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Psychodynamic psychotherapy for children and adolescents: an updated narrative review of the evidence base

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While the evidence base for psychodynamic therapy with adults is now quite substantial, there is still a lack of research evaluating the effectiveness of psychodynamic therapies with children and young people. Those studies that have been carried out are also not widely known in the field. To help address the second point, in 2011, we carried out a review of the evidence base for psychodynamic psychotherapy for children and adolescents, which identified 35 studies which together provided some preliminary evidence for this treatment for a range of childhood disorders. The present study is an updated review, focusing on research published between March 2011 and November 2016. During this period, 23 additional studies were published, of which 5 were reports on randomised controlled trials, 3 were quasi-experimental controlled studies and 15 were observational studies. Although most studies covered children with mixed diagnoses, there were a number of studies examining specific diagnostic groups, including children with depression, anxiety and disruptive disorders. whilst the quality of studies was mixed, some were well-designed and reported, and overall indicated promising findings. Nevertheless, further high-quality research is needed in order to better understand the effectiveness of psychodynamic psychotherapy across a range of different disorders, and to ensure that services can provide a range of evidence-based treatments for children and young people.

Keywords: child and adolescent psychotherapy; evidence-based practice; effectiveness; efficacy; outcome studies; psychodynamic psychotherapy

Introduction

Psychodynamic psychotherapy with children and adolescents is an approach to working with young people that draws on psychoanalytic ideas, whilst also integrating ideas from other disciplines, including developmental psychology, attachment theory and neuroscience (Lanyado and Horne, 2009; Alvarez, 2012; Kegerreis and Midgley, 2014). Although the term 'psychodynamic therapy' covers a range of approaches, most of them share what Kegerreis and Midgley (2014) refer to as:

> … the central idea … that behaviour, emotions and responses have an inherent logic and meaning – a way in which the child's problems, despite their apparent unhelpfulness, make some kind of emotional sense. Their roots lie in the internal world of the child that has been built up from his earliest experiences and relationships
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> (Kegerreis and Midgley, 2014: 38)

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According to the Association of Child Psychotherapists, the professional body for psychodynamic child psychotherapy in the UK, those using this approach are:

> … trained to carefully observe a child or young person and respond to what they might be communicating through their behaviour and play. Through the relationship with the therapist in a consistent setting, the child or young person may begin to feel able to express their most troubling thoughts and feelings. Confused, frightened, hurt, angry or painful feelings can gradually be put into words rather than actions. The therapist can help the child make sense of their own experience and develop their own individuality and potential
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> (Association of Child Psychotherapists, 2016)

In 2011, we published a critical review of the evidence base for psychodynamic therapy with children and adolescents (Midgley and Kennedy, 2011). Reviews offer a summary and critical appraisal of current literature relevant to a research question, and hold an important place in research by synthesising the findings from all relevant studies, to establish whether scientific findings are consistent and can be generalised across populations, settings and treatments. In the 2011 review paper, we identified 34 studies, published before March 2011, which formally evaluated therapy outcomes for children aged 3–18. Of these studies, 9 were randomised controlled trials (RCTs), 3 had a quasi-experimental design, 8 were controlled observational studies and 14 were observational studies without a control group. Psychodynamic therapy delivered in a group or dyadic format, or with children below the age of three, was not covered by the earlier review, although the evidence base for psychodynamic parent–infant psychotherapy has been reviewed in a meta-analysis conducted by Barlow *et al.* (2015).

With regard to the practice and clinical implications of the 2011 review, the following conclusions were cautiously drawn:

- The existing studies of psychodynamic therapies with children and adolescents indicate that this treatment can be effective for a range of childhood disorders, as measured by well-validated, standardised research instruments.
- Where direct comparisons have been made to other forms of treatment, findings have been mixed, but psychodynamic treatment of children and adolescents overall appears to be equally effective to comparison treatments.
- There are some indications that psychodynamic treatment may have a different pattern of effect to other treatments. For example, when compared to systemic family therapy, depressed children appeared to recover more quickly when receiving family therapy, whilst improvements for those receiving individual psychodynamic therapy appeared to be slower but more sustained, with some young people continuing to improve after the end of treatment.
- A similar pattern of more gradual improvement, but with improvement continuing beyond the end of treatment, was found in a study of children with emotional disorders, giving some evidence of a possible ‘sleeper effect’ in psychodynamic therapy.
- Certain children appear to be more responsive to psychodynamic treatment than others. Where age groups have been directly compared, younger children appear to benefit more than older ones, with the likelihood of improvement during treatment declining with age.
- However there are also studies that suggest that older children and adolescents can also benefit from psychodynamic therapy.

- Certain disorders appear to be more responsive to psychodynamic treatment than others. Children with emotional or internalising disorders seem to respond better than those with disruptive or externalising disorders.
- Children and adolescents with disruptive disorders are more difficult to engage and more likely to drop out of psychodynamic treatment; but where they have engaged in treatment there is some evidence that it can be effective. There is an evidence base emerging for the treatment of children and young people with depression, which in the UK led to psychodynamic treatment being identified as an evidence-based treatment in the NICE guidelines on child and adolescent depression (NICE, 2005) and as a treatment option in the American Academy of Child and Adolescent Psychiatry Practice Parameter on Depressive disorders (Birmaher *et al.*, 2007). In samples that can be assumed to have lesser degrees of difficulty, either because of the setting or selection criteria, short-term and even minimal interventions were shown to be effective.
- When children present with more marked difficulties, for instance with conduct disorder or severe emotional disorder, the intensity of the treatment may be important.
- There were some indications of potential adverse affects, for example that if psychodynamic child psychotherapy was offered without parallel work with parents, this could have a negative effect on family functioning and that more intensive work could, in some cases, add to an adolescent's sense of 'stigma'.

A number of conclusions about the nature and quality of research in this field were drawn in the previous review paper (Midgley and Kennedy, 2011). The key points that emerged were that studies tended to have heterogeneous clinical populations, considerable variability in the interventions delivered, relatively small sample sizes and significant methodological limitations, making it difficult to draw any firm conclusions from the studies. Furthermore, studies often did not reference each other, build on each other and they tended not to be designed in such a way that allowed meaningful comparison of findings, restricting the development of cumulative knowledge about the evidence base for this type of treatment for children and adolescents.

Since the 2011 review was published, a lively debate has continued in the field about the science and the politics of evidence-based practice, both in the broader child mental health literature (see for instance Kennedy, 2015), and in regard to the field of psychodynamic child psychotherapy specifically (Kegerreis, 2016; Rustin, 2016). This includes debates about the most appropriate ways to evaluate the effectiveness of therapies, and in particular the prominence that is given to randomised controlled trials (RCTs). Despite some caution about whether it is possible to manualize psychodynamic therapies, a number of treatment manuals for versions of psychodynamic therapies with children have been published since 2011 (see for example Göttken and von Klitzing, 2013; Hoffman *et al.*, 2015; Cregeen *et al.*, 2016) and in addition, two further reviews of the evidence base for psychodynamic child therapy have been published, each with a somewhat different focus, and drawing somewhat different conclusions. Given the significance of these reviews, we will discuss each of them in some depth.

Palmer *et al.*'s (2013) review is of great interest because it incorporates many of the same studies as our 2011 paper, yet reaches somewhat different conclusions. As such, it illustrates the point that even when using a systematic approach, rather different conclusions can be drawn based on the same studies. This may partly be due to the different inclusion criteria of the two review papers (see below), but also reflects the

fact that even systematic reviews involve the making of judgements, and so findings can be interpreted in different ways.

Palmer and her colleagues aimed to identify, describe, and review studies published before May 2012, evaluating the efficacy and/or effectiveness of psychodynamic treatment for children and adolescents with mental health problems, by means of a highly systematic review of the relevant databases. Unlike our 2011 review, the Palmer review included studies that evaluated psychodynamic therapy delivered in a group or parent–child format, and included 'studies exploring the effectiveness of therapies that integrate significant psychodynamic components into a multimodal package' (ibid.: 154), such as residential treatments informed by a psychodynamic approach, or attachment-based family therapy (Diamond, 2014). They justified this broader inclusion on the basis that the distinction between different modalities of treatment is no longer as clear-cut as it may once have been, with many treatments, such as mentalization-based treatment, explicitly integrating a psychodynamic approach with elements from other effective therapies. In order to improve the transparency of the review process, the Palmer study also made use of RCT-PQRS (Gerber *et al.*, 2011), a scale developed to evaluate the quality of RCTs, made up of 24 items relating to study design, reporting, and execution.

Based on their review, Palmer and her colleagues (2013) drew the following key conclusions (ibid.: 175):

- Currently there is some evidence to support the use of psychodynamic psychotherapy for children whose problems are either internalising or mixed but with an element of anxiety and emotional disorder.
- There is also evidence that the support and inclusion of parents is an important aspect of this treatment.
- There is some evidence that effects tend to increase following the end of treatment.
- There is evidence that behavioural problems are more resistant at least to a classical, insight-oriented psychodynamic approach.
- In line with the grouping together of family and individual approaches, the evidence is stronger for younger children, where parents are almost always included in treatment, and where a dyadic therapeutic model exploring the dynamics of the parent–child relationship may be especially helpful.

The authors concluded by arguing that, in light of the limitations of the evidence base for Cognitive Behavioural Therapy (CBT) in severe childhood disorders, further research into the effectiveness of alternative treatments, including psychodynamic therapy, were still called for. But somewhat controversially, they also predicted that:

> … the techniques that have evolved as part of this approach will survive (they are effective, and clinicians, being pragmatic people, will continue to discover and use them), but they will be increasingly absorbed into alternative models, and the unique approach pioneered by Freud and outlined in this issue might then not continue.
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> (Palmer *et al.*, 2013: 175)

In the same year as the Palmer *et al.* review was published, Abbass and his colleagues published a meta-analysis which focused specifically on the evidence base for short-term psychodynamic psychotherapy (STPP) with children and adolescents (this being

individual therapy of less than 40 sessions) (Abbass *et al.*, 2013). Sufficient statistical *power* is required in order to detect differences between treatment groups in outcome studies. In taking a meta-analytic approach, the authors were able to pool results from a range of different studies, thereby helping to address the problem of low statistical power that handicaps much psychodynamic psychotherapy outcome research. Although including a smaller number of studies (11), these were all randomised controlled trials, generally considered the 'gold standard' in psychotherapy outcome research. The authors performed a sensitivity analysis and evaluated the risk of bias in each of the studies included in the review. The key findings of the study by Abbass and his colleagues were as follows:

- The 11 studies included a total of 655 patients covering a broad range of conditions including depression, anxiety disorders, anorexia nervosa, and borderline personality disorder.
- 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 towards increased gains.
- STPP did not separate from what were mostly robust treatment comparators, but there were some subgroup differences.
- As with the other reviews discussed here, the authors noted that heterogeneity was high across most analyses suggesting these data need to be interpreted with caution.

Perhaps the most intriguing finding, which was consistent across the three review papers, was the support found for a 'sleeper effect', whereby the gains from therapy continued to increase *after* the end of therapy. The same conclusion was drawn by a much broader review of the research on counselling and psychotherapy with children and young people (McLaughlin *et al.*, 2013), although based primarily on a review of the same studies.

While these findings suggest that this treatment modality is potentially effective in treating a range of psychological problems, with sustained effects, it is difficult to draw firm conclusions because the literature is sparse and there is a lack of high-quality studies. The majority of studies have had small sample sizes, many of which were conducted in naturalistic settings, lacking a suitable control group and limiting their generalisability. There are an insufficient number of high-quality studies using comparable treatments to aggregate findings to draw any firm conclusions about the efficacy and effectiveness of psychodynamic psychotherapy for any disorder (Abbass *et al.*, 2013; Palmer *et al.*, 2013). However, our 2011 paper concluded by noting that the number of studies evaluating the efficacy and/or effectiveness of psychodynamic therapy with children and adolescents had increased decade by decade since the 1970s, and that at the time of writing the 2011 review there were a number of ongoing studies that were evaluating psychodynamic therapy for children with specific diagnostic groups, and that these studies appeared to be using more sophisticated research designs. Since this time, most of these studies have been completed, and the past six years has seen the continued development of the evidence base for this modality. Notably, the IMPACT trial, the largest ever trial of psychoanalytic psychotherapy in adolescence was recently published, marking a crucial development in the evidence base for this treatment.

Given the rapid developments in this field, an updated review of the evidence base is warranted. Thus, the aim of this review paper is to provide such an update on the evidence base for psychodynamic therapy with children and adolescents published since March 2011, making use of the same methodology used in our earlier paper. In particular, the aims of this review are:

(1) To identify and describe studies of treatment effectiveness/efficacy for psychodynamic psychotherapy with children and adolescents published since March 2011.
(2) To examine outcomes in different clinical groups of children and adolescents.
(3) To assess the degree to which these more recent studies support, challenge or add to the conclusions drawn in our earlier (2011) review.
(4) An additional aim of this study, not performed in the earlier review, was to assess the quality of each study included in the review, by rating each study on the Quality of Evidence Score checklist (Becker and Curry, 2008).

Review methods

As this paper is an update of the 2011 review paper, the review methods in this study follow those of Midgley and Kennedy (2011). The search strategy followed that outlined in an earlier publication (Kennedy, 2004), covering the period from March 2011 to November 2016, and including online first publications (thus given publication dates may go beyond the immediate search period). Key psychology and psychiatry databases were searched, using the same search terms as the 2004 publication. Publication types included were clinical trials, experimental, follow-up, longitudinal, prospective and treatment outcome studies. The only change to the review methods of the earlier review paper is the inclusion of a systematic assessment of the quality of each study, as set out in more detail, below.

Inclusion and exclusion criteria

The inclusion and exclusion criteria for this review followed that of the earlier 2011 review, which were:

(1) *Age*. Studies of children and adolescents were included, where the majority of participants were between the age of 3 and 18 years old, and no participant was over the age of 25. Studies that focused on parent–infant work were excluded.
(2) *Interventions*. Studies were included where they involved individual psychodynamic or psychoanalytic psychotherapy. Short- and long-term therapies were included. Studies were included where the researchers specified the treatment as psychodynamic or psychoanalytic, and were excluded if they did not specify that the treatment was psychodynamic or psychoanalytic.
(3) *Study focus*. Studies were included if they were primarily concerned with evaluating treatment outcomes. Studies focusing on the process of therapy and clinical case reports were excluded.
(4) *Study quality*. Studies were not excluded based on quality, but each study that met the inclusion criteria for this review was assessed for quality.

(5) *Other criteria*. English language publications were systematically included, although when identified during the search non-English studies were also included. Additional studies were included if identified by key informants. Unpublished studies were included, but were identified as such.

Data extraction

Studies that met inclusion criteria for this review were summarised and are presented in a data extraction table (Table 1A, see Appendix). A critical appraisal of each study was undertaken. Studies were assessed for quality using a checklist designed for this purpose, which assesses studies across 14 methodological attributes which are judged as being met (1) or not met or unclear (0). One item has a possible rating of 0–2, which is based on intent-to-treat (ITT) analysis (2 = ITT analysis; 1 = available case analysis; 0 = treated case analysis). ITT analysis includes all subjects according to their randomised treatment assignment, which ensures that treatment groups are similar. These ratings provide a Quality of Evidence Score (QES), with higher scores reflecting higher study quality (Becker and Curry, 2008). Requirements for a 'high quality' study include: a sufficiently large sample to detect differences between groups; random allocation to treatment arms; outcome assessors blind to treatment allocation; the use of standardised outcome measures; the use of a manualized treatment; treatment fidelity assessed by independent raters; and a long-term follow-up period. It follows from these criteria that most naturalistic pre–post-outcome studies will be rated lower than a randomised controlled trial, because several of the features of a 'high-quality study' (for example, random allocation) do not take place in naturalistic outcome studies.

The second author rated the studies, and the studies were double rated by the third author. Inter-rater reliability was excellent between the raters. The study ratings are presented in Table 2A (see Appendix).

Findings of this review: outcomes for children and young people

23 studies met the inclusion criteria for this review paper. The studies are critically discussed below in relation to the specific diagnostic groups they report on.

Mixed diagnoses

The majority of the studies included in this review paper were naturalistic, and therefore reported on the outcomes of children presenting with a range of difficulties receiving psychodynamic psychotherapy.

The only study of mixed diagnoses to use an RCT design was carried out in Germany. The study examined the effects of psychodynamic treatment in an inpatient setting, in adolescents who met criteria of a mixed conduct and emotional disorder at baseline. 68 adolescents (14–19 years old) were recruited into the trial, and were randomised to receive psychodynamic treatment in an inpatient setting or to the waitlist group, after which they received inpatient treatment (Salzer *et al.*, 2013). The authors describe the design as a 'hybrid efficacy-effectiveness RCT', with the aim of drawing on the strengths of both RCT's and effectiveness studies. The treatment group had a significantly higher rate of remission (OR = 26.41), and significantly better outcomes on the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) ($d = 0.90$).

These effects were maintained at six-month follow-up. The treatment group did not have significantly better outcomes than the control group on the Global Severity Index (GSI), an indicator of psychological distress. This is the first controlled study of a sample with significant comorbidity, providing preliminary evidence for the use of psychodynamic treatment in young people with complex difficulties.

Other studies of mixed diagnoses have utilised naturalistic and observational designs. Stefini and colleagues carried out a study on a heterogeneous sample of 71 children and adolescents (6–18 years old), who met criteria for a mental disorder as determined by ICD-10. Participants had a range of presenting problems (51% internalising problems; 11% externalising problems; 38% mixed diagnoses). They received long-term psychodynamic psychotherapy, with an average 82 sessions (SD = 52.6) (Stefini *et al*., 2013). Three quarters of participants achieved reliable and clinically significant change (ES = 1.95), as measured by the Severity of Impairment Score for Children and Adolescents (SIS-CA). Further gains were made by the one-year follow-up, with 87% having achieved good outcomes on the SIS-CA. At baseline, 22.5% were rated as having secure attachments. By the end of treatment, those with secure attachments had increased to 63.4%, and this figure increased to 76.6% by one-year follow-up. The authors concluded that there is support for the hypothesis that long-term psychoanalytic treatment can shift clients' attachment towards a secure style. Participants with both secure and insecure attachments were successfully treated with psychoanalytic treatment in this study, but those with insecure attachments required more sessions than those who were securely attached. The study was limited by the lack of control group, and notably, the study also used a measure of attachment developed specifically for this study: the Heidelberg Attachment Style Rating for Children and Adolescence (HASR-CA), rather than an existing and validated measure of attachment, which makes it difficult to draw firm conclusions from this study. Further research is required utilising validated measures of attachment.

Another observational study had a sample of 218 participants, aged 14–24 years (Edlund and Carlberg, 2016), who received psychodynamic psychotherapy in a naturalistic setting. The authors report that participants showed a significant improvement in general functioning with large effect sizes, as measured by the CGAS ($d = 1.54$) and the GAF ($d = 2.02$), as well as decreased symptom severity with a medium–large effect size, as measured by the SCL-90 ($d = 0.76$), at the end of treatment. Those receiving longer term treatment improved more than those whose treatment was shorter in duration. This was a naturalistic study drawing on cases from a clinic in Sweden between 2002 and 2009. However, it is important to note the limitations of this study, as there was no control group, participants were not followed up beyond the end of treatment, and they excluded participants from the analysis if they attended fewer than six sessions.

Another naturalistic study, with a sample of 207 participants aged 4–12 years (Edlund *et al.*, 2014) found psychodynamic psychotherapy was associated with a significant improvement in functioning, as measured by the CGAS, with a large effect size ($d = 1.35$). The authors reported that 40% of participants achieved clinically significant change on the CGAS. Effect sizes were large for all diagnostic groups (anxiety; attention-deficit and disruptive behaviour; pervasive developmental; adjustment disorders). Improvement measured on the SDQ subscales were found with small–medium effect sizes ($d = 0.21$–0.50). Younger children (4–6 year olds) showed larger improvements in general functioning at the end of treatment than older children (10–12 years old). The study was naturalistic, conducted retrospectively using a clinic

research database. This was an uncontrolled study, with no control group or follow-up, limiting the extent to which any firm conclusions can be drawn from this study.

One study of 28 young people receiving psychodynamic psychotherapy found that adolescents, their parents and therapists reported a significant reduction in symptomology by the end of treatment, across measures of somatic, mental and social impairment. The strengths of this study are that change was reported from multiple perspectives (Seiffge-Krenke and Nitzko, 2011). The authors report a waitlist condition, but do not report the outcomes of the control group, and therefore while the study does suggest the therapy was effective, it cannot be reported whether this improvement was beyond what would be been observed by spontaneous remission.

Two publications have resulted from a naturalistic study of adolescents receiving psychodynamic psychotherapy in outpatient clinics in Israel. The sample comprised of 72 adolescents (aged 15–18), and the comparison group comprised of a non-clinical community control group. The authors report that those in the treatment group became less rigid in their interpersonal patterns and improved significantly in their symptoms. No such changes were observed in the community sample (Atzil-Slonim *et al.*, 2011). The second published study from this research focused on adolescents' changes in internal representations of relationships with their parents. The authors reported that adolescents' internal representations of their relationships with their parents changed significantly throughout treatment, as the treatment group showed an increased incidence of 'close and supportive interactions' and abandonment representations reduced (Atzil-Slonim *et al.*, 2013). The limitations of these studies were the lack of clinical control group, which makes it impossible to account for potential spontaneous changes in a clinical population. The authors also excluded those who dropped out of therapy from the analyses.

A naturalistic follow-up study drawing on hospital records in a child psychiatry setting examined the outcomes of all children below the age of 16 between 1996 and 2005, who received individual psychotherapy. Their sample comprised of 118 children (aged 4–15), and a comparison group of 118 age and sex-matched children who received other psychosocial treatments (Ryynänen *et al.*, 2015). While this study was not specifically about psychodynamic treatment, 93% of the therapists were psychodynamic. The authors found that children with internalising problems benefitted the most from psychotherapy, while family violence and child protection intervention were associated with poorer prognosis among psychotherapy patients. As this study was based on hospital records, it reflects routine clinical practice, yet the conclusions that can be drawn are limited as although 93% of the therapists were classed as psychodynamic therapists, the extent to which they drew on the psychodynamic model with these cases is unknown as treatment integrity was not measured. A further limitation of this study is that long-term follow-up was based on hospital records of future psychiatric care. It is therefore unknown whether clients may have sought treatment elsewhere or if they had future problems but did not seek help.

A small-scale study sought to examine the feasibility and clinical use of a Goal Based Outcome Measure (GBOM; Law, 2009), a collaborative measure for patient and clinicians to use together to establish appropriate and achievable goals for treatment. Goals are rated on a 0–10 scale, with 0 reflecting the patient not having dealt with the goal at all, and 10 reflecting the goal having been fully met. 34 participants receiving psychoanalytic psychotherapy (either individual or group) in a CAMHS setting in the UK used the GBOM (Emanuel *et al*., 2014). The mean improvement was 3.2 points on the scale, which reached statistical significance. This suggests psychoanalytic treatment was beneficial for these young people in terms of their own goals for treatment.

However, it is important to note that this study was not specifically aiming to report on the outcomes of psychoanalytic treatment, as the focus was on reporting the feasibility of using the GBOM, so at this stage it is unclear what should be considered as clinically meaningful change on this measure. Furthermore, the lack of control group makes it impossible to know what spontaneous improvements may have been observed in those not receiving treatment.

Another observational study was carried out, to investigate psychodynamic psychotherapy in a sample of 30 children and adolescents (Krischer *et al*., 2013). The authors report significant improvements on the CBCL, with medium effect sizes, although parent-rated quality of life was not found to improve over the course of the therapy. However, the study had a small sample and lacked a control group.

A recent observational study was published which reported on the outcomes of 23 children and adolescents, who received weekly psychodynamic psychotherapy, and their parents received fortnightly support sessions alongside their child's therapy (Gatta *et al*., 2016). After one year of treatment, a statistically significant reduction in internalising symptoms was found. The authors also assessed family interactions during the therapy, from which they found that family interactions remained similar by the one-year follow-up. The study was a small-scale pilot study, lacking a control group, limiting the conclusions that can be drawn from this research.

One study carried out a long-term follow-up with eight males who had received psychoanalytic psychotherapy in adolescence for a range of mental health problems (Sugar and Berkovitz, 2011a). They completed a questionnaire between 20 and 30 years after their psychoanalytic psychotherapy in adolescence began. The authors reported that some had good outcomes and had fulfilling adulthoods, while those who had poorer outcomes were those who had had a poorer relationship with their therapist, higher symptom severity and physical illness during adolescence. While this study benefits from a long-term follow-up, this was an uncontrolled study, and the authors did not use a standardised outcome measure, making it difficult to draw any strong conclusions from this research.

Depression

Three studies in this review focused specifically on psychodynamic psychotherapy in the treatment of depression.

The largest and best-designed RCT study of psychoanalytic psychotherapy to date is the IMPACT study; a pragmatic trial comparing two specialist therapies, STPP and CBT, with a brief psychosocial intervention (BPI), in the treatment of depression in adolescents (aged 11–17) (Goodyer *et al*., 2017). 465 participants who met criteria for moderate to severe depression were recruited into the trial. Participants were clinically referred and therefore reflect clients routinely referred into NHS services in the UK, with 47% of the young people receiving STPP having one or more co-morbid psychiatric diagnosis (most frequently generalised anxiety disorder, social phobia, post-traumatic stress disorder and oppositional defiant disorder), 35% having a recorded lifetime suicide attempt and 54% reporting non-suicidal self-injury episodes.

Young people in all three arms of the study were found to have sustained reduced depressive symptoms. STPP was found to be equally as effective as CBT and BPI in maintaining reduced depressive symptoms a year after the end of treatment, with an average of 49–52% reduction in depressive symptoms one year after the end of treatment. There were no significant differences in total costs between the three

treatment groups by the end of study. Although no superiority effects for STPP at long-term follow-up were found, 85% of adolescents receiving STPP no longer met diagnostic criteria for depression one year after the end of treatment, compared with 75% and 73% in the CBT and BPI arms respectively. This difference was not found to be statistically significant, but does provide an indication of the effectiveness of STPP in terms of long-term depression remission.

Further improvements were observed in the young people receiving STPP, including a 59% reduction in anxiety symptoms, 43% reduction in obsessive-compulsive symptoms and a 45% reduction in functioning impairment, which were similar to the improvements observed in the other two treatment arms. Only 4% of young people in the STPP treatment arm had relapsed by the time of the one-year follow-up, compared to 11.6% in BPI and 16.5% in CBT. However the study was not powered for treatment group comparison of diagnostic remission, and these differences were not statistically significant. Nevertheless, these findings are the strongest support to date for the long-term effectiveness of psychoanalytic psychotherapy in the treatment of adolescent depression, which can be observed across a range of symptoms. The strengths of this study were the large sample, long-term follow-up, the use of standardised outcome measures, the fact that outcome assessors were blind to treatment allocation, and that treatment fidelity was assessed by independent raters.

The 2011 review paper reported on Trowell *et al.* (2007) RCT comparing psychodynamic psychotherapy and family therapy in the treatment of depression in children and adolescents. Since then, a study carrying out secondary analyses on data from this study has been published. The secondary analysis focused on the effect of psychodynamic psychotherapy and family therapy on self-esteem and social adjustment (Kolaitis *et al*., 2014). The authors found significant improvements in depression severity, self-esteem and social adjustment at the end of treatment and six-month follow-up in both treatment arms, suggesting that both treatments were equally effective across these domains. The authors also found a significant interaction between type of treatment and social adjustment with friends, revealing that social adjustment with friends improved more for those who received psychodynamic psychotherapy than those in the family therapy arm.

A smaller study was published in 2013 which reported on the outcomes of 53 children and young people (3–21 years old) who took part in a quasi-randomised study (Weitkamp *et al*., 2014). Participants were allocated to either a psychoanalytic psychotherapy or a waitlist condition. At the end of therapy, there was a reduction in depression pathology in the treatment group, with a large effect size based on child ($d = 0.81$) and parent report ($d = 1.09$). A significant reduction in depressive pathology was also found in the waitlist group based on parent report ($d = 0.64$), but not based on child report. In the treatment group, an improvement in quality of life was also found with moderate to large effect sizes (child report $d = 0.56$; parent report $d = 0.83$). At one-year follow-up, 53% of the treatment group did not have any psychiatric disorder, suggesting potential sustained long-term effects of psychoanalytic psychotherapy. However, data were not available on quality of life or long-term psychiatric diagnoses in the waitlist group. While this study offers some further support for the use of psychoanalytic psychotherapy for young people with depression, no firm conclusion can be drawn from this study as it was not sufficiently powered, limited data were available with the waitlist control group and participants were not randomised to treatment groups, as allocation was based on the availability of clinicians.

Taken together with the studies reported in our 2011 review, these additional studies support the view that young people with moderate to severe depression have at least equally good outcomes in psychodynamic therapy as in other well-supported approaches, such as CBT and family therapy; and supports the guidance of the National Institute for Health and Care Excellence (NICE) that STPP should be made available as part of clinical care for this population. However, the fact that psychodynamic therapy has not been compared to a waiting-list or no-treatment group in a randomised controlled trial limits the confidence with which we can conclude that STPP is responsible for the clinical changes observed, which explains why psychodynamic therapy did not feature as an empirically supported treatment in the network meta-analysis carried out by Zhou *et al*. (2015).

Self-harm

The only study in this review to investigate treatment for reducing self-harm compared Mentalization-Based Treatment for Adolescents (MBT-A) with Treatment As Usual (TAU). MBT-A was a year long, manualized, psychodynamic treatment, comprising of weekly individual sessions and monthly family sessions. 80 participants were recruited into this pragmatic RCT (Rossouw and Fonagy, 2012). The authors found significant reductions in self-harm and risk-taking behaviours in both groups (as measured by the Risk Taking and Self-Harm Inventory for Adolescents; RTSHIA; Vrouva *et al.*, 2010). These reductions were significantly greater for the MBT-A group, with a 44% recovery rate in the MBT-A group compared to 17% in the TAU group. The MBT-A group also made moderately greater improvements in depression scores compared to the TAU group ($d = 0.49$). No difference in risk-taking were found between the groups at 12 months, although it is important to note that the MBT-A group had significantly more risk-taking at baseline than the TAU group. Overall the study found modest effect sizes, but does suggest potential in this treatment for reducing self-harm in young people. This was a well-designed study, yet it did have a relatively small sample size and is the only known study to investigate a psychodynamic intervention in the treatment of self-harm. Larger scale studies are required to strengthen the evidence base for the treatment of self-harm.

Anxiety disorders

Two studies focused on samples of youth with anxiety disorders, both of which were pilot studies with small sample sizes. The first of these studies investigated manualized psychodynamic psychotherapy which was delivered twice weekly over a 12-week period (Milrod *et al.*, 2013). Ten participants were recruited, aged 8–16, all with a diagnosis of an anxiety disorder. Except for the one participant who dropped out, all participants no longer met criteria for their primary diagnosis by the end of treatment, and clinically significant improvements were found across outcome measures, including anxiety symptoms and general functioning. These gains were maintained at six-month follow-up. However, the study was limited by a very small sample size and lack of control group.

The limitations of the previous study were somewhat addressed in a later study, which used a quasi-experimental design. 30 children aged 4–10 years old who met criteria for an anxiety disorder were recruited. 18 were allocated to receive 20–25 sessions of Psychoanalytic Child Therapy (PaCT), and 12 were allocated to a waitlist

control group, after which they also received PaCT (Göttken *et al*., 2014). PaCT is a play-focused and emotion-oriented manualized psychoanalytic treatment. Based on intent-to-treat analyses, 60% of the treatment group no longer met diagnostic criteria for any anxiety disorder, whereas in the waitlist group, no participants had remitted by the end of the waitlist. Parent and teacher reported improvements were statistically significant on the SDQ subscales, and child internalising problems as measured by the Berkeley Puppet Interview (BPI; Measelle *et al.*, 1998). At six-month follow-up, the effects of treatment were maintained on parent and teacher report, although the child report did not show significant effects of treatment. There was no evidence of a sleeper effect in this study. The limitations of this study were a small sample and participants were not randomised; allocation was determined by the availability of therapists and outcome assessors were not blind to treatment allocation, which poses the risk of bias in the study. While these studies offer some preliminary support for the use of psychoanalytic psychotherapy in the treatment of anxiety disorder in children and adolescents, these studies were uncontrolled with small samples so it is impossible to draw any firm conclusions about the effectiveness of psychoanalytic treatment for anxiety disorders.

Disruptive behaviour disorders

One study investigated psychoanalytic psychotherapy in the treatment of disruptive behaviour disorders. 73 participants, aged 6–11 years old, with oppositional defiant disorder and/or attention deficit hyperactivity disorder were recruited into this controlled observational study (Laezer, 2015). Participants were allocated to receive psychoanalytic psychotherapy, or behavioural therapy and/or medication. Both treatment groups demonstrated significant symptom reduction, with no significant differences between the two groups. An interesting finding in this study was that the majority of children in the behavioural/medication group were still receiving medication at follow-up, with no better results than the psychoanalytic psychotherapy group. The authors note that it is generally assumed that psychoanalytic psychotherapy takes longer than any other form of treatment, whereas in fact medication was found to be the longest form of treatment, suggesting that psychoanalytic psychotherapy may offer a viable alternative to medication. The study had a relatively small sample size and allocation to the treatment arms was naturalistic, so these findings should be viewed as preliminary, and future studies should utilise an RCT design.

Personality disorders

Two studies investigated psychodynamic psychotherapy in the treatment of borderline personality disorder. One of these was an observational study of 28 participants receiving psychodynamic psychotherapy (Salzer *et al*., 2014). At the end of treatment, 39% of the participants had remitted and statistically significant improvements were observed on a range of other measures. This study may be viewed as preliminary support for the use of psychodynamic psychotherapy in the treatment of personality disorders. However, given the small sample, lack of control group and long-term follow-up, further research is needed to draw any conclusions about the effectiveness of this treatment in this clinical population.

The second study reported on three females who were treated for borderline personality disorder during their adolescence, and were followed up 15–20 years later.

The authors concluded that all three were considered to be in remission and had 'fulfilling, successful adult lives, despite not being entirely free of psychopathology' (Sugar and Berkovitz, 2011b: 6). It is not possible to draw any firm conclusions from this uncontrolled study because of the small sample, lack of control group or standardised outcome measures.

Children in foster care

One study reported on the outcomes of children who received long-term, psychoanalytic, relational play therapy. The intervention was long-term, lasting 'for as long as it takes' (Clausen *et al.*, 2012: 47). The study reported on the outcomes of 20 children, and found they had statistically significant reductions in mental health symptoms, improved peer relationships and reduced school problems. These findings present some support for the use of long-term psychoanalytically orientated treatment for children in foster care, yet the study was limited by a small sample size, lack of control group and change was measured based on therapist report, which poses the risk of bias as therapists may overestimate change.

Physical health

The only study on physical health was a pilot randomised controlled trial, investigating brief psychodynamic psychotherapy in the treatment of idiopathic headache (Balottin *et al.*, 2014). Participants were randomly allocated to receive brief psychodynamic psychotherapy or care as usual. The authors reported statistically significant greater gains for the treatment group on the frequency, intensity and duration of headache attacks and improvement in the CGI scores, as rated by a physician. The study provides preliminary support for brief psychodynamic psychotherapy in the treatment of headaches compared with care as usual. As this was a pilot study, the sample size was small ($N = 33$) highlighting the need for a sufficiently powered study to build on these preliminary findings. The study had a short follow-up period of six months which further limits the findings, so the long-term benefits of the therapy are unknown. Nevertheless, these findings suggest that psychodynamic psychotherapy may be effective in treating physical health problems, yet this area remains understudied, with this being the only study of its kind during the past five year period.

Assessment of study quality

The majority of the studies (78%) met the attribute for having explicit hypotheses and/or objectives amenable to statistical analysis. A high proportion of the studies (61%) specified the primary and secondary outcomes. Despite this, only four (24%) reported the process for determining sample size and only four studies were sufficiently powered to detect differences between the groups.

Six of the studies (26%) were randomised, thus fulfilling the criteria that each participant had an unpredictable, independent chance of receiving each intervention. However, only three of these described the study in adequate detail to determine that treatment allocation of participants was not identifiable to the research team.

Seven of the studies (30%) had an active comparison group, three of which were treatment as usual (Rossouw and Fonagy, 2012; Salzer *et al.,* 2013; Balottin *et al.*, 2014), while the other four compared psychoanalytic treatment to therapeutic

approaches including cognitive behavioural therapy, family therapy and psychosocial interventions (Kolaitis *et al.,* 2014; Laezer, 2015; Ryynänen *et al.*, 2015; Goodyer *et al.,* 2017). Of the remaining studies, 4 (17%) had a passive comparison group as they had a waitlist control group (Edlund *et al*., 2014; Göttken *et al.,* 2014; Weitkamp *et al.*, 2014; Edlund and Carlberg, 2016), while 2 (9%) used a community comparison group (Atzil-Slonim *et al.*, 2011, 2013) and 10 (44%) had no control group or did not report outcomes of the control group (Seiffge-Krenke and Nitzko, 2011; Sugar and Berkovitz, 2011a, 2011b; Clausen *et al.*, 2012; Krischer *et al.,* 2013; Milrod *et al.*, 2013; Stefini *et al.,* 2013; Emanuel *et al.*, 2014; Salzer *et al.*, 2014; Gatta *et al.,* 2016). The finding that only a third of the studies had a suitable active comparison group is perhaps unsurprising given that many of the studies were observational and carried out in naturalistic settings.

For the next attribute relating to whether the authors presented baseline demographic and clinical data by treatment condition, studies were rated zero if they did not include a comparison group. The majority of studies (65%) did report baseline data by treatment condition. Almost half of the studies used a manualized treatment (44%), while fewer assessed treatment adherence (30%)

While the RCT's were the studies rated with the highest study quality, interestingly, only one of them met the attribute for collateral report, which is where in addition to the child or young person's self-report, outcomes are also assessed on the parent, caregiver or teachers report. However, seven studies did meet this attribute, reflecting that the use of collateral report has been used in more naturalistic and observational studies, but is one area that is lacking from many RCT's. Eight (35%) studies fulfilled the attribute for intent-to-treat analysis. One of the least reported attributes of these studies was the use of blind assessors, which were only reported in three (13%) of the studies.

Discussion

This updated review identifies five Randomised Controlled Trials (one of which was a secondary analysis of an RCT reported in the previous review paper), which have been published since our previous review. One of these RCTs, the IMPACT study (Goodyer *et al.*, 2017) is the largest study to date to include a psychodynamic treatment arm either in children or adults ($n = 465$). This study found that 85% of adolescents receiving STPP no longer met criteria for depression one year after the end of treatment, compared with 75% and 73% in the CBT and BPI arms respectively. This would suggest that extending the evaluation of psychodynamic psychotherapy as a treatment option for children and young people with a variety of clinical diagnoses where it shows promise as an intervention is warranted. The four other Randomised Controlled Trials published since the last review (Rossouw and Fonagy, 2012; Salzer *et al*., 2013; Balottin *et al*., 2014; Kolaitis *et al*., 2014) had relatively small sample sizes ($n = 33$, 72, 80 and 66 respectively), yet all studies showed potential benefits of a psychodynamic treatment for patients with complex and severe difficulties (self-harm and depression; adolescents with co-morbid diagnoses; and idiopathic headaches), indicating that further randomised evaluation involving a larger sample of adolescents could more definitively evaluate whether this is a treatment that might benefit young people with such complex conditions. Of the remaining studies, 3 were quasi-experimental designs, 12 were observational studies without a control group and 3 were observational studies with a comparison group. Such study designs limit the

conclusions that can be made regarding the effectiveness of the intervention. Yet there were indications that psychodynamic psychotherapy might be a beneficial intervention for children and young people with a range of clinical diagnoses. The majority of studies focused on children and young people with mixed diagnoses (12 out of 23), most of the remaining studies included participants with anxiety or depression, and one study focused on self-harm with co-morbid depression.

The studies included in this review were assessed for study quality, and this additional analysis found that the highest quality studies were the RCT's, which had investigated psychoanalytic treatment for depression, self-harm, headaches and adolescents with significant co-morbidity. No sufficiently high-quality studies were found in samples of children and adolescents with anxiety, disruptive behaviour problems or personality disorders. The findings from the quality assessment ratings reveal a lack of studies that were randomised, sufficiently powered to detect meaningful differences between treatment conditions, and with independent, blind outcome assessors.

It is important to note that an increasing number of studies are integrative, drawing on psychodynamic techniques alongside other approaches (Rothschild-Yakar *et al*., 2013; Müller *et al*., 2015). Such studies make it less straightforward to review the evidence for the effectiveness of specific treatment modalities; yet also reflect the potential of more integrative approaches, which may draw on the strengths of different approaches.

One of the barriers to further research evaluating psychodynamic psychotherapy as a treatment for children and young people is the relative underfunding of research both into psychological therapies as treatment interventions and specifically into interventions focused on children and young people (MQ, 2015). Within psychological therapies research, psychodynamic psychotherapy is one of the least well-funded therapies (1.96% of total research funding in the UK compared to 27.55% for CBT) and this inevitably limits the scope for undertaking rigorous evaluation of its effectiveness (MQ, 2015). In the rare situation where psychodynamic psychotherapy has been evaluated within a high-quality, adequately powered RCT it has been found to be at least as clinically and cost-effective as other treatments (Goodyer *et al*., 2017), strengthening the case for further evaluations of psychodynamic psychotherapy as a treatment modality for different clinical conditions and different age ranges.

Conclusion

Since the publication of the previous systematic review in this journal in 2011 there have been considerable developments in relation to evaluating the effectiveness of psychodynamic child psychotherapy as a treatment. The publication of a number of treatment manuals describing psychodynamic interventions for different ages and childhood disorders (for example see Göttken and von Klitzing, 2013; Hoffman *et al*., 2015; Cregeen *et al*., 2016) is an important step forward. The findings of four new randomised trials have been published over this time period, most notably the IMPACT study (Goodyer *et al*., 2017), which is the largest ever randomised evaluation of a psychodynamic treatment in children or adolescents. In total there are now 13 randomised trials which include psychodynamic child psychotherapy as a treatment arm. An additional 18 non-randomised studies have been identified since the last review in 2011 making a total of 44 non-randomised evaluations of psychodynamic child psychotherapy. This body of research indicates either preliminary or, in some

cases, good evidence of likely beneficial effects that warrant further investigation in large-scale, adequately powered treatment trials. In this way a more definitive evidence base for psychodynamic child psychotherapy as a treatment modality for children and young people with a range of presenting problems and circumstances can be established. In addition Randomised Controlled Trials of the future are likely to focus not just on *whether* a treatment works but *how* it works and in what situations (Green, 2015). This increased focus on the mechanisms underlying treatment effectiveness and the particular characteristics and circumstances of those likely to respond to treatment has the potential to inform the development of new approaches in psychodynamic child psychotherapy and the training of psychodynamic child psychotherapists in the future.

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Appendix

Table 1A: Studies from 2011–2016.

Authors	*N*	Location	Age	Type of Problem	Design	Control Group	Type of Therapy	Primary Outcome Measures
Atzil-Slonim *et al.* (2011)	72	Israel	15–18	Mixed diagnoses	Observational study	Community control group (non-clinical sample)	Psychodynamic psychotherapy	CCRT; Y-OQ-SR; TCS
Atzil-Slonim *et al.* (2013)	72	Israel	15–18	Mixed diagnoses	Observational study	Community control group (non-clinical sample)	Psychodynamic psychotherapy	CCRT; Y-OQ-SR; TCS
Balottin *et al.* (2014)	33	Italy	6–18	Idiopathic headache	Randomised Controlled Trial	Care as usual	Brief psychodynamic psychotherapy	Headache frequency, intensity and duration; EuroQoL; CBCL
Clausen *et al.* (2012)	20	USA	5–10	Foster care	Observational study without control group	No control group	Psychoanalytic, relational play therapy	ITQT; ETQT
Edlund and Carlberg (2016)	218	Sweden	14–24	Mixed diagnoses	Observational study without control group	No control group	Psychodynamic psychotherapy	CGAS; GAF; SCL-90
Edlund *et al.* (2014)	207	Sweden	4–12	Mixed diagnoses	Observational study without control group	No control group	Psychodynamic psychotherapy	CGAS; SDQ
Emanuel *et al.* (2014)	34	London	Not stated	Mixed diagnoses	Observational study without control group	No control group	Psychoanalytic psychotherapy (study included individual and group therapy)	GBOM
Gatta *et al.* (2016)	23	Italy	4–17	Mixed diagnoses	Observational study without control group	No control group	Psychodynamic psychotherapy and parental support	CBCL

(*Continued*)

Table 1A. (*Continued*).

Authors	*N*	Location	Age	Type of Problem	Design	Control Group	Type of Therapy	Primary Outcome Measures
Goodyer *et al.* (2017)	465	UK	11–17	Depression	Randomised Controlled Trial	Cognitive Behavioural Therapy; Brief Psychosocial Intervention	Psychoanalytic Psychotherapy	MFQ, KSADS
Göttken *et al.* (2014)	30	Germany	4–10	Anxiety disorders	Quasi-experimental controlled study	Waitlist	Psychoanalytic psychotherapy	PAPA; SDQ; CBCL
Kolaitis *et al.* (2014)	72	Finland. Greece. UK	9–15	Depression	Randomised Controlled Trial	Family therapy	Psychodynamic psychotherapy	CDI; CFSEI; SAS-SR
Krischer *et al.* (2013)	30	Germany		Mixed diagnoses	Observational study without control group	N/A	Psychodynamic psychotherapy	CBCL
Laezer (2015)	73	Germany	6–11	Attention deficit hyperactivity disorder and/or oppositional defiant disorder.	Quasi-expermintal controlled study	Behavioural therapy and/or medication	Psychoanalytic psychotherapy	DISYPS-KJ; CPRS; CTRS; CBCL; TRF; IAQLiCA
Milrod *et al.* (2013)	10	US	8–16	Anxiety disorders	Observational study without control group	N/A	Psychodynamic psychotherapy	PARS; CGAS; CGI
Rossouw and Fonagy (2012)	80	London	12–17	Self-harm	Randomised Controlled Trial	Treatment As Usual	Mentalization Based Treatment for Adolescents (MBT-A)	RTSHIA
Ryynänen *et al.* (2015)	236	Finland	4–15	Mixed diagnoses	Observational study	Age and sex matched children undergoing other psychosocial treatments	93% of therapists reported as being psychodynamic psychotherapists - but not explicitly a study of psychodynamic therapy	CGAS
Salzer *et al.* (2014)	28	Germany	14–18	Borderline personality disorder	Observational study without control group	N/A	Psychodynamic psychotherapy	Remission rates; BPI; GAF; GSI; SDQ; IIP;

(*Continued*)

Table 1A. (*Continued*).

Authors	*N*	Location	Age	Type of Problem	Design	Control Group	Type of Therapy	Primary Outcome Measures
Salzer *et al.* (2013)	66	Germany	14–19	Mixed diagnoses	Randomised Controlled Trial	Waitlist / TAU	Psychodynamic psychotherapy (inpatient)	Remission rates; GSI; SDQ
Seiffge-Krenke and Nitzko (2011)	60	Germany	>11	Mixed diagnoses	Observational study without control group	No control group	Psychodynamic psychotherapy	YSR; CBCL
Stefini *et al.* (2013)	71	Germany	6–18	Mixed diagnoses	Observational study without control group	N/A	Psychodynamic psychotherapy	HASR-CA; SIS-CA
Sugar and Berkovitz (2011a)	3	USA	14–20	Borderline personality disorder	Observational study without control group	N/A	Psychoanalytic psychotherapy	Measure of functioning
Sugar and Berkovitz (2011b)	8	USA	16–19	Mixed diagnoses	Observational study without control group	N/A	Psychoanalytic psychotherapy	Measure of functioning
Weitkamp *et al.* (2014)	53	Germany	4–21	Depression	Quasi randomised trial	Waitlist	Psychoanalytic psychotherapy	CDI; KIDSCREEN; KSADS

Notes: Outcomes measures are abbreviated as follows: Borderline Personality Inventory (BPI); Child Behaviour Checklist (CBCL); Children's Depression Inventory (CDI); Children's Global Assessment Scale (CGAS); Clinical Global Impression scale (CGI); Conners Parent Rating Scale (CPRS); Conners Teacher Rating Scale (CTRS); Core Conflictual Relationship Theme method (CCRT); Culture-Free Self-Esteem Inventory (CFSEI); Diagnostic System for Mental Disorders in Children and Adolescents (DISYPS-KJ); Exit Telephone Questionnaire for Therapists (ETQT); Global Assessment of Functioning (GAF); Global Severity Index (GSI); Goal Based Outcome Measure (GBOM); Heidelberg Attachment Style Rating for Children and Adolescents (HASR-CA); Initial Telephone Questionnaire for Therapists (ITQT); Inventory of Interpersonal Problems (IIP); Inventory for the Assessment of the Quality of Life in Children and Adolescents (IAQLiCA); Kiddie Schedule for Schizophrenia and Affective Disorders (KSADS); Mood and Feelings Questionnaire (MFQ); Paediatric Anxiety Rating Scale (PARS); Preschool Age Psychiatric Assessment (PAPA); Risk-Taking and Self-Harm Inventory (RTSHIA); Severity of Impairment Score for Children and Adolescents (SIS-CA); Social Adjustment Scale-Self-Report (SAS-SR); Strength and Difficulties Questionnaire (SDQ); Symptoms Checklist-90 (SCL-90); Target Complaints Scale (TCS); Teacher Report Form (TRF); Youth-Outcome Questionnaire Self-Report (Y-OQ-SR); Youth Self Report (YSR)

Table 2A. Quality ratings of studies.

Article	Item													Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Atzil-Slonim *et al*. (2011)	1	0	0	0	0	0	0	1	0	0	0	0	1	3
Atzil-Slonim *et al*. (2013)	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Balottin *et al*. (2014)	1	0	0	1	1	1	1	1	1	0	1	1	0	9
Clausen *et al*. (2012)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Edlund and Carlberg (2016)	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Edlund *et al*. (2014)	1	0	0	0	0	0	0	1	0	0	1	1	0	4
Emanuel *et al*. (2014)	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Gatta *et al*. (2016)	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Goodyer *et al*. (2017)	1	1	1	1	1	1	1	1	1	1	0	2	1	13
Göttken *et al*. (2014)	1	0	0	1	0	0	0	1	1	1	1	2	0	8
Kolaitis *et al*. (2014)	1	1	0	1	1	0	1	1	1	0	0	2	0	9
Krischer *et al*. (2013)	1	0	0	1	0	0	0	0	0	0	1	2	0	5
Laezer (2015)	1	0	0	1	0	0	1	1	1	1	1	0	0	7
Milrod *et al*. (2013)	1	0	0	1	0	0	0	0	1	1	0	0	0	4
Rossouw and Fonagy (2012).	1	1	1	1	1	1	1	1	1	1	0	2	1	13
Ryynänen *et al*. (2015)	1	0	1	0	0	0	1	1	0	0	0	2	0	6
Salzer *et al*. (2014)	1	0	0	1	1	0	0	1	1	0	0	2	0	8
Salzer *et al*. (2013)	1	1	1	1	1	0	1	1	1	1	0	2	0	11
Seiffge-Krenke and Nitzko (2011)	1	0	0	1	0	0	0	0	0	0	1	0	0	3
Stefini *et al*. (2013)	1	0	0	1	0	0	0	1	1	0	1	2	0	7
Sugar and Berkovitz (2011a)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sugar and Berkovitz (2011b)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weitkamp *et al*. (2014)	1	0	0	1	0	0	0	1	0	1	1	0	0	5

Note:
Total score ranges from 0–14, with higher scores reflecting higher study quality.
(1) Objective: 1 = Specific objectives and hypotheses. Hypotheses are amenable to explicit statistical evaluation; 0 = Objectives or hypotheses not explicitly established.
(2) Sample size: 1 = Process for determining the sample size discussed along with any interim analyses and stopping rules; 0 = Determination of sample size not discussed.
(3) Power: 1 = Study is sufficiently powered to detect differences between treatment groups (e.g. at least 71 subjects per condition with active comparison, 27 subjects per condition with passive comparison); 0 = Study is not sufficiently powered.
(4) Outcome: 1 = Established primary and secondary outcome measure. Primary outcome is specified as outcome of greatest importance; 0 = Primary or secondary outcome measures are not specified.
(5) Sequence generation: 1 = Process for generating a random sequence described with sufficient detail to confirm that each participant had an unpredictable, independent chance of receiving each intervention; 0 = Process was not purely random, unspecified.
(6) Allocation concealment: 1 = Process of assigning participants to groups described with sufficient detail to confirm that investigators recruiting and conducting the initial assessment could not discern the participant's treatment group; 0 = Process was not concealed, unspecified.
(7) Active comparison: 1 = At least one active comparison (e.g. alternative model, treatment as usual); 0 = All comparison conditions were passive (e.g. waitlist, no-treatment control).
(8) Baseline data: 1 = Baseline demographic and clinical characteristics reported by condition; 0 = Baseline demographic or clinical characteristics not reported.
(9) Manualized treatment: 1 = At least one treatment condition was guided by a manual; 0 = None of the treatments were guided by a manual, unspecified.
(10) Treatment adherence rating: 1 = Treatment adherence monitored with scales, checklists, or rating forms completed by therapist, supervisor, independent observer, and/or patient; 0 = Treatment adherence was not monitored using rating forms, unspecified.
(11) Collateral report: 1 = At least one outcome is a collateral report (e.g. parent, caregiver, teacher); 0 = No collateral report.
(12) Intention-to-treat (ITT) analysis: 2 = ITT analysis. All subjects analysed in groups to which they were assigned; 1 = Available case analysis. Only subjects who completed one of more research assessments were analysed; 0 = Treated case analysis. Only subjects who completed a portion of the treatment were analysed.
(13) Blind assessment: 1 = Follow-up assessments completed by treatment-blind evaluator; 0 = Follow-up not completed by blind evaluator, unspecified.