). Comorbid conditions such as Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), depression, anxiety, Learning Disabilities (LD), and juvenile-onset bipolar disorder (BPD) appear to be more common and often coexist with ADHD (Smith et al., 2006). Type of ADHD and severity of symptoms may potentially predict the severity and risk for comorbid conditions and adverse outcomes. Poor educational achievement and performance, deficits in learning and academic skills, higher referrals to special education services, increased family stress and dysfunction, impaired parent-child relationships, interpersonal problems, accidents, behaviour inhibition and self-regulation, and ADHD symptomology (DuPaul, 2007; Smith et al., 2006; Young & Amarasinghe, 2010) are specific outcomes that are examined in the literature. Research estimates 43%-80% of children diagnosed with ADHD continue to have the disorder into adolescence, and 8%-66% continue to have the
disorder into adulthood or continue to have symptoms that significantly affect their lives (Smith et al., 2006). Psychosocial treatments typically involve behavioural interventions that attempt to act as mediators for the adverse effects and outcomes of ADHD, leading research to examine the efficacy of these treatments.

Psychosocial Treatments

Psychopharmacology has scientifically demonstrated effectiveness in treatment for ADHD. Psychosocial treatments can be used in combination with medication for increased efficacy of treatment effects, and is commonly referred to as a multimodal approach. However, some individuals require alternative treatment methods to psychostimulants due to: adverse side effects, lack of response to medication, age of individual, parent preference, and academic and social needs (DuPaul & Eckert, 1997; Hechtman et al., 2004; Knight et al., 2008). Research also indicates that effective psychosocial treatments “flatten the dose-response curve for medication” (Pelham et al., 2005, p. 122) to maintain low doses of medication for children in line with parent desires and reduced adverse effects. For these individuals, psychosocial treatments play a prominent role and have established effectiveness in managing ADHD. Psychosocial treatments included in this review include: behavioural parent training, behavioural school interventions, and multimodal psychosocial interventions.

Theoretical Frameworks

Historically research and treatment for ADHD was exploratory and atheoretic in nature (Smith et al., 2006). Treatments were based upon what was successful for other disorders and decisions were pragmatic; what worked was retained and what didn’t work was discarded. The lack of scientific theory to explain ADHD resulted in little guidance on treatment. Theories of ADHD are evolving in the field, and prominent researchers are now proposing that
neuropsychological constructs are related to development in inhibition, self-regulation, and executive functioning that include a substantial hereditary contribution (Barkley, 2007; Smith et al., 2006). It must be noted that these theories apply only to ADHD-C. Further discussion regarding theory development is beyond the scope of this review, and will be limited to implications in psychosocial treatment research.

Social learning theory has made significant contributions to the development of psychosocial treatments, based on assumptions about ADHD and associated disrupted behaviours (Barkley, 2007; Knight et al., 2008). Social learning theory supports a model that behaviour can be developed or maintained as a result of exposure to reinforcement and social modeling (Barkley, 2007). Smith et al. (2006) discuss factors of social impact rather than social causes of ADHD:

Social factors surely moderate types and degrees of impairments resulting from the disorder, and even risk for comorbid ODD or CD, as well as social prejudices against those having ADHD—not to mention access to services for its management. And they may even moderate severity of symptoms as perceived by caregivers (p.73).

Typically, psychosocial treatments address moderators in these pathways of ADHD. Social learning theory can address the presenting symptoms within impaired settings through treatments considered effective to positively impact outcomes, and is the underlying theory for behavioural interventions. Existing psychosocial treatments designed under this model prevent problems secondary to ADHD and “are not expected to produce fundamental changes in the underlying deficits of ADHD” (Smith et al., 2006, p.81). Recent theory is influencing research and treatment with new recommendations to maintain consistent interventions for increased efficacy and maintenance of treatment gains to address the chronic nature of the disorder and
maintenance of positive outcomes (Antshel & Barkley, 2008; Chronis et al., 2004; Knight et al.,
2008; Pelham, Wheeler, & Chronis, 1998). Research demonstrates conflicting results to
effectiveness once active treatment is withdrawn, but Knight et al. (2008) suggests that “given
the chronic and pervasive nature of ADHD, continuous intervention in all settings in which
impairment occurs is needed for treatment gains to be maintained” (p.416). This is a significant
shift from traditional approaches that provide short-term treatment, and has significant impact on
future research and generalization of outcomes.

It is also noted in recent research that developmental psychology has a role in examining
treatment must be considered a long-term investment to adequately address
symptom expression as it manifests across developmental stages” (p. 416). Young &
Amarasinghe’s (2010) review of research suggests effective psychosocial treatments for
preschoolers is parent training, group parent training and classroom behavioural interventions for
school-age children, and multimodal treatments for middle school and adolescents. Research
provides empirical support to these recommendations and theories in studies regarding outcomes
and efficacy for these age groups (Barkley, Edwards, Laneri, Fletcher, & Metevia, 2001; Barkley
et al., 2000; Evans, Serpell, Schultz, & Pastor, 2007; Jitendra et al., 2007; Jones, Daley,
Hutchings, Bywater, & Eames, 2008). Details of how symptoms are expressed at different
developmental stages and transitions and further elaboration of this theory are not within the
scope of this paper.

Efficacy of Psychosocial Treatments
Treatment efficacy refers to “demonstrated treatment success in controlled research studies” (Smith et al., 2006, p. 66). Beneficial effects of interventions studied in research settings provide empirical support that leads to practical considerations to improve treatment outcomes.

**Behavioural Parent Training.** As noted by Van Den Hoofdakker et al. (2007), Behavioural Parent Training (BPT) is widely used in clinical practice to treat children with ADHD. Parent training typically involves several strategies addressing knowledge and management of ADHD in family environments in addition to providing interventions to support multiple domains of dysfunction such as parental psychopathology and stress that may exist within families (Pelham et al., 1998). Psychoeducational information regarding ADHD, behavioural strategies to address problem behaviours, antecedents and consequences, environmental modifications, rewards and reinforcement, and management and disciplinary techniques are provided individually or in group sessions. Typically, behavioural parent training is implemented using empirically supported programs with manuals and guidelines.

The efficacy of BPT has been widely studied, and is a well established treatment in randomized clinical trials (RCT) (Pelham et al., 1998; Pelham & Fabiano, 2008; Smith et al., 2000). Of interest among psychosocial treatment research, Jones, Daley, Hutchings, Bywater, & Eames conducted a study on the efficacy of the Incredible Years (IY) parenting program for preschoolers that demonstrated improvements in ADHD and CD symptoms at long-term follow-up and concluded that BPT is a viable first line intervention, and Pfiffner et al. (2007) concluded that parent training adapted for ADHD-I is efficacious in reducing symptoms and associated impairments.
Van Den Hoofdakker (2007) conducted a randomized controlled study to investigate the effectiveness of BPT adjunct to routine clinical care (RCC), regarding symptoms, behavioural problems, internalizing problems and parenting stress outcomes. Exclusionary criteria were minimal in choosing sample population for an accurate representation of the typical population, including psychostimulant use and comorbid disorders. The results indicated that BPT enhanced the effectiveness of routine clinical care on all measures, particularly in decreasing behavioural and internalizing problems, which were equal for children with and without medication. No outcome differences were found in ADHD symptoms, which can be related to current theory regarding etiologies of ADHD and the focus on reducing behavioural problems rather than symptoms in a social learning approach. Effects on parent stress were equally effective with BPT and RCC. Additional studies for clinically referred individuals support the efficacy of BPT: Barkley, Edwards, Laneri, Fletcher, & Metevia (2001) studied clinically referred individuals and showed improved ratings of family conflicts and increased normalization rates to support the efficacy of BPT.

Limitations existing within research for BPT include issues of sample size (Pfiffner et al., 2007), potential bias in parent reported outcome measures (Jones et al., 2008; Klein, Abikoff, Hechtman, & Weiss, 2004; Pelham & Fabiano, 2008; Van Den Hoofdakker et al., 2007), lack of control groups due to ethical concerns of withholding treatment options to individuals in need (Barkley et al., 2001; Jones, et al., 2008; Smith et al., 2000), difficulties generalizing to different sub-groups of individuals with ADHD such as girls and adolescents as they are underrepresented in samples (Klein et al., 2004; Van Den Hoofdakker et al., 2007), larger treatment effects in controlled settings with trained individuals (Pelham et al., 1998), treatment adherence and attendance (Barkley et al., 2000; Pelham & Fabiano, 2008), an emphasis on measuring ADHD
symptoms rather than functional impairments (Smith et al., 2000), and a lack of investigation into wide-scale applications of treatment (Piffner et al., 2007).

**Behavioural School Interventions.** Behavioural school interventions (BSI) are well-established treatments for ADHD that address behavioural deficits in skills and performance and effectively reduces ADHD-related behaviours by significant improvements in self-control, social skills, enhanced academic performance, and adaptive functioning (Barkley et al., 2000; DuPaul & Eckert, 1997; Pelham & Fabiano, 2007; Pelham et al., 1998; Smith et al., 2006). Behavioural school interventions are characterized by contingency management, token reward systems, response cost, overcorrection, time-out, self-control training, social skills training, daily report cards with home-based reinforcement, academic interventions, environmental modifications and behaviour modification programs. Evans et al. (2007) refers to the appropriateness of this treatment, suggesting that “school-based services are well suited for children with chronic conditions who manifest much of their impairment in school settings such as children with ADHD” (p. 256), and suggest that there is persuasive evidence of cumulative long-term benefits for individuals with ADHD receiving school-based interventions. Additional research suggests that improvements from BSI may have some generalization into the home environments (Barkley et al., 2000) as an additional positive outcome.

Of interest, a recent study by Fabiano et al. (2007) investigated the effects of behaviour modification of different intensity (low and high), and concluded that both resulted in substantial improvement in classroom behaviour and academic productivity. Similar effect sizes for both treatments indicate that at a group level less intensive intervention is as effective as high intensity intervention. This recent development builds upon previous assumptions that higher levels of improvements are a result of more intense behaviour intervention.
Academic interventions for children with ADHD are addressed in the study by Jitendra et al. (2007), that compares the effects of two different models of school-based consultation on academic functioning. Differences between the models will not be discussed as their results indicated the two methods did not differ regarding growth of academic measures. Of importance in this study is the conclusion that consultation support and the use of instructional methods based on empirically valid strategies are effective in addressing the performance deficits of children with ADHD.

Debate regarding the efficacy of social skills training (SST) is evident in the literature, and has mixed results that do not contribute to strong empirical support. Often social skills training is implemented in group settings that do not account for the heterogeneous problems associated with ADHD (Smith et al., 2006). New theories of ADHD suggest that social difficulties are not a result of a lack of social skill knowledge, but rather a problem with skill performance, which may not be addressed in the social skills treatment package. In addition, evidence to support generalization to peer interactions outside the treatment setting are limited. In the study conducted by Abikoff et al. (2004), no advantages in social functioning with social skills training was obtained. SST may not target appropriate social skills or address underlying disturbances in the ability of children with ADHD to generalize learned social behaviours (Abikoff et al., 2004). It is possible that the measures of prosocial behaviours may not capture the social impairments associated with ADHD. An associated risk in SST is peer deviance training where inappropriate behaviours are reinforced and increased in level as a result of group participation (Antshel & Remer, 2003; Smith et al., 2006). It should be noted that SST has some promise in enhancing cooperation skills, assertion skills, empathy, and decreases in externalizing behaviour for children with ADHD-C in heterogeneous groups. A lack of evidence for SST may
be due to difficulties with generalization procedures (Pelham & Fabiano, 2008) and SST in summer treatment programs have improved support which may be due to differences in implementation or intensity of treatment.

Limitations identified in the literature include: biased reports of treatment effects (Antshel & Remer, 2003; Barkley et al., 2000; Fabiano et al., 2007), measuring outcomes only in school settings that result in cautious interpretations of treatment effects (Barkley et al., 2000), short duration of treatment (Fabiano et al., 2007), lack of study in community classrooms and limited generalization (Antshel & Remer, 2003; Fabiano et al., 2007; Jitendra et al., 2007), lack of long-term studies (Fabiano et al., 2007), adequacy of measures used to assess outcomes (Abikoff et al., 2004; Antshel & Remer, 2003; Evans et al., 2007), small sample size and variability in type and amount of services (Evans et al., 2007), treatment fidelity, and the lack of control groups (Abikoff et al., 2004; Jitendra et al., 2007).

**Multimodal Psychosocial Treatment.**

Multimodal psychosocial treatments (MPT) combine BPT and BSI and are implemented in a cross-setting approach in an effort to increase efficacy of treatment outcomes. The NIMH conducted a historical multi-site clinical trial of multimodal treatment for ADHD (MTA) that included pharmacological treatment, intensive behavioural treatment (multimodal psychosocial interventions), combination treatment (medicine and behaviour intervention), and routine community care. This study is frequently referenced and has resulted in subsequent research examining follow-up effects, treatment decisions, extended examinations of intervention components, and moderators of treatment response. Multiple findings from the study are available, however the initial findings suggested low efficacy for behavioural interventions. Results indicated that medication and combination treatments were superior to psychosocial
treatments for ADHD symptoms, and combination treatment resulted in advantages over
behaviour treatments in other functioning domains (social skills, academics, parent-child
relations, oppositional behaviour, anxiety/depression). These findings have resulted in
considerable study and debate in the field (Jensen et al., 2001). Questions concerning MPT
results were identified regarding overlooked higher parent satisfaction rates (Pelham & Fabiano,
2008), and limitations due to the discontinuation of behavioural treatments prior to end-point
assessments (Fabiano, 2007). Arnold et al. (2004) conducted a study utilizing follow-up data
highlighting the outcomes of ADHD with MPT suggesting that misinterpretations lead to the
conclusion that behavioural treatment was ineffective; and Owens et al. (2003) suggests that
measures of functional deficits that are more sensitive to targeted behavioural outcomes are
needed for accurate assessment. Long-term follow-up research yields some new conclusions.
Molina et al. (2008) examined long-term effects of MPT on ADHD symptomology and
concluded that type or intensity of treatment in childhood does not predict functioning eight
years later. It appears that ADHD symptom trajectory is prognostic regardless of treatment type.
Overall maintenance of improvement was evident, however, “the MTA group as a whole was
functioning significantly less well than the non ADHD sample” (Molina et al., 2008, p.494).

Summer treatment programs (STP) are a comprehensive intervention program for ADHD
that combine MTP in order to address multiple areas of impairment. STPs are short term
(average of 8 weeks) programs that typically include behaviour modification, sports skills
training, social skills training, problem-solving skills training, and BPT. Studies conducted by
Chronis et al. (2004), and Pelham et al. (2005) concluded that STPs resulted in substantial
behavioural effects across multiple measures of functioning in important domains and across
multiple settings. The evidence for efficacy of STP and multimodal psychosocial treatment is
supported by these studies, although questions of transferring these treatments to other settings, cost, and practicality have not been addressed in current research.

Hechtman et al. (2004) conducted a clinical trial examining academic achievement and emotional status of children with ADHD that included multimodal psychosocial treatment. Consistent patterns of improvement over time were obtained across functions assessed in spite of finding no treatment differences comparing psychopharmacology and psychosocial treatments. Extending behavioural interventions from the home into preschool or day care settings, Kern et al. (2007) conducted a study with young children and concluded that improvements in behaviour and preacademic skills are significant. As psychopharmacology is not usually used for this age group with the chronic nature of ADHD in mind, this study has encouraging implications for early intervention in treatment.

Considering the wide variety of MPT efficacy, questions must consider variables including: intensity of treatment, setting, type of treatment, implementation, and fidelity that may limit assessment of outcomes and generalization. The multiple components involved with each treatment can be difficult to separate for firm conclusions. Further limitations identified in the literature deal with the measures chosen to assess outcomes (Arnold et al., 2004; Hechtman et al., 2004; Owens et al., 2003) and their adequacy in targeting functioning deficits or symptoms, fading of treatment by end assessment point (Arnold et al., 2004), sampling size, age, gender and characteristics that typically includes ADHD-C of moderate to severe levels and controlling for comorbidity symptoms that limit generalization (Arnold et al., 2004; Hechtman et al., 2004; Jensen et al., 2001; Owens et al., 2003), the paradox of combining medication and behavioural treatments and resulting outcomes (Arnold, et al., 2004; Pelham et al., 2005), variables moderating treatment response not studied such as parenting style or interparental conflict.
(Owens et al., 2003), the range of response to MPT and ability to analyze baseline individual difference factors that predict outcomes (Pelham et al., 2005), potential bias in ratings as participants and staff cannot be blinded to treatment conditions (Pelham et al., 2005), and intensity of treatment (Arnold et al., 2004; Hechtman et al., 2004; Pelham et al., 2005).

Discussion

Research investigations into psychosocial treatments have demonstrated efficacy. In order for research to progress studies must continue to evaluate additional moderators and mediators that have not yet been examined, increased attention to impairments across multiple areas functioning beyond symptoms and disruptive behaviour, and increased focus on variables impacting treatment integrity and acceptability are required (DuPaul, 2007). Limited knowledge in the integration of psychosocial interventions is a question of critical importance. Studies are typically conducted in controlled settings which contribute to the gap in knowledge regarding efficacy in naturalistic settings (Knight et al., 2008; Pelham & Fabiano, 2008). In addition, studies on the effects of intervention for preschoolers and adolescents, ADHD type, comorbidity, previous treatment, and long-term treatment are minimal (Dawson, 2007; DuPaul, 2007; Knight et al., 2008; Pelham & Fabiano, 2008; Pfiffner et al., 2007; Van Den Hoofdakker, 2007). Considering the difficulties of ADHD across development these research questions are particularly important for practitioners. The literature demonstrates a repeated absence of efforts to study potential adverse effects associated with psychosocial treatments that is needed to address the multiple individual differences among individuals with ADHD and their treatment providers (Antshel & Barkley, 2008; Barkley, 2007). Research measures used for assessing outcomes have limitations, therefore constructing additional instruments for behavioural, academic, and other psychosocial interventions will provide further insights into impairments.
Critical questions that are understudied in the literature regarding intensity of treatment, individual components of behavioural interventions, generalization of treatment, dissemination and cost of treatments, environmental-contextual and motivational factors, and maintenance of treatment effects will provide practical implications for treatment decisions and practicality (Barkley et al, 2000; Fabiano et al., 2007; Kern et al., 2007; Pelham et al., 1998; Pelham & Fabiano, 2008; Molina et al., 2009; Van Den Hoofdakker, 2007). With the widespread recognition that ADHD is a chronic disorder, long-term management plans of how to sustain, modify, and adapt psychosocial treatment over time will need to be addressed in the future.

Observation of study design in reviewing the literature demonstrates differences of effect sizes for psychosocial treatments; within-subject designs yield larger treatment effects than between-group studies (Pelham & Fabiano, 2008). Difficulties around generalization are noted in the randomized, controlled clinical studies. Of importance is how these results impact treatment recommendations. The majority of research regards BPT, and classroom behavioural interventions, whereas studies on academic interventions and social skills are minimal. Combinations and comparisons of psychosocial and medical treatments create challenges in reviewing the literature, and information on purely psychosocial treatments are limited. However, the literature suggests the efficacy of psychosocial treatment has been empirically established and meet scientific criteria.

**Conclusion**

ADHD is now viewed as a chronic disorder for most children that requires sustained treatment to maintain improvement due to evolving theoretical conceptualizations of the disorder. The psychosocial treatments with the greatest empirical support are behavioural parent training, behavioural school interventions including behaviour modification and classroom
management, and multimodal psychosocial treatment; which provide a viable alternate treatment to psychopharmacology. Interventions will need to address developmental transitions and changing domains of impairment across the life-span. As treatment efficacy has received considerable attention and support, increased attention evaluating treatment effectiveness and practicality in clinical and naturalistic settings will contribute to further developments in managing ADHD. The challenges for practitioners in addressing the pervasive nature, heterogeneity of symptoms, and comorbidity will require that treatments are individualized and consistently implemented; psychosocial treatments “frequently are a necessary and effective component of the total treatment package that must be assembled to address the clinical needs of most cases of ADHD” (Antshel & Barkley, 2008, p. 434).
Literature Review Self-Evaluation List

Describing your search strategy (databases, keywords, parameters of your search).

I think I was extremely successful describing my search strategy from initial stages of inquiry and throughout the development of the topic of psychosocial treatment (4). I chose an area of particular interest that I thought would have practical implications for my future work in the field of school psychology. General resources were utilized and identified (NIMH website and Treatment disorders textbook) that led to secondary and primary resources. The recursive process during the review was noted and additional references were found as they were referenced in the research. My search strategy consisted of both general references and relevant databases. I included a comprehensive list of resources that adequately addressed the topic. Search parameters and key words were identified.

Describing the big picture via your literature review.

I think I was extremely successful describing the big picture for this review (4). I included recent developments regarding definition, critical issues, theoretical conceptualizations that provide a realistic picture of what is currently reflected in research and in practice. This background of information provided a context for the question of efficacy and psychosocial treatments. I believe the reader would be able to identify the overall themes and issues in the literature that refer to empirical support for psychosocial treatment, limitations and areas for future development and research that relate to the salient issues of ADHD.

Identifying the central topic.

I feel I was extremely successful in identifying the central topic in the review (4). Connections to efficacy were made throughout each section of the paper and underlied the information and research that was presented. Research studies included clearly examined
efficacy of treatments and results regarding outcomes was discussed. The heterogeneity of ADHD requires assessment of different treatment options and multiple variables that needed to be included in the discussion in order to adequately cover the central topic. Descriptions of future research expanding treatment efficacy into naturalistic settings and further needs were reviewed. The purpose of the review was to examine efficacy and related issues, which I feel were covered in-depth.

*Describing how you conceptualized the problem.*

I feel that I was successful and met expectations (3) in conceptualizing the problem. Given the broad area under discussion (psychosocial treatment) an adequate description of the treatment options, variety, empirical evidence, limitations, and future research of each area was reviewed as well as a synthesis of the overall themes. Several areas were not included given the scope of the discussion. Future research into the area for me would most likely focus on one particular treatment (behavioural school interventions) to assess on a more in-depth level.

*Including current, relevant literature.*

I think I exceeded expectations (4) in including current, relevant literature. Search parameters were limited to the last ten years which provided an excellent base of evolving theory and research in the field. Two very relevant studies were included outside the time frame on account of their impact on later research, as were follow-up studies on the historical MTA project. Prominent researchers in the field were identified and studies in which they conducted were sought out.

*Basing the review mainly on primary research (sources).*

I think I was extremely successful on basing the review of primary research (4). Nineteen primary resources, 4 meta-analyses, and 6 reviews were included for an exceptionally
comprehensive review. Initially during the search it was apparent that reviews far outnumbered studies, and as such a persistent effort to find primary resources was necessary and completed. 

*Critically analyzing the literature (e.g. strengths/weaknesses of previous research, inclusion/exclusion for criteria for articles, databases searched).*

I feel that I was successful and met expectations (3) for critically analyzing the literature. Throughout the review limitations and weaknesses were identified, relevant databases for the field were used, and specific studies were chosen on the basis of quantitative data. Future areas of research were noted and additional searches for studies addressing some of the limitations were conducted and then included in the discussion. An area that could benefit from more detail would be strengths of studies. 

*Providing a well-balanced review, presenting evidence on both (all) sides.*

I feel I was successful and met expectations for providing a well-balanced review (3). The review was primarily focused on treatments with proven efficacy for psychosocial treatment. The discussion did include the noteworthy findings of the MTA project that highlighted pharmacological and combination treatment over psychosocial treatment, and mixed evidence for social skills training, and the future need for studies addressing adverse effects was included. Further searching may yield additional studies that have mixed results. 

*Keeping the view free from personal biases (e.g. limiting use of emotional language; acknowledging institutional affiliation or funding source).*

I was extremely successful in keeping the view free from personal bias (4). No emotional language or personal opinions/biases were used to influence the reader, and the topic was discussed in an objective manner. Implications for practice and conclusions that were included reflected current research.
Identifying the theoretical framework and research question(s) and procedures of reviewed work.

I feel I was extremely successful in identifying the theoretical framework and procedures of reviewed work (4). Several theories contributing to ADHD and psychosocial treatments were included and discussed in-depth. Procedures of prominent studies were highlighted and statistical criteria and methods was synthesized in the discussion.

Providing sufficient information to support your theoretical framework and research questions.

I think I exceeded expectations (4) in identifying the theoretical framework and research questions. Developments in the field of ADHD regarding theory development and treatment decisions were included, and how theory has contributed to historical and future research questions and studies was identified. A strong theoretical base was identified for both the concept of ADHD (social learning, developmental psychology, and neuropsychological constructs) and rationale for psychosocial treatment was presented. Of particular interest for me are theories of developmental psychology and the efficacy of early intervention on long-term maintenance of treatment effects, which potentially could be an area for future thesis development.

Providing enough information in the literature review to guide all aspects of the research (participants, data collection, and analysis).

I feel I was successful and met expectations for providing enough information to guide aspects of the research (3). Participant information, measures, and analyses of prominent studies were discussed that guided the research questions and conclusions. An area that could be expanded upon is the data collection and quantitative methods used in the research.

Providing enough information in this review that would be useful to you.
I feel that I was extremely successful in providing useful information for myself (4). The search process provided an opportunity to identify global issues in ADHD in addition to specific information regarding treatment efficacy, as well as issues to consider for practical implications as a future practitioner. A great amount of learning occurred during the literature review process and I feel very prepared for future research, have found locations for resources and programs, and will continue to follow developments in this area of study.

_Providing enough information in this review that would be useful to others._

I think I was successful and met expectations in providing enough useful information for others (3). A comprehensive description ADHD and surrounding issues was discussed, prominent research and themes were identified and reviewed. Others would be aware of developments in the field, primary research questions and results, and areas for future research. Depending upon what other’s need, further information on treatment components or additional statistical information could be located from my references.

_Citing references that include diverse and “marginalized” voices._

I feel that I exceeded expectations in citing references that included diverse voices (4). Throughout the search and review process limitations noted in studies that referred to diverse voices became areas for additional research. Specific studies including preschoolers, adolescents, and ADHD-I were sought out to include in the review. These underrepresented populations were discussed and included throughout the review.

_Critical Synthesis_

Overall I feel I exceeded expectations in writing this literature review. Comprehensive information was completed and presented for the majority of the requirements. I furthered my understanding of ADHD and theoretical contributions, and learned a great deal regarding
treatment efficacy. Implications, limitations, conclusions, and areas for future research were well thought out and organized to contribute to the main themes of psychosocial treatments. I feel appropriate references and studies were included, and a strong base of understanding is demonstrated. Scope of the paper was considered and relevance to efficacy was maintained. Topics that contributed to understanding the research and current developments were included to develop and in-depth perspective, and an accurate representation of the current literature. The paper followed a logical sequence and was clear in communicating ideas.
References


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