

Meta-analysis of components of behavioral parent and teacher training programs for children with ADHD

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Background

Behavioral parent and teacher training programs are the best established behavioral interventions for children with ADHD. There are many variants of behavioral parent and teacher training programs, with diversity in content, duration, format and setting. It is important to gain more knowledge about effective characteristics and components of these programs, to improve or tailor interventions.

Objectives:

- How effective are behavioral parent and teacher training programs in reducing ADHD symptoms and behavioral problems?
- Which characteristics and/or combinations of characteristics of behavioral parent and behavioral teacher training for children with ADHD are associated with effectiveness in reducing symptoms of ADHD and behavioral problems?

Methods

We included randomized controlled trials that examined the effectiveness of behavioral parent or teacher training for children with ADHD below 18 years old. We included English, Dutch, and German language publications published in peer reviewed journals. Two investigators did the data extraction independently (RH and APG; Figure 1) and results were compared. Extracted variables were treatment characteristics (e.g. setting, duration, therapist training) and parent and child characteristics (e.g. gender, age, source of participants). Outcomes were ADHD symptoms and behavioral problems. In case of multiple raters, we picked the most proximal rater. Analyses were conducted with the Comprehensive Meta-Analysis program¹ and Meta-Cart².

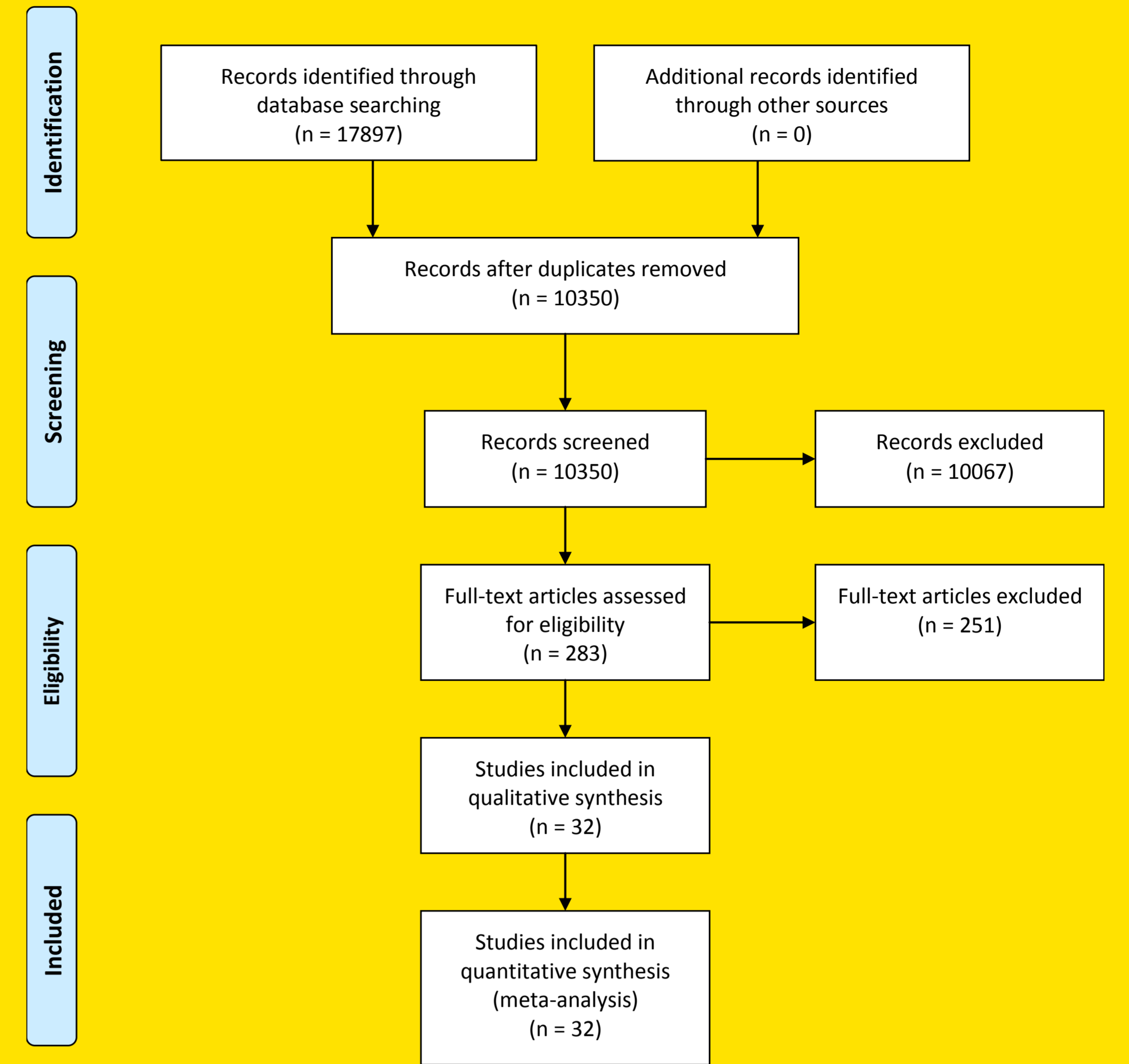


Figure 1 : Flowchart of literature search and study selection.

Results - Summary effect sizes

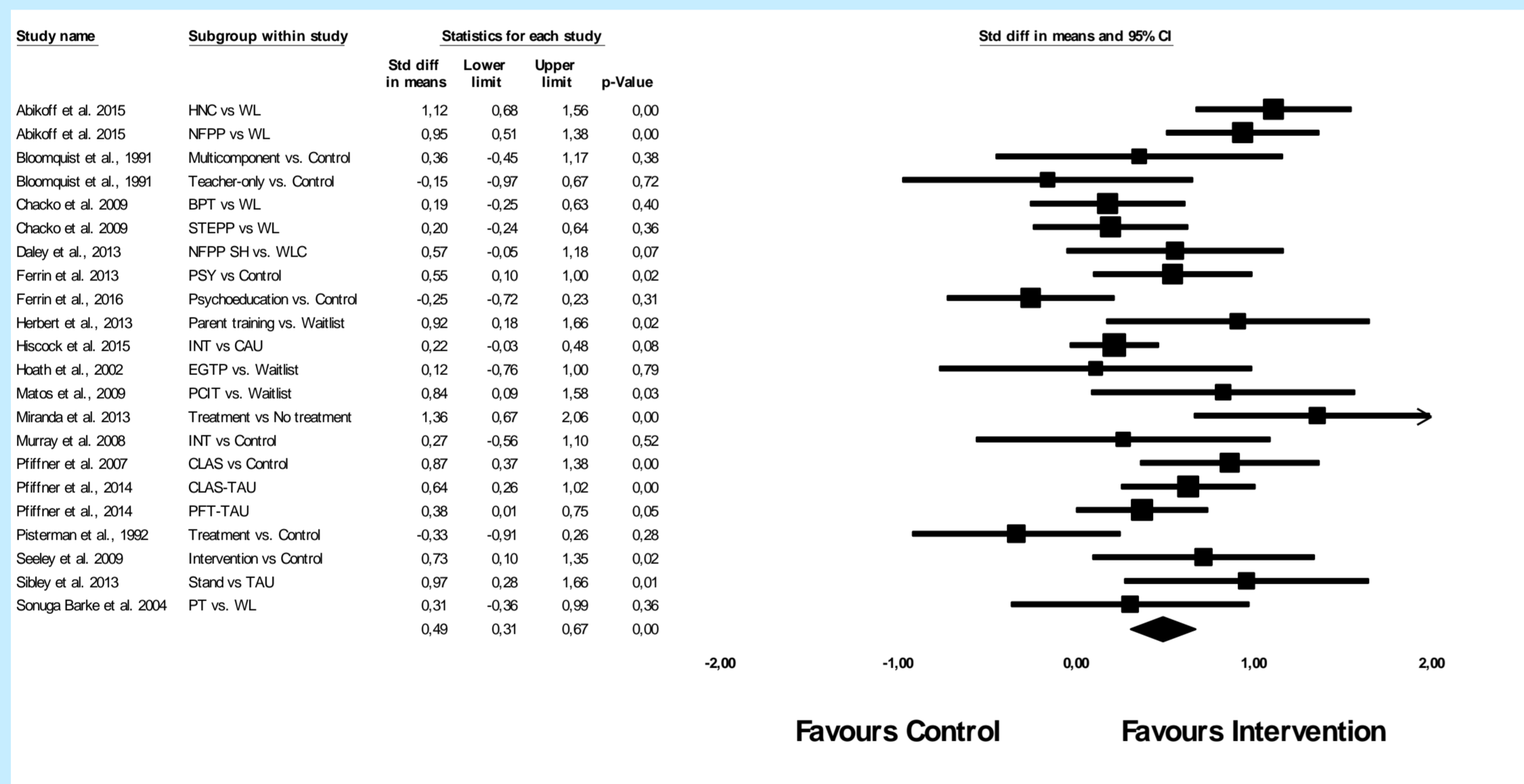


Figure 2a. Inattention symptoms (95% CI: 0.31 to 0.67)

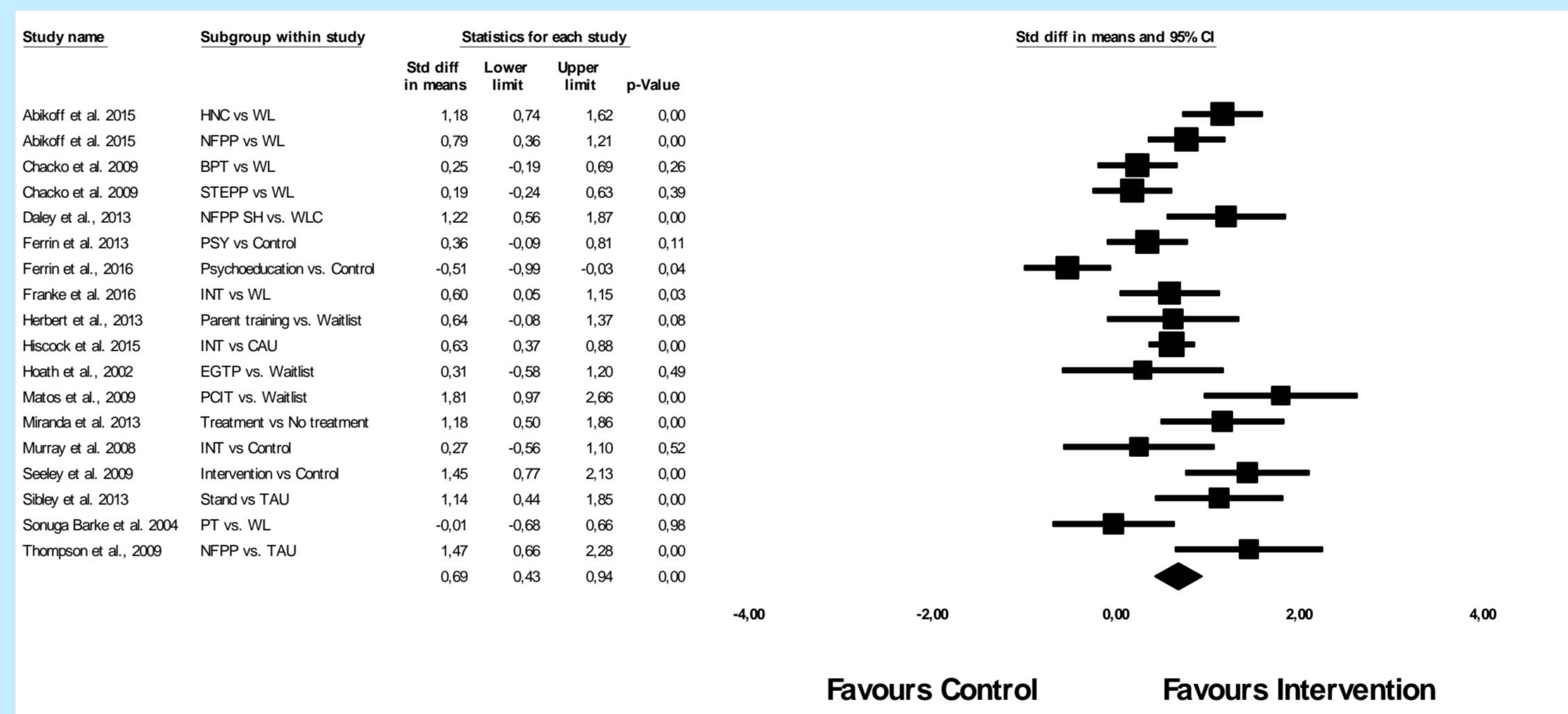


Figure 2b. Hyperactivity/impulsivity symptoms (95% CI: 0.43 to 0.94)

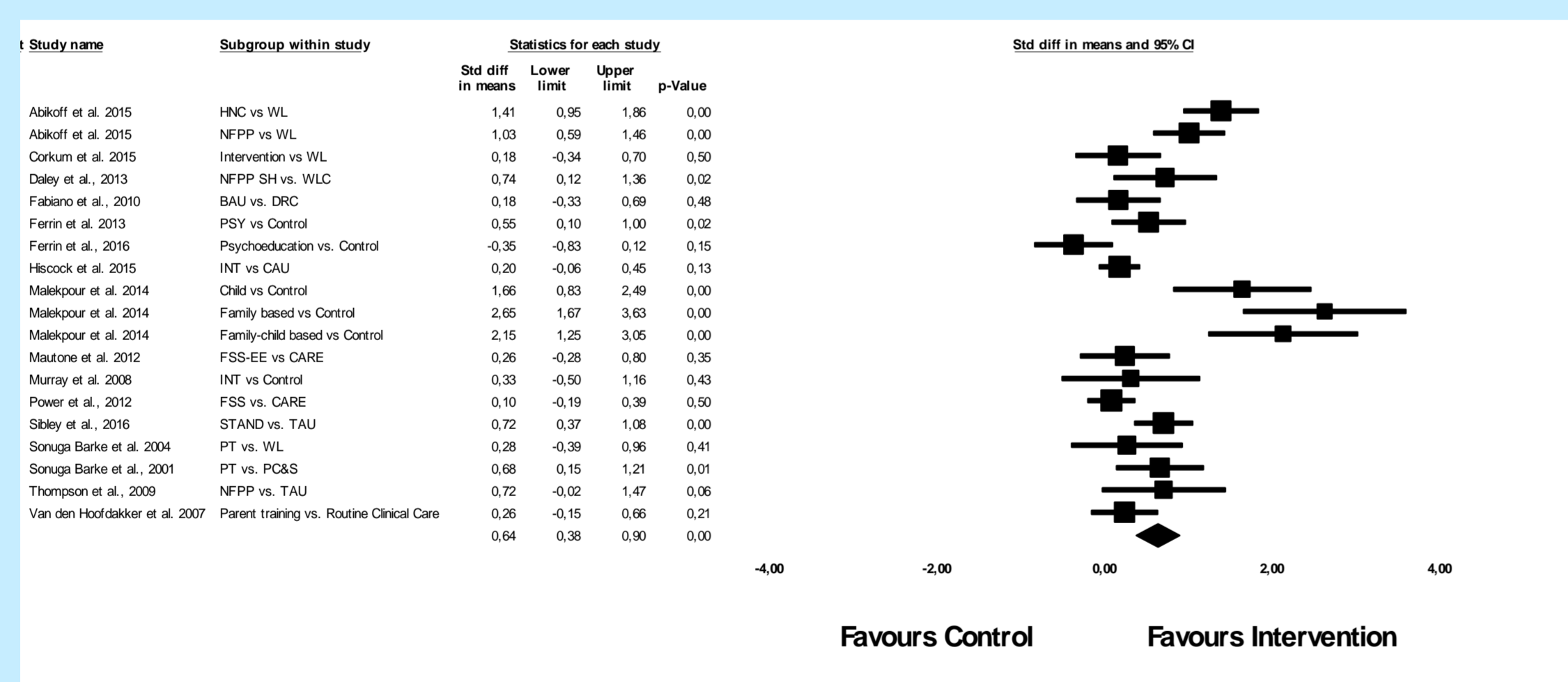


Figure 2c. Total ADHD symptoms (95% CI: 0.39 to 0.90)

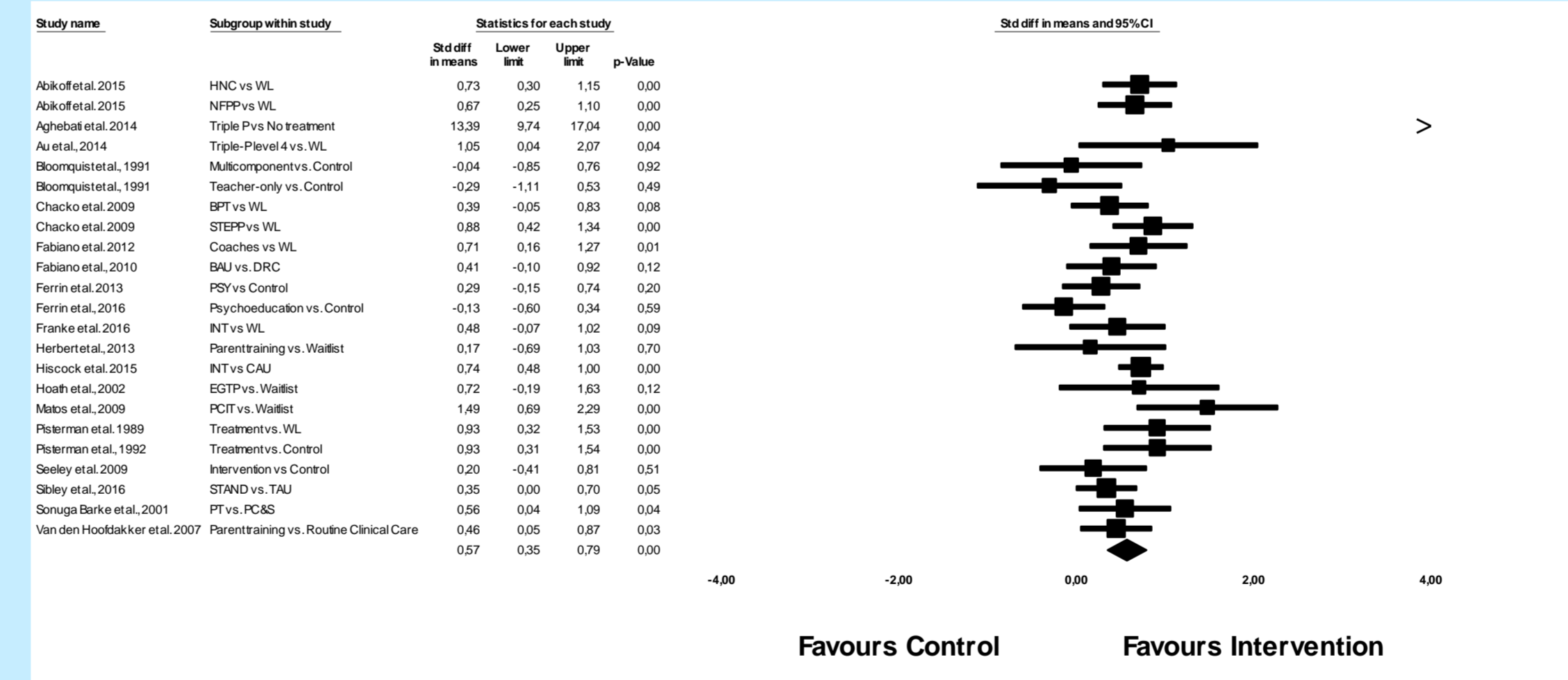


Figure 2d. Behavioral problems (95% CI: 0.35 to 0.79)

Results – classification and regression trees

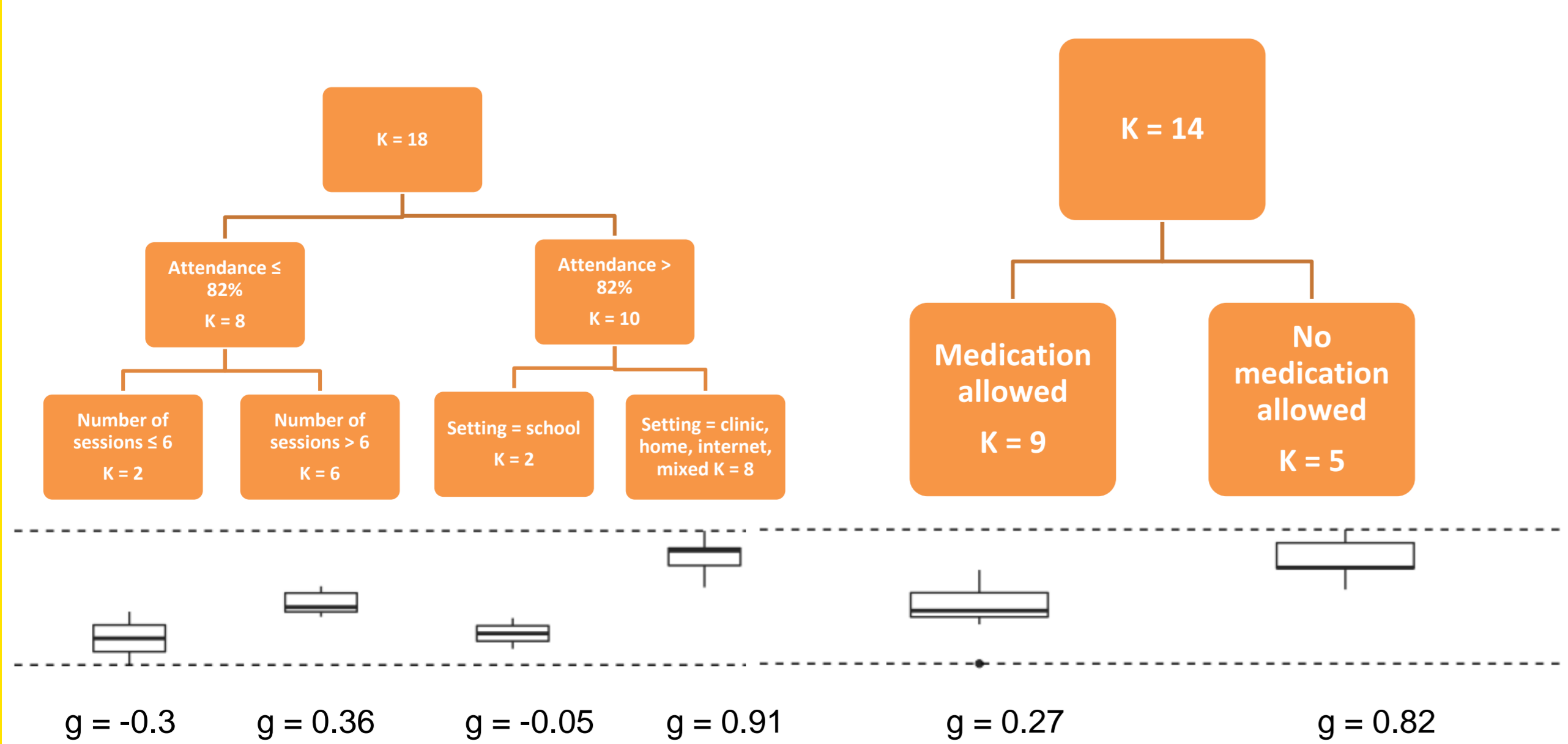


Figure 3a. Predictor: treatment characteristics, outcome: behavioral problems

Figure 3b. Predictor: child and parent characteristics, outcome: ADHD symptoms and behavioral problems

Conclusions

Results indicate that behavioral parent and teacher training programs are effective for the treatment of ADHD symptoms and behavioral problems in children with ADHD (Figure 2a-2d). Particular (combinations of) variables were more successful and combinations that were associated with the reduction of behavioral problems (Figure 3a), ADHD symptoms and behavioral problems (Figure 3b).

For example; attendance > 82% (i.e. parents/teacher attended more than 82 percent of the sessions of the total program) and no school setting had a higher effect size than interventions with attendance lower than 82% and ≤ 6 sessions (i.e. total program contained ≤ 6 sessions).

Future plans

The interventions will be coded with a checklist of common components of behavioral interventions^{3,4,5,6}. Components are defined as techniques and principles that are being used in the interventions (e.g. homework, psychoeducation, monitoring, time-out).

Psychosocial
ADHD
Interventions



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2. M. H. S. (2013) The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. *Ann Behav Med*, 46(1), 81-95.
3. Chacko, B. F., & Daleiden, E. L. (2009) Mapping Evidence-Based Treatments for Children and Adolescents: Application of the Distillation and Matching Model to 615 Treatments. *Journal of Research on Educational Effectiveness*, 2(3), 244-256.
4. Kaminski, J. W., Vail, L. A., Finkelstein, J. H., Boyle, C. L. (2008) A Meta-analytic Review of Components Associated with Parent Training Program Effectiveness. *J Abnorm Child Psychol*, 36, 587-599.