Psychodynamic Psychotherapy for Children and Adolescents: A Meta-Analysis of Short-Term Psychodynamic Models

Allan A. Abbass, M.D., F.R.C.P.C., Sven Rabung, Ph.D., Falk Leichsenring, D.Sc., Johanne S. Refseth, M.Sc.Psych., Nick Midgley, M.Sc., Psych.D.

Objective: Psychodynamically based brief psychotherapy is frequently used in clinical practice for a range of common mental disorders in children and adolescents. To our knowledge, there have been no meta-analyses to evaluate the effectiveness of these therapies. **Method:** After a broad search, we meta-analyzed controlled outcome studies of short-term psychodynamic psychotherapies (STPP, 40 or fewer sessions). We also performed sensitivity analyses and evaluated the risk of bias in this body of studies. **Results:** We found 11 studies with a total of 655 patients covering a broad range of conditions including depression, anxiety disorders, anorexia nervosa, and borderline personality disorder. STPP did not separate from what were mostly robust treatment comparators, but there were some subgroup differences. Robust (g = 1.07, 95% CI = 0.80–1.34) within group effect sizes were observed suggesting the treatment may be effective. These effects increased in follow up compared to post treatment (overall, g = 0.24, 95% CI = 0.00–0.48), suggesting a tendency toward increased gains. Heterogeneity was high across most analyses, suggesting that these data need be interpreted with caution. **Conclusion:** This review suggests that STPP may be effective in children and adolescents across a range of common mental disorders. J. Am. Acad. Child Adolesc. Psychiatry, 2013;52(8):863–875. **Key Words:** anxiety, child, depression, psychodynamic, psychotherapy

Psychodynamic psychotherapy with children and adolescents has a long history, and has had a considerable impact on the provision of treatment within both the public and private sector in Europe and the United States. In the United Kingdom, for instance, a survey of mental health services carried out in 1995 suggested that 44% of public services providing community-based care for children and adolescents offered some form of psychodynamic interventions,[1] and in Germany data from the statutory health insurers suggest that 74% of psychotherapists working with children and adolescents are able to offer psychodynamic interventions.[2]

Until recently, however, the empirical support for such treatments has been limited, with Target and Fonagy[3] speaking of the way in which research in this field has been "doubly disadvantaged": first, because psychodynamic treatment research has lagged behind cognitive, behavioral, and family therapies more generally; and second, because of "the general lag between child and adult psychotherapy research, across all forms of therapy" (p. 41).[3]

Over the last 20 years, each of these separate issues has been addressed to some degree. Psychodynamic therapy with adults now has a substantial evidence base, demonstrated in a series of reviews and meta-analyses[4-11] culminating in the landmark publication of Jonathan Shedler's paper "The efficacy of psychodynamic psychotherapy," published in the *American Psychologist*.[12] In this article, Shedler described that Blagys and Hilsenroth[13] had defined psychodynamic psychotherapy as focus on emotion, exploration of attempts to avoid distressing thoughts and feelings, identification of patterns, discussion of past experience, focus on interpersonal relationships, focus on the therapy relationship, and exploration of wishes and fantasies. Meanwhile, the

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evidence-base for a range of therapies with children has also grown considerably,[14-16] although the majority of this research is still focused on behavioral and cognitive–behavioral treatments.

Within the specific field of psychodynamic child and adolescent psychotherapy, a small number of better designed studies began to appear in the 1980s, including studies by Heinicke and Ramsey-Klee,[17] Moran *et al.*,[18] and Target and Fonagy.[19] In a recent critical review of the evidence base for psychodynamic therapies with children and adolescents, Midgley and Kennedy[20] identified 34 studies that met inclusion criteria, including 9 randomized controlled trials (RCTs), 3 quasi-experimental studies, 8 controlled observational studies, and 14 observational studies without control groups. Although the quality of the studies varied considerably, the review concluded that there is some provisional evidence to suggest that this treatment is effective for children and adolescents, with some indications of greater effectiveness for certain diagnostic groups (e.g., depressed children more than those with conduct problems) and for different age groups (increased effectiveness with younger children).

Given the global demand for mental health services for children and adolescents, coupled with economic constraints, the need for effective short-term interventions for children and young people is more urgent than ever before.[21] Although Short-term Psychodynamic Psychotherapy (STPP) has been well reviewed and found to have some empirical support for adults with depression,[9,22] somatic disorders,[7] personality disorders,[10] depression with personality disorder,[8] anxiety disorders, eating disorders and substance use disorders,[23] and mixed disorders,[4,6] we know of no published meta-analysis of STPP for children and adolescents. The importance of identifying which young people can be helped by short-term interventions is therefore both an ethical and a practical priority for child and adolescent mental health services around the world.[21]

METHOD

Methods and results are reported in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) statement.[24]

Eligibility Criteria

It has been critically discussed whether the results of RCTs are representative of clinical practice, as they are carried out under controlled experimental conditions.[25-27] Quasi-experimental studies that are carried out under the conditions of clinical practice show a higher external validity. Their internal validity, however, may be restricted. There is evidence, nonetheless, that quasi-experimental and observational studies do not yield effect sizes that systematically differ from those of RCTs.[27, 28] For this reason, it useful to include both RCTs and quasi-experimental studies in a meta-analysis and test for differences by sensitivity analysis.

Hence, we included studies that were either controlled trials or randomized controlled trials. Participants could be no more than 18 years of age at the start of treatment. The therapy had to be based on psychodynamic theory,[13] and it had to be time limited, with a maximum of 40 sessions. Studies of group therapy and parent–infant therapy were excluded. The comparison treatment could either be another active therapy or a minimal contact condition (including treatment as usual and wait list controls). Only studies that reported at least 1 outcome allowing assessment of both within-group and between-group effect sizes were included. No minimum sample size was required.

Search Strategy and Study Selection

We retrieved studies by means of an extensive search using 2 different search methods.

We searched the electronic databases PubMed, PsychINFO, Embase, Cochrane's Central Register of Controlled Trials, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Database of Abstracts of Reviews of Effects (DARE) from 1980 to present (original search June 2010, repeated in October 2012). Search terms included synonyms for psychodynamic (psychodynamic, psychoanalytic and dynamic) paired with "child short-term," "child brief," "adolescent short term," and "adolescent brief." We searched in MESH terms, index, abstract, and full text. No language restrictions were applied.

In addition to this, supplementary search for published and unpublished studies was undertaken, including contacting key researchers and searching reference lists of 6 reviews and meta-analyses addressing psychotherapy for children and adolescents.[29-34]

Titles and abstracts were screened for inclusion by 2 independent raters. Articles that did not meet exclusion criteria were requested in full text and reviewed by 4 independent raters. Disagreement was resolved by discussion and consensus. All the included studies had to be independent: if 2 articles reported on the same study sample, 1 of them was excluded.

Data Collection and Assessment of Methodological Quality

An electronic form was used to extract data on study characteristics, sample characteristics, treatment characteristics, and outcomes. The form included the following variables (Table 1): reference of publication (author, year), design of study (RCT/non-RCT, assessment times), disorder treated, n (STPP), n

(comparison), age, percent female, type of STPP, type of comparison condition, number of sessions for STPP, number of sessions for comparison condition, study quality, outcomes (within group and between group effect sizes). Data were entered by 1 author with oversight by another author. Double entry of outcome data by an independent rater in about 10% of cases revealed high intraclass correlation coefficients (ICC), demonstrating excellent interrater reliability (ICC = 1.0). If the data necessary to calculate effect sizes were not published in an article, we asked the study authors for these data.

Outcome measures, including both self-report and observer-rated measures, were listed and categorized under the following domains by 2 independent raters: general psychopathology, anxiety, mood disorders, somatic complaints, interpersonal functioning, and personality/behavioral problems. The kappa coefficients calculated to check interrater reliability of categorizations were excellent (Cohen's $\kappa = 0.85$). Any discrepancies between ratings were resolved via consensus discussion.

The quality of studies was assessed by 2 independent raters using the 3-item scale proposed by Jadad *et al.*, which addresses key features of internal and external validity as well as objectivity.[35] In its adaptation to the context of psychotherapy research,[5] this scale takes into account the following: whether a study was described as randomized (proxy for internal validity); whether outcome was assessed by raters blinded to treatment condition or by reliable self-report instruments (proxy for objectivity); and whether withdrawals and dropouts were described adequately (proxy for external validity). Quality of studies was evaluated separately for each of these criteria as well as using a composite score ranging from "0" indicating low quality, to "3" representing high quality of a study. In addition, studies were checked for bona fide delivery of STPP treatments, again by 2 independent raters. The STPP model was rated as restricted, and not bona fide, if the therapists were instructed not to provide specific aspects of STPP therapy or not to focus on certain aspects of the key problems: studies of this nature are not considered a valid test of the method.[36] ICCs for ratings of study quality also demonstrated excellent agreement between raters (ICC = 1.0).

Data Synthesis

The primary outcome was reduction of overall impairment at the end of treatment. Secondary outcomes included reduction of general psychopathology, anxiety, mood disorders, somatic complaints, interpersonal problems, and personality/behavioral problems at the end of treatment and at follow-up.

Effect sizes have been calculated separately for short-term (i.e., posttreatment) and long-term (i.e., follow-up when available). If a study used fixed assessment times instead of an assessment at the end of treatment, the assessment following most closely to the termination of treatment has been used as the posttreatment assessment. If there was more than 1 follow-up assessment, only the one with the longest follow-up period has been included to study long-term stability of treatment effects.

Effect size calculation consisted of within-group and between-group standardized mean difference scores *d*. Pre–post within-group effect sizes were calculated as the difference between pre- and posttest means divided by the pooled pretest deviation. Correspondingly, post to follow-up within-group effect sizes were calculated as the difference between post- and follow-up means, divided by the pooled pretest standard deviation. Between-group effect sizes at end of therapy or follow-up were calculated as the difference in mean pre–post change (or pre to follow-up change, respectively) between the STPP and comparison group, divided by the pooled pretreatment standard deviation. As *d* tends to overestimate effect size values in small samples, it has been converted to Hedges's *g* by use of a correction factor *J* (see Borenstein *et al.*,[37] equations 4.22 and 4.23). Although *g* is considered preferable over *d*, the 2 effect measures are largely comparable in practice.[38] As the raw data reported in Table 3 of the study by Sinha and Kapur[39] yielded unrealistically high effect size estimates, effect sizes reported in Table 4 by the authors of the study[39] were used in this meta-analysis instead.

All effect sizes were standardized by the pretreatment standard deviation pooled across comparison groups of a study as the best available estimate for the unbiased population standard deviation.[40] In addition, using the identical standard deviation estimate across all types of effect sizes per study (i.e., within-group versus between-group, posttreatment versus follow-up) allows for the direct comparability of the different effect size measures. Incorporating the pretreatment scores in the calculation of between-group effect sizes (by using the change scores instead of comparing posttreatment or follow-up scores alone) controls for initial group differences that may occur because of missing randomization or imperfect balancing in case of randomization of small samples.[40]

All outcome measures or subscales, respectively, have been assigned to 1 of the 6 distinctive outcome domains (i.e., general psychopathology, anxiety, mood, somatic, personality/behavioral, interpersonal). Whenever a study reported multiple measures for 1 of these outcome areas, the effect size for each measure has been assessed separately, and the mean effect size of these measures within each study has been calculated. The overall outcome measure (primary outcome) has been calculated as the mean of all effect size measures per study.[41]

Effect size estimates were aggregated across studies using a random effects model with inverse variance weights,[42] with the variance calculated using equation

TABLE 1 Study Characteristics

Authors	Year	Disorder	STPP, n	Control, n	Age, m (range)	Female, %	Control (s)	Sessions STPP	Sessions control	Follow-up interval (months)	RCT	Study Quality	Overall outcome within	Overall outcome between
Chanen *et al.* [49]	2008	Borderline personality disorder	44	42	na (15–18)	na	Good clinical care	13	11	–	Yes	High	1.14 (0.68 to 1.60)	0.03 (–0.39 to 0.45)
Gilboa-Schechtman *et al.* [34]	2010	PTSD	19	19	14 (12–18)	63	Prolonged exposure	17	13	17	Yes	High	1.04 (0.36 to 1.72)	–1.02 (–1.69 to 0.34)
Lock *et al.* [50]	2010	Anorexia nervosa	60	61	14 (12–18)	92	Family therapy	32	24	12	Yes	Medium	1.51 (1.11 to 1.91)	–0.36 (–0.72 to 0.00)
Muratori *et al.* [51]	2003	Mixed internalizing disorders	29	29	9 (6–11)	40	Community service	11	6	18	No	Low	0.26 (–0.26 to 0.77)	–0.03 (–0.54 to 0.49)
Muratori *et al.* [52]	2005	Separation anxiety	14	10	9 (na)	38	Community service	11	na	18	No	Low	0.99 (0.14 to 1.85)	0.42 (–0.40 to 1.24)
Robin *et al.* [53]	1999	Anorexia nervosa	18	19	14 (11–20)	100	Behavioral family therapy	40	40	12	Yes	Medium	0.72 (0.06 to 1.39)	–0.06 (–0.70 to 0.59)
Sinha and Kapur [39]	1999	Mixed disorders	15	15	14 (14–15)	0	Wait list	10	0	–	Yes	High	1.42 (0.62 to 2.22)	1.42 (0.62–2.22)
Smyrnios and Kirkby [54]	1993	Mixed disorders	10	10/10	8 (5–9)	17	a) Long-term psycho-dynamic therapy b) Minimal contact	11	28	48	Yes	Medium	1.24 (0.28 to 2.19)	a) 0.61 (–0.28 to 1.51) b) 0.39 (–0.49 to 1.28)
Szapocznik *et al.* [55]	1989	Mixed disorders	27	31/30	9 (6–12)	0	a) Structural family therapy b) Recreation control	21	15	12	Yes	High	0.87 (0.33 to 1.41)	a) –0.46 (–0.99 to 0.06) b) 0.18 (–0.34 to 0.70)
Trowell *et al.* [56]	2002	Post sexual abuse	35	36	10 (6–14)	100	Psycho-educational group therapy	30	18	12	Yes	Medium	1.20 (0.69 to 1.70)	0.45 (–0.03 to 0.92)
Trowell *et al.* [57]	2007	Depression	35	37	12 (9–15)	38	Family therapy	25	11	6	Yes	High	1.36 (0.84 to 1.87)	–0.47 (–0.94 to 0.01)

Note: Overall outcome within: pre–post within-group effect size. Overall outcome between: posttest between-group effect size (Hedges's g with 95% CI). na = not applicable; PTSD = posttraumatic stress disorder; RCT = randomized controlled trial; STPP = short-term psychodynamic psychotherapy.

4.20 in Borenstein *et al.*[37] Random effects methods are considered to be more representative of real-world data[38] and yield results that are more generalizable than their fixed effect counterparts.[43]

Statistical heterogeneity between study results was tested for significance using Cochran's Q test and quantified using the I^2 statistic.[44]

Possible publication bias was investigated using visual examination of funnel plots and applying Egger's test.[45]

Sensitivity Analysis

Heterogeneity among findings of primary study was explored using subgroup analyses for the primary outcome. A priori defined analyses were performed according to disorder (personality/personality problems, anxiety disorders, mood disorders, mixed disorders), type of comparison treatment (minimal contact or standard care versus other psychotherapy), group allocation (randomized versus nonrandomized), time of posttest assessment (end of therapy versus fixed assessment times), and study quality (high versus medium or low). Additional a posteriori analyses were performed according to treatment integrity (bona fide versus restricted). The latter analysis was performed to determine whether restraining STPP therapists from using certain aspects of their therapy had an impact on effects.

All analyses were performed using MetaWin 2.0[46] and SPSS 15.0.[47] For tests of significance, an alpha level of $p = .05$ was adopted (Egger's test, $p = .10$). Ninety-five percent confidence intervals were assessed for effect size.

Given the brevity of these treatments and the potential for our review to detect clinically nonmeaningful changes due to data distributions, 2 clinicians reviewed the articles and noted whether remission was reported on primary outcome measures within studies for both STPP treatments and comparator conditions. Where remission rates are reported specifically in papers, they are recorded herein.

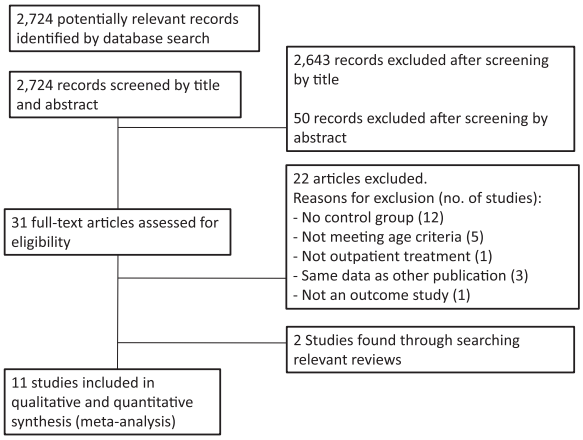
RESULTS

Study Selection

The computerized search yielded 2,746 potentially relevant citations. The screening of titles left 81 potentially relevant studies, with 31 titles remaining after review of abstracts. After review of full text, a total of 9 primary studies were found.

Additional hand searches in reference lists of available reviews and meta-analyses revealed 2 additional studies. This left a total of 11 studies with 655 participants included in the meta-analysis (Figure 1).

FIGURE 1 Selection procedure.



Study Characteristics

Three studies focused on samples with anxiety disorders; another 3 focused on personality or behavior problems; 1 study investigated mood disorders; and the remaining 4 studies included participants with mixed mental disorders. Sample sizes ranged between N = 20 and N = 121. The mean age of participants ranged from 8 to 14 years (mean = 11.3 years, SD = 2.7 years). The percentage of female participants ranged between 0% and 100% (mean = 48.4%, SD = 38.6%).

STPP was compared to a total of 13 comparator conditions. Seven studies compared STPP to another type of psychotherapy (different types of family therapy [4 studies], prolonged exposure, long-term psychodynamic psychotherapy, psychoeducational group therapy). Three studies compared STPP to standard care (treatment as usual [TAU]). Three studies compared STPP to minimal contact or wait-list controls. The mean treatment dose in the STPP conditions ranged from 10 to 40 sessions (mean = 20.0, SD = 10.4). The average treatment in the comparison groups comprised between 0 and 40 sessions (mean = 16.4, SD = 11.0). Only 1 STPP condition was rated as being "restricted" (i.e. not bona fide).[48]

Most studies (9 of 11) were randomized controlled trials (RCTs), 2 studies used a quasi-experimental (quasi-randomized) control group design. Two-thirds of studies (7 of 11) assessed outcome at the end of treatment, whereas the others used a fixed assessment schedule (e.g., at 6, 12, and 24 months after beginning of treatment). All but 2 studies additionally assessed longer-term outcome with follow-up periods ranging

between 6 and 48 months after posttreatment assessment (mean = 17.2 months, SD = 12.2 months).

In 6 studies, outcome was assessed by raters blind to treatment condition, and in 9 studies outcome was assessed by reliable self-report instruments. Only 2 studies used neither blinded raters nor self-report measures for the assessment of outcome. Withdrawals and dropouts were adequately described in 7 studies. The quality of studies as measured by the composite score of the scale proposed by Jadad *et al.*,[35] ranged from 1 (low quality) to 3 (high quality; mean = 2.3, SD = 0.8). Thus, these studies were of moderate quality. The detailed characteristics of each study are presented in Table 1.[49-57]

Synthesis of Results

Within-Group Analyses. STPP for children and adolescents yielded large effects (overall pre–post ES, $g = 1.07$ (95% confidence interval [CI] = 0.80–1.34) (Figure 2). This finding was consistent over almost all outcome domains with the largest effects being for general psychopathology ($g = 1.26$, 95% CI = 0.84–1.68) and somatic complaints ($g = 1.34$, 95% CI = −0.51 to 3.19), and medium to large effects for anxiety $g = 0.78$, 95% CI = −0.54 to 2.10), mood ($g = 0.70$, 95% CI = −0.19 to 1.59), and personality/personality conditions ($g = 0.79$, 95% CI = 0.41–1.16). Regarding interpersonal problems, however, STPP showed only small effects ($g = 0.41$, 95% CI = −0.26 to 1.07). Follow-up analyses reveal effects increasing after termination of treatment in each outcome domain, suggesting further accrual of gains over time (overall, $g = 0.24$, 95% CI = 0.00–0.48) (Table 2).

Statistical heterogeneity among the pre–post results of the primary studies was at least moderate for all of the outcomes (Table 2). At follow-up, however, no statistically significant heterogeneity occurred among the within-group effects.

Between-Group Analyses. In 2 studies,[54,55] STPP was compared to 2 other conditions. Thus, the STPP groups in these studies were included in 2 comparisons each in the between-group analysis.

If compared to all the various comparator conditions, STPP for children and adolescents showed

FIGURE 2 Forest plot of pre-post within-group effect sizes (Hedges's *g*).

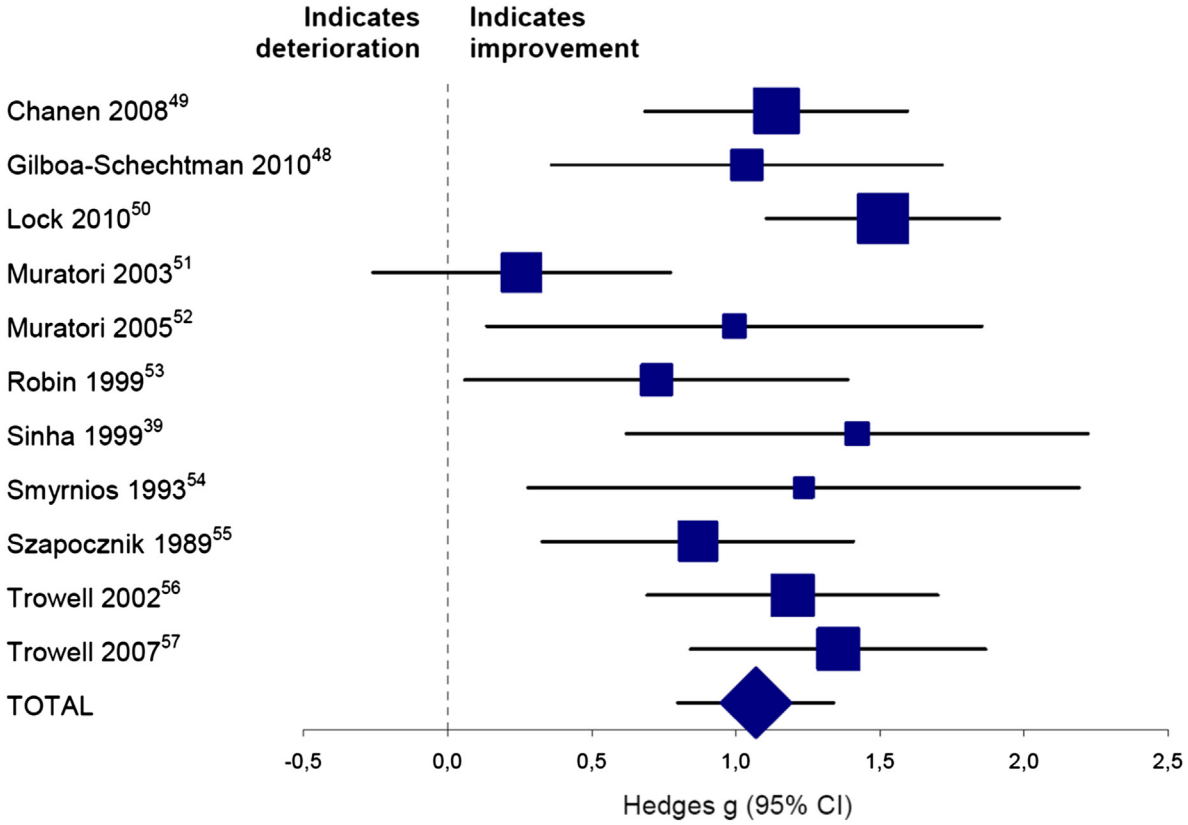


TABLE 2 Within-Group Effect Sizes (Hedges's *g*) of Short-Term Psychodynamic Psychotherapies (STPP) for Children and Adolescents

	Pre–Post Treatment				Post/Follow-up			
Outcome Domain	Studies, n	Participants, n	Effect Size (95% CI)	I^2 % (*p* for Heterogeneity)	Studies, n	Participants, n	Effect Size (95% CI)	I^2 % (*p* for Heterogeneity)
General measures	10	246	1.26 (0.84, 1.68)	69 (0.001)	8	187	0.24 (−0.07, 0.56)	37 (0.14)
Anxiety	3	72	0.78 (−0.54, 2.10)	67 (0.05)	3	72	0.15 (−0.80, 1.10)	0 (0.19)
Mood	3	116	0.70 (−0.19, 1.59)	29 (0.24)	3	72	0.33 (−0.39, 1.04)	0 (0.37)
Somatic	4	122	1.34 (−0.51, 3.19)	93 (0.001)	3	107	0.60 (0.00, 1.20)	0 (0.54)
Personality/Behavioral	7	207	0.79 (0.41, 1.16)	51 (0.06)	5	148	0.15 (−0.18, 0.47)	0 (0.57)
Interpersonal	5	99	0.41 (−0.26, 1.07)	62 (0.03)	4	84	0.02 (−0.63, 0.67)	41 (0.16)
Overall outcome	11	306	1.07 (0.80, 1.34)	44 (0.06)	9	247	0.24 (0.00, 0.48)	20 (0.26)

no difference in effectiveness (overall between-group ES at posttreatment and follow-up assessment $g = 0.03$, 95% CI = −0.29 to 0.34 and −0.27 to 0.32, respectively) (Figure 3). All between-group effect sizes for all outcome domains are presented in Table 3. Performing sensitivity analyses controlling for the type of comparison condition revealed that STPP descriptively yielded larger effects than minimal contact controls (including 1 wait-list group) and standard care ($g = 0.32$, 95% CI = −0.17 to 0.80) but nonsignificantly smaller effects than other active treatments ($g = -0.22$, 95% CI = −0.67 to 0.24) (Table 4).

Again, substantial statistical heterogeneity among the results of the primary studies was observed with only 1 exception (Table 4). In contrast to within-group findings, between-group effects remain heterogeneous in follow-up data.

Risk of Bias Across Studies

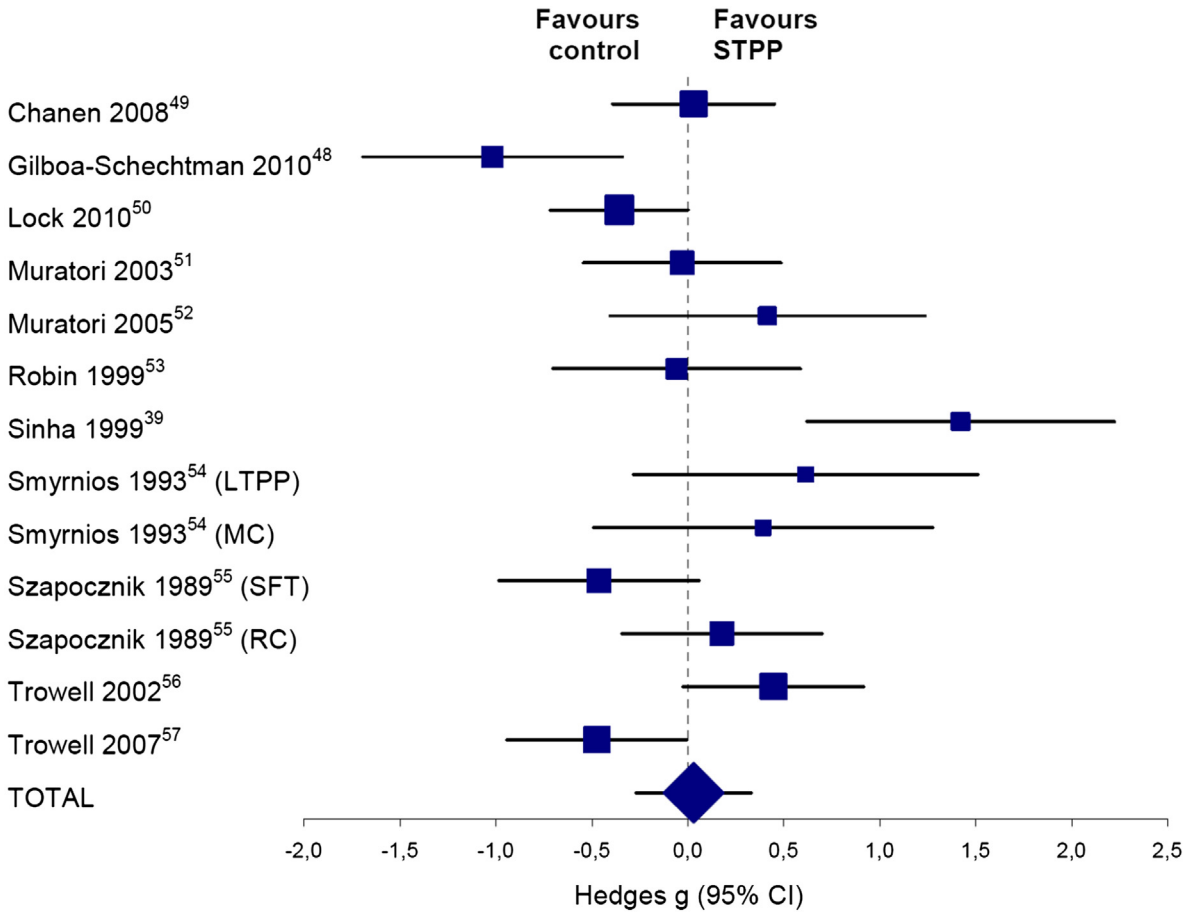
Regarding the within-group results for the primary outcome reduction of overall impairment at the end of treatment (i.e., overall pre–post effect sizes of STPP), no indication of publication bias was observed, either by visual examination of the funnel plot or by calculation of Egger's test ($\beta = 0.05$, $p = .89$). For the between-group effect sizes, however, Egger's test suggests a positive nonsignificant association between effect size and standard error of effect size ($\beta = 0.51$, $p = .08$), indicating small study bias (i.e., smaller studies tending to show higher effect sizes than larger studies).

Sensitivity Analyses

The results of both within-group and between-group sensitivity analyses are displayed in Table 4.

With regard to within-group effects, sensitivity analyses revealed smaller, although still large, pre–post effects of STPP in patients with mixed disorders in comparison to other disorders (anxiety disorders, mood disorders, behavioral or personality problems). STPP showed larger within group effects in studies where it was compared to another active treatment versus studies in which it was compared to minimal contact/TAU control groups, in RCTs versus nonrandomized controlled trials, and in studies in which post assessment was measured directly at termination of treatment versus studies in which post assessment was measured at an a priori defined time point (e.g., 6 months after beginning of treatment). No differences in pre–

FIGURE 3 Forest plot of posttreatment between-group effect sizes (Hedges's *g*).



post effect sizes were found with regard to treatment integrity (bona fide STPP versus not bona fide STPP).

With regard to between-group effects, sensitivity analyses further reveal effects in favor of STPP for patients with mixed disorders but effects in favor of the comparison conditions in patients with mood disorders (the latter being in accordance with the largest between-group ES in favor of the comparison conditions) (Table 1). In addition, sensitivity analyses showed treatment integrity was a relevant confounder: studies where STPP has been implemented bona fide show an average between-group ES of $g = 0.10$ (95% CI = −0.21 to 0.40) in favor of STPP, but 1 study in which STPP has been applied as a strawman comparison showed a between-group ES of $g = -1.02$ in favor of the comparison treatment. Study quality alone, however, turned out to have minor influence. RCTs and non-RCTs did not differ with regard to between-group effect sizes (Table 4).

It should be noted that any of the above subgroup findings might also have been caused by 1 or more of the other confounding variables. Because of the small number of studies, it was not possible to perform a meta-regression analysis to determine the relative influence of the various confounders.

Remission Rates

Five studies reported remissions rates. Lock *et al.*[50] found total (partial or full) STPP remission rates of 66.9% and 75.3% in immediate post and longest follow-up respectively in teens with anorexia nervosa; this compared to 89.1% decreasing to 77.7%, respectively, for family therapy. Robin *et al.*[53] reported that 68.8% of patients with anorexia nervosa achieved target weights at post treatment and maintained this at 1-year follow-up; this compared to 66.7% and 80%, respectively, for behavioral family systems therapy. Trowell *et al.*[57] reported that STPP yielded 74.3% and 100% remissions from depression

TABLE 3 Between-Group Effect Sizes (Hedges's *g*) of Short-Term Psychodynamic Psychotherapies (STPP) for Children and Adolescents

	Pre–Post Treatment				Post/Follow-up			
Outcome domain	Studies, n	Participants, n	Effect Size (95% CI)	I^2 % (*p* for Heterogeneity)	Studies, n	Participants, n	Effect Size (95% CI)	I^2 % (*p* for Heterogeneity)
General measures	10	534	0.02 (−0.40, 0.45)	79 (0.001)	8	418	−0.06 (−0.54, 0.42)	78 (0.001)
Anxiety	3	146	0.03 (−1.71, 1.76)	81 (0.01)	3	146	0.13 (−1.22, 1.48)	70 (0.04)
Mood	4	233	−0.37 (−0.82, 0.08)	11 (0.34)	3	147	−0.29 (−1.00, 0.43)	0 (0.56)
Somatic	4	246	−0.15 (−1.72, 1.43)	91 (0.001)	3	216	−0.24 (−1.92, 1.43)	85 (0.001)
Personality/Behavioral	7	444	0.14 (−0.21, 0.49)	57 (0.02)	5	328	0.12 (−0.20, 0.45)	24 (0.26)
Interpersonal	5	243	0.16 (−0.32, 0.63)	58 (0.03)	4	213	−0.17 (−0.91, 0.56)	78 (0.001)
Overall outcome	11	655	0.03 (−0.29, 0.34)	69 (0.001)	9	539	0.03 (−0.27, 0.32)	57 (0.01)

in immediate post and long-term follow-up; the family therapy comparison group remission rates were 75.7% and 81.1%, respectively. Muratori *et al.*[51] reported 83% and 79% remission rates on the Children's Global Assessment Scale at immediate post and follow-up, whereas the standard care comparison group had only 45% remission at each time period. In this same study, the Child Behavioral Checklist remission rates were 45%, increasing to 66% in follow-up, in contrast to the comparison group, which reached only a 38% remission rate at both times. Thus, in these 4 studies of serious mental disorders, bona fide models of STPP brought high mean remissions rates of 73.3% increasing to 80.8% in follow-up after a short treatment course. In contrast, Gilboa Schechtman[34] reported that the restricted format of STPP used brought only 31.6% and 26.3% rates of "good end state" at post treatment and follow-up; meanwhile, the unrestricted cognitive behavioral therapy (CBT) more than doubled those rates at 73.7% and 63.2%, respectively.

DISCUSSION

Within specific limitations, this limited sample of 11 published studies of short-term psychodynamic psychotherapy provides preliminary data indicating that it may be effective for a range of conditions in children. Moderate to large sustained within group gains were seen across all dimensions except interpersonal problems, which showed small gains only in follow-up. These changes were also reflected in high remission rates in serious mental disorders where these rates were provided, and where treatment was not "restricted."

The effects of STPP were similar overall to those of what were generally robust treatment comparators. Both somatic symptoms and mood symptoms showed effects in favor of comparators, although none of these differences were statistically significant. It is also noteworthy that the comparison psychotherapy modalities also performed well, boding well for the potential of inexpensive brief psychotherapy for the underresourced health sector struggling to serve child and adolescent mentally ill populations worldwide.

Studies ranged across the gamut of borderline personality disorder, depression, anxiety, eating disorder, internalizing disorders, and mixed disorders. The broad range of problem areas in these

TABLE 4 Sensitivity Analyses for Within-Group (w/g) and Between-Group (b/g) Effect Sizes (Hedges's *g*) at Posttest

	Within-Group Analyses				Between-Group Analyses			
Subgroup	**Studies, n**	**Participants, n**	**w/g Effect Size (95% CI)**	**I^2 % (*p* for hetero-geneity)**	**Studies, n**	**Participants, n**	**b/g Effect Size (95% CI)**	**I^2 % (*p* for hetero-geneity)**
Disorder								
Behavioral/personality problems	3	122	1.19 (0.27, 2.10)	53 (0.12)	3	244	−0.17 (−0.74, 0.39)	2 (0.36)
Anxiety disorders	3	68	1.12 (0.31, 1.92)	0 (0.89)	3	133	−0.05 (−2.15, 2.05)	85 (0.001)
Mood disorders	1	35	1.36 (0.84, 1.87)	—	1	72	−0.47 (−0.94, −0.01)	—
Mixed disorders	4	81	0.87 (0.01, 1.72)	59 (0.06)	4	206	0.29 (−0.35, 0.93)	70 (0.01)
Control treatment								
Minimal contact/standard care	6	139	0.93 (0.46, 1.39)	45 (0.11)	6	275	0.32 (−0.17, 0.80)	53 (0.06)
Other psychotherapy	7	204	1.19 (0.93, 1.46)	5 (0.39)	7	417	−0.22 (−0.67, 0.24)	69 (0.004)
Group allocation								
Randomized trials	9	273	1.20 (0.98, 1.42)	0 (0.58)	9	573	0.01 (−0.36, 0.38)	73 (0.001)
Non-randomized trials	2	43	0.54 (−3.97, 5.06)	51 (0.15)	2	82	0.10 (−2.73, 2.92)	0 (0.36)
Posttest assessment								
End of therapy	7	184	1.21 (0.91, 1.50)	9 (0.36)	7	416	−0.04 (−0.50, 0.42)	74 (0.001)
Fixed assessment times	4	122	0.89 (0.14, 1.65)	64 (0.04)	4	239	0.18 (−0.24, 0.59)	0 (0.44)
Study quality								
High quality	5	140	1.15 (0.79, 1.50)	0 (0.70)	5	314	−0.09 (−0.76, 0.59)	81 (0.001)
Medium or low quality	6	166	0.99 (0.42, 1.56)	68 (0.01)	6	341	0.12 (−0.26, 0.50)	45 (0.09)
Treatment integrity								
STPP bona fide	10	287	1.07 (0.77, 1.37)	50 (0.04)	10	607	0.10 (−0.21, 0.40)	64 (0.001)
STPP restricted	1	19	1.04 (0.36, 1.72)	—	1	38	−1.02 (−1.69, −0.34)	—

Note: STPP = short-term psychodynamic psychotherapy.

studies reflects the situations in clinics, where children and adolescents present with a wide range of nonpsychotic psychological problems. Although this diversity of conditions may be considered a limitation, it can also be considered a strength in this body of research, in that it may better reflect real-world samples and may speak to the broad utility of the approach.

The finding that all within-group effects increased in size in follow-up matches what has been found in studies of STPP with adults[58]: the effect of this intervention appears to be not only sustained over time, but increased in what some have referred to as a "sleeper effect."[4,59] This supports the hypothesis that changes in this brief therapy are persistent and that certain blocks to personal and psychological development are positively affected by these interventions.

These findings generally parallel those of adult STPP meta-analyses. However, the finding of limited effects on interpersonal problem measures contradicts meta-analyses of STPP in adults in which interpersonal problems undergo significant and sustained or increased gains over time.[6,10,58] One reason for this may be the relatively small portion of the child and adolescent studies in this meta-analysis including patients with personality disorder or externalizing disorders; the adult STPP studies frequently include these patients.

In the single study using a "restricted" STPP frame, where focus on trauma in posttraumatic stress disorder (PTSD) was interrupted, the STPP model performed poorly. In this study, the STPP intervention appeared to serve as a weak attention control that was easily overpowered by the robust CBT model provided, so it is arguable that this is not a fair test of STPP proper. This finding of such marked disparity between bona fide and restricted treatment model should inform future meta-analyses: sensitivity analyses should be performed to see if such treatments bias results; or, alternatively, consideration should be given to excluding such studies altogether from main analyses.[59]

These findings must be tempered by considering the limitations of this study. First, although only controlled trials were included, individual study quality was moderate on average: this limits conclusions that can be made with this set of studies. Second, samples were often small. Third, only 11 studies were included, yielding 13 comparisons in this meta-analysis. Fourth, heterogeneity was present in some analyses, although we used a more conservative approach (random effects model) to help address this. Fifth, aggregating effect sizes in the same domain may have reduced variance that could have been modeled by the use of hierarchical linear modeling (HLM)/mixed regression. Finally, there may be other reasons (such as regression to the mean, spontaneous remission, or nonspecific effects of treatment) that may account for improvement in the STPP group and that would explain why these patients improved consistently even though a consistent superiority to comparison treatments was not detected. Sensitivity analyses indicated that all variables that have been checked (i.e., type of disorder, comparator condition, randomization, study design, and treatment integrity) affect heterogeneity of outcomes. Because of the small number of studies, however, it is not possible to analyze truly homogeneous subgroups of studies. Thus, these results have to be interpreted with caution.

Research in STPP for children and adolescents lags behind that of other psychotherapy and models, and the limitations set out above mean that it is essential for further, well-designed studies to take place before we can make conclusions about the effectiveness of STPP with greater confidence. Although the studies included in this meta-analysis cover several of the most common mental disorders in children and adolescents, only 1 controlled study of STPP is presently available for any individual type of mental disorder. Following Chambless and Hollon,[60] at least 2 RCTs using the same treatment format are required per mental disorder for a treatment to be considered empirically supported; future research should replicate studies of the same populations in this meta-analysis using STPP. In the pipeline there are a number of well-designed RCT studies in the United States[61] and Europe, including an RCT of STPP for socially phobic adolescents[62] and the largest-ever investigation of STPP with young people, the Improving Mood with Psychoanalytic and Cognitive Therapies (IMPACT) Study in the United Kingdom.[63] We hope that these studies and others will allow, in the near future, a more robust evaluation of the effectiveness and applicability of this treatment. &

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Dr. Abbass is with Dalhousie University. Dr. Rabung is with the University Medical Center Hamburg-Eppendorf and Alpen-Adria-Universität Klagenfurt. Dr. Leichsenring is with the University of Giessen. Ms. Refseth is with Violence Oslo. Mr. Midgley is with the Anna Freud Centre and University College London.

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Correspondence to Allan A. Abbass, M.D., F.R.C.P.C., Professor and Director of Education, Department of Psychiatry, Dalhousie University, Rm 8203 – 5909 Veterans Memorial Lane, Halifax, NS, Canada, B3H 2E2; e-mail: allan.abbass@dal.ca

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