

# Mentalization-based treatments with children and families: A systematic review of the literature

*Clinical Child Psychology**and Psychiatry*

2020, Vol. 25(4) 1022–1048

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DOI: 10.1177/1359104520920689

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## Abstract

**Objectives:** Over the past decade, mentalization-based treatment (MBT) approaches have been developed specifically for children, adolescents and families. This study provides a systematic review of MBT applicable to both children and families.

**Method:** Five databases were searched to identify reports of MBT studies published up to February 2020. Studies were screened and reported according to PRISMA guidelines.

**Results:** A total of 34 studies were included in this review. Of these, 14 focused on parent–child dyads, two on child therapy, seven applied the approach to parenting, four evaluated the application of MBT to the school environment and seven focused on adolescent populations.

**Conclusion:** Despite methodological shortcomings and heterogeneity in design, the existing literature does provide tentative support for the use of MBT approaches for these populations, specifically in increasing mentalizing/reflective functioning. Further controlled and methodologically rigorous studies are required.

## Keywords

Mentalization-based treatments, children, adolescents, families, systematic review

The concept of mentalizing has provided researchers with a novel paradigm in answering how individuals understand themselves and others. Mentalizing refers to an innate human ability to make sense of both our own and others' behaviour in terms of underlying mental states (Bateman & Fonagy, 2006). Mentalization theory has integrated research from findings on attachment, social cognition and Theory of Mind (ToM). Fonagy and colleagues have posited that the quality of the infants' ability to mentalize is based on a number of factors (Bateman & Fonagy, 2006). Among these factors, which include the learning environment and family relationships, the primary mechanism of development is the infant's experience of being treated by the caregiver as a psychological entity with a mind (Fonagy et al., 2007; Fonagy & Target, 2006). This is crucial in helping the infant develop a coherent sense of self which is developed by continued interactions with a

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caregiver who can keep the child's mind in mind. Thus, the skill of mentalizing is a transactional and intergenerational process between infant and caregiver (Fonagy & Target, 1997).

Mentalization-based treatments (MBT) were originally developed for the treatment of individuals presenting with borderline personality disorder (Bateman & Fonagy, 2008) and more recently antisocial personality disorder (ASPD, Bateman et al., 2016). It is somewhat paradoxical that despite the theory of mentalization drawing heavily from attachment and developmental perspectives, there has been a relative lag in adapting mentalization-based approaches with children and their families (Halfon & Bulut, 2019; Midgley & Vrouva, 2012). The reason for this is unclear. The strong evidence base for behavioural and psychoeducational programmes (Furlong et al., 2013) may have impeded the implementation of more psychodynamically informed treatments. However, psychodynamic approaches, such as mentalization-based interventions, can potentially target more entrenched relational dynamics that are not the focus of more behavioural-based interventions. Parents who have the ability to accurately and flexibly hold mental representations of their child are believed to be better able to make inferences about the child's emotional states (Asen & Fonagy, 2012). This seeking to find 'mental' meaning behind the child's behaviour helps the child to self-regulate and form more secure relationships. Conversely, an inability to represent the mental state of self and others undermines the capacity to develop more mature mentalizing skills (Fonagy & Luyten, 2009). Research has found that a significant association between parental mentalization regarding their own childhood attachment relationships and the later parenting of children and infant attachment (Arnott & Meins, 2007; Ensink et al., 2016).

Given the rapid developments in the area over the past decade, we believe a systematic review of MBT approaches for families and children is warranted. Prior systematic reviews (Malda-Castillo et al., 2019) have provided a wider scope, analysing MBT approaches for differing populations and age ranges. The aim of this systematic review is to identify and describe studies of treatment effectiveness for MBT with families, children, and adolescents presenting with a range of clinical difficulties in differing settings. Given the emphasis that MBT places on mental representations this review will focus on whether MBT directly targets mentalizing, which is often operationalised as reflective functioning (RF) and the impact MBT has on psychological symptoms.

## Scope and methodology

This study aims to provide an up-to-date critical review of MBT approaches for families and children. This review takes a more restricted focus than others that have reviewed wider psychodynamic approaches (Midgley, O'Keffe et al., 2017; Palmer et al., 2013) or specifically on attachment or attachment-related disorders (Barlow et al., 2016). To the best of the authors' knowledge, this is the first systematic review of MBT approaches focused solely on children, adolescents, and parents. The review adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009).

## Review aims and process

The review aims to assess if MBT approaches are successful in increasing mentalization/RF skills in child, adolescent, and parent populations. The review will assess if MBT can effectively address the psychological and mental health needs of children and/or parents across differing age groups. Five databases were searched (PsycINFO, PubMed, Cochrane Review, Web of Science and Campbell Collaboration) up to February 2020 using specific terms. These terms included 'mentalization', 'MBT', 'families', 'children', 'infant', 'therapy', 'personality' and 'intervention'. The computer search identified 522 articles. A further search of bibliographies and other

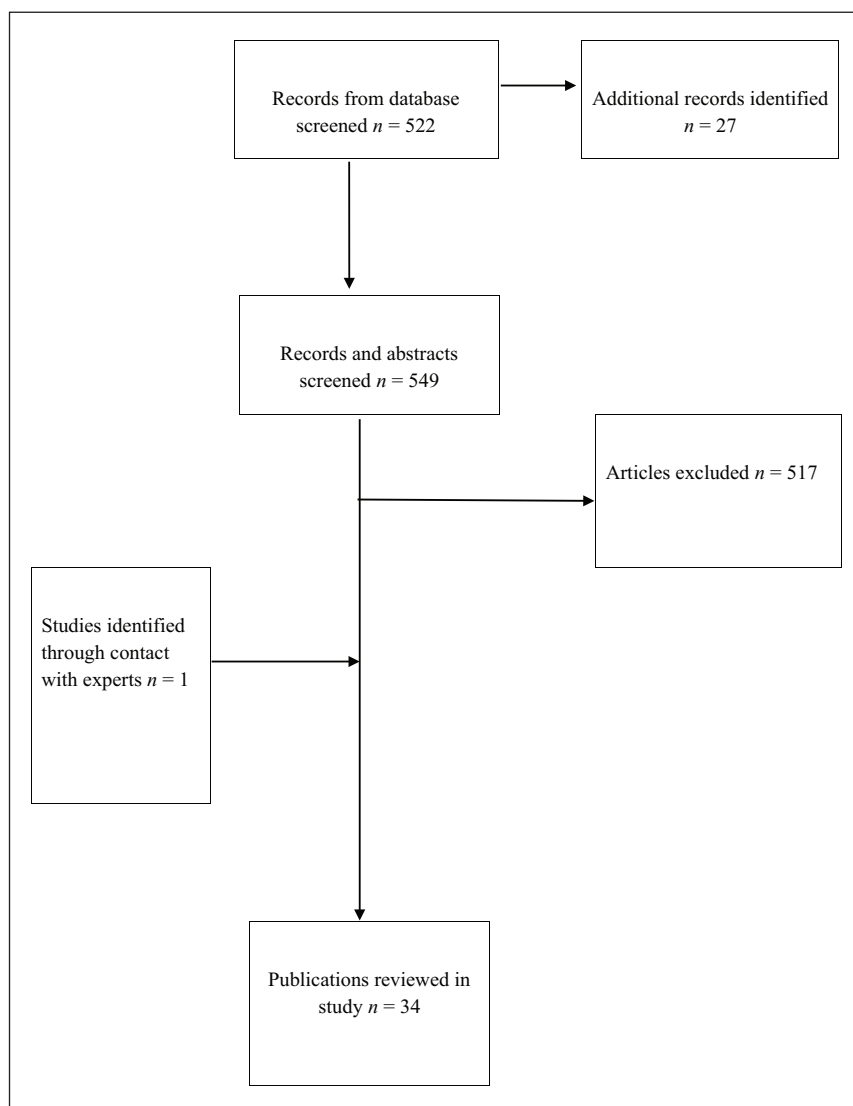


**Figure 1.** PRISMA flow chart depicting the literature screening process.

related information furnished a further 27 articles. A total of 152 abstracts were read through and from this 34 studies were included in this review. Studies in the process of recruiting at time of writing (Families First, Kalland et al., 2016; The Resilience Program, Bak et al., 2015) were not included. Similarly, studies that focused on improving RF but using an intervention that was not derived from mentalization theory (such as Developmental Individual-Difference, Relationship-Based/Floortime (DIR/FT), Sealy & Glovinsky, 2016) were not included in this review. A flow chart of the selection process can be seen in Figure 1.

The inclusion and exclusion criteria of this systematic review were as follows:

- The intervention had to be informed by mentalization-based theory and a key component of treatment was on developing the child and/or families capacity to mentalize. The authors

discussed the nature of each intervention to ensure the article was relevant and suitable for inclusion. Studies that focused on care-staff mentalizing ability were not included (e.g. Domon-Archambault et al., 2019).

- Studies had to include either the use of at least one standardised outcome measure directly related to the disorder or psychological difficulties being addressed or the use of a standardised achievement test.
- Studies that reported evaluations of children and/or adolescents were also included. One study by Griffiths et al. (2017) that included participants aged 11–22 was also included.
- Studies that focused on parent–child relations, as well as parenting approaches, were also included.
- To give the widest breadth, this study included both experimental and quasi-experimental designs. A preliminary exploration of the evidence suggested that if the authors limited the review to only randomised designs that this would severely curtail the analysis.
- Studies were reported in English.
- Studies that primarily focused on purported mechanisms of change or theoretical overviews were not included.
- Chapters in books were not included in this review.

## Assessment of study quality

Studies that met inclusion criteria are summarised and presented in Table 1. Studies were assessed using the Individual Attributes of Methodological Quality measure for methodological rigour (Becker & Curry, 2008). This measure assesses a study in terms of 14 criteria. Criteria were rated as met (1) or not met or unclear (0). One item, Intention-to-Treat (ITT) analysis had a possible rating of 0–2. These ratings provide a Quality of Evidence Score (QES) with higher scores indicative of greater methodological rigour. Other criteria taken into consideration included sample size, power analysis, sequence generation, allocation concealment, primary and secondary outcome measures, and active comparison. Scores can range from 0 to 15. The first author rated the studies and these were double rated by the second author. If there were still questions about particular items both authors reviewed the article again and came to a joint conclusion. Where details were unspecified, raters marked the item negatively. Of the 34 studies included, quality ratings ranged from 2 to 14; 15 studies were randomised but only 10 provided information about allocation concealment; 25 studies used a treatment manual but only 10 studies reported on the use of treatment adherent scales; and 20 studies scored 7 or below on the quality rating scale. The ratings for each study are presented in Table 2.

## Findings

The findings of this review are presented according to problem area and age range as presented similarly in Table 1. Effect sizes and other statistical data are taken directly from the authors' reports. Of the 34 studies included in this review, 14 focused on parent–child dyads. Two studies focused on child therapy, seven on MBT parenting approaches, four on school interventions, and seven with adolescent populations. The 14 parent–child dyad studies included children aged from birth to 6 years of age. One of the child therapies focused on the effectiveness of MBT child therapy and the other on psychodynamic child therapy informed by mentalization principles. Two of the seven parenting programmes utilised the Family Minds programme both of which were controlled studies. The remaining studies included a randomised controlled trial reported on the Mentalization-Based Therapy for Parental Conflict-Parents Together (MBT-PT) programme, the

**Table 1.** Summary of included studies.

| Study name                | Trial details                                                                               | Participants                                                                   | Aims                                                                                                                                                                                                            | Instruments                                                                                                                                                                                                          | Results or relevant findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sadler et al. (2013), MTB | Nested two-group experimental design with random assignment.<br>Country: USA<br>Manual: Yes | - Primiparous women<br>( <i>n</i> = 60 intervention;<br><i>n</i> = 45 control) | - Evaluate the difference between a cohort of families receiving MTB compared to those receiving TAU<br>- Two domains covered namely:<br>Health and Public outcomes<br>Attachment and parent-child relationship | - Maternal-child health outcomes.<br>- CES-D<br>- BSI<br>- PBI<br>- Strange Situation Procedure<br>- PI<br>- PDI                                                                                                     | - Families in intervention group on track with immunisation at 12 months compared to TAU families.<br>- Lower rate of rapid subsequent childbearing and less likely to be referred to social services.<br>- Higher percentage of secure infant attachments in MTB group ( <i>n</i> = 41, 64%) versus TAU ( <i>n</i> = 30, 48%, <i>p</i> = .28).<br>- Teen mothers 11.9 times more likely to have healthy communication patterns than control dyads.<br>- RF did not improve significantly relative to control dyads. |
| Longhi et al. (2020), MTB | Randomised controlled trial<br>Country: UK<br>Manual: Yes                                   | - 148 mothers<br>( <i>n</i> = 75 MTB; <i>n</i> = 73 TAU)                       | - Evaluate the effectiveness of MTB                                                                                                                                                                             | - NICHD study of Early Child Sensitivity Scale<br>- Attachment Q-Set<br>- Bayley Scale of Development<br>- CBCL<br>- PDI<br>- EPDS<br>- Parental Stress Inventory<br>- Short Form<br>- State-Trait Anxiety Inventory | - No significant difference in maternal sensitivity.<br>- No difference in attachment security or cognitive development.<br>- Significant improvement in child behaviour in MTB versus TAU.<br>- No positive intervention effect for maternal RF, depression, and maternal sense of mastery.                                                                                                                                                                                                                         |
| Slade et al. (2020), MTB  | Randomised controlled trial<br>Country: UK<br>Manual: Yes                                   | - 164 mothers<br>( <i>n</i> = 82 MTB; <i>n</i> = 82 control)                   | - Evaluate if MTB mothers would have higher RF, have less disruptive affective communication and have impact on maternal mental health and attachment security of child                                         | - PI<br>- PDI<br>- Strange Situation Procedure<br>- Centre for Epidemiological Studies Depression Scale<br>- Mississippi Scale for the Assessment of PTSD                                                            | - Those in MTB 2.15 times more likely than control to be in higher RF category.<br>- No difference between MTB and control group in terms of disrupted interactions at 4 months.<br>- Infants in MTB 2.69 times more likely to be classified as organised.<br>- No difference on measures of depression and PTSD.                                                                                                                                                                                                    |
| Ordway et al. (2014), MTB | Prospective longitudinal follow-up study<br>Country: USA<br>Manual: Yes                     | - 50 mother-child dyads<br>(children 3–5 years of age)                         | - Evaluate the intermediate effects (1–3 years post intervention) of MTB on child behaviour and RF                                                                                                              | - PDI<br>- PI<br>- CES-D<br>- CBCL or 1.5–5 parent and teacher report                                                                                                                                                | - Parental RF mean scores increased in intervention group compared to decrease in RF in the control condition (not statistically significant).<br>- Large effect sizes for reduction in maternally reported externalising behaviours ( $\eta^2 = .166$ ).<br>- Medium effect sizes for total behaviour problems ( $\eta^2 = .06$ ). No difference regarding internalising behaviours.<br>- Group status not significantly related to parental RF.                                                                    |

(Continued)

Table 1. (Continued)

| Study name                                                                   | Trial details                                                             | Participants                                                                                                         | Aims                                                                                                                                                              | Instruments                                                                                                  | Results or relevant findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pajulo et al. (2012)                                                         | Pilot study<br>Country: Finland<br>Manual: NA                             | - 34 mother–baby dyads in residential programme for substance abuse                                                  | - Level of individual variation of maternal RF during pregnancy and postnatal phase<br>- If RF increases after intervention                                       | - PDI<br>- PI<br>- BSI<br>- EPDS<br>- TAQ<br>- BSID-II                                                       | - Average RF increased significantly during intervention.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Sleed et al. (2011)                                                          | Quasi-experimental<br>Country: UK<br>Manual: No                           | - 59 mother–baby dyads (n = 30 intervention; n = 29 control)                                                         | - Assess outcomes of pilot baby clinic in a hostel for homeless Families                                                                                          | - BSID<br>- Coding interactive behaviour                                                                     | - No significant differences in groups regarding the quality of parent–infant interactions.<br>- Improvement found in the cognitive and motor development of infants in the intervention group compared to control.                                                                                                                                                                                                                                                                                                                |
| Suchman et al. (2008)<br>Mothers<br>Toddlers<br>Programme (MTP, 20 sessions) | Non-controlled pilot study<br>Country: USA<br>Manual: No                  | 8 mothers attending either outpatient programme or methadone clinic caring for children 12–36 months of age.         | - Mothers attending MTB will show improvement in representational balance and RF<br>- Reduce symptoms of psychiatric distress and a reduction in illicit drug use | - WMCI<br>- Maternal Attribution Scale–Toddler Version<br>- PDI<br>- NCAST Teaching Scales<br>- BDI<br>- BSI | - Mean scores on maternal representations of the toddler increased ( $d = .29$ ).<br>- Maternal RF increased ( $d = .48$ ).<br>- NCAST scale increased with effect sizes ranging from $d = .57$ to $d = 1.80$ .<br>- Improvements in maternal psychiatric symptoms on the BDI ( $d = -1.74$ ) and BSI ( $d = -.28$ ).<br>- MTP mothers showed moderately better improvement in mean RF ( $d = .56$ ).<br>- Small effect sizes for MTP mothers compared to PE in terms of care-giving sensitivity and coherence in representations. |
| Suchman et al. (2010)<br>MTP (12 sessions)                                   | Randomised clinical pilot<br>Country: USA<br>Manual: No                   | - 47 mothers of children aged from birth to 36 months of age<br>(n = 23 MTP; n = 24, Parent Education Programme, PE) | - Test feasibility, acceptability and preliminary efficacy of MTP and explore proposed mechanism of change                                                        | - -PDI<br>- -WMCI<br>- -NCAST<br>- -BDI<br>- -BSI<br>- -Clarity of Cues Scale                                | - Small effect sizes for maternal depression ( $d = .33$ ) and global distress ( $d = .22$ ).<br>- No group difference found in children's behaviour.<br>- Evidence that therapist fidelity to MTP model led to greater improvement in maternal RF and certain representation qualities.                                                                                                                                                                                                                                           |
| Suchman et al. (2011) MTP (12 sessions)                                      | 6-week follow-up randomised clinical pilot.<br>Country: USA<br>Manual: No | - 47 substance abusing mothers (n = 23 MTP; n = 24, PE)                                                              | - If gains were maintained at 6-week follow-up<br>- To assess for self-focused and child-focused dimensions of RF                                                 | - Same outcome measures used in Suchman et al. (2010) study                                                  | - Higher levels of self-focused RF at 6-week follow-up in MTP group ( $d = >.20$ ).<br>- Mothers in the MTP condition scored higher on maternal representation of the child than those in the PE group ( $d = >.20$ ).<br>- The 6-week follow-up mothers in MTP group sustained scores on maternal care-giving behaviours. Effects for depression not sustained. A delayed effect favouring MTP for child behaviour difficulties.                                                                                                  |

(Continued)

Table 1. (Continued)

| Study name                                                             | Trial details                                                     | Participants                                                                                                                                                                                                   | Aims                                                                                                                                                                                                                     | Instruments                                                                                                                                                                                                                                                                                                           | Results or relevant findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suchman et al. (2017) Mothering From the Inside Out (MIO, 12 sessions) | Randomised controlled trial<br>Country: USA<br>Manual: Yes        | <ul style="list-style-type: none"> <li>- 87 mothers in addiction treatment caring for a child between 11 and 60 months of age (<math>n = 40</math> MIO; <math>n = 47</math> PE)</li> </ul>                     | <ul style="list-style-type: none"> <li>- Replicate the first trial with a larger sample size of parents for children with a wider age range</li> <li>- Examine treatment outcome at 3- and 12-month follow-up</li> </ul> | <ul style="list-style-type: none"> <li>- PDI</li> <li>- WMCI</li> <li>- BSI</li> <li>- Timeline Followback Interview</li> <li>- Bayley Scales of Infant and Toddler Development</li> <li>- Screening Test (3rd Edition)</li> <li>- The Early Screening Profiles</li> <li>- The Strange Situation Procedure</li> </ul> | <ul style="list-style-type: none"> <li>- MIO mothers demonstrated higher capacity for RF and representational coherence at post treatment (<math>d = .34</math>) and 3-month follow-up (<math>d = .82</math>)</li> <li>- At 12-month follow-up, compared to PE, MIO mothers demonstrated greater parental sensitivity (<math>d = .46</math>) and the dyads demonstrated greater reciprocity (<math>d = .45</math>).</li> <li>- Faster decline of psychiatric distress in PE group at post treatment although both groups exited clinical range at 3-month follow-up.</li> <li>- End of treatment 64% of MIO children and 58% of children in PE retained or moved towards secure status compared to 35% of MIO and 42% of PE children retained insecure status.</li> <li>- Moderate increases in maternal RF (<math>d = .34</math>) from baseline to posttreatment. Child focused RF showed large increase (<math>d = .64</math>) and no increase in self-focused RF (<math>d = .04</math>).</li> <li>- Reduction in psychiatric symptoms (<math>d = -.58</math>)</li> <li>- No change in relation to maternal sensitivity, child involvement or dyadic reciprocity.</li> </ul> |
| Suchman et al. (2016, MIO, 12 sessions)                                | Pilot study<br>Country: USA<br>Manual: Yes                        | <ul style="list-style-type: none"> <li>- 17 mothers receiving service at a community-based mental health clinic (target children on average 38 months of age ranged from birth to 84 months of age)</li> </ul> | <ul style="list-style-type: none"> <li>- Examine the feasibility and preliminary effectiveness of MIO with mothers attending mental health services</li> </ul>                                                           | <ul style="list-style-type: none"> <li>- The Working Alliance Inventory-Revised</li> <li>- PDI</li> <li>- PSI</li> <li>- BDI</li> <li>- BSI</li> <li>- Coding Interactive Behaviour</li> </ul>                                                                                                                        | <ul style="list-style-type: none"> <li>-</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Baradon et al. (2008, New Beginnings)                                  | Pilot Study<br>Country: UK<br>Manual: Yes                         | <ul style="list-style-type: none"> <li>- 27 mother-infant dyads in one of two UK women's prisons</li> </ul>                                                                                                    | <ul style="list-style-type: none"> <li>- Present initial observations concerning the effect of the intervention</li> </ul>                                                                                               | <ul style="list-style-type: none"> <li>- PDI</li> </ul>                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>- Significant increase in mean overall level of RF from pre- to post-intervention (<math>p = .003</math>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Sleed et al. (2013, New Beginnings)                                    | Cluster randomised controlled trial<br>Country: UK<br>Manual: Yes | <ul style="list-style-type: none"> <li>- 163 mother-baby dyads (<math>n = 88</math> intervention; <math>n = 75</math> control) in prisons</li> </ul>                                                           | <ul style="list-style-type: none"> <li>- Evaluate the outcomes of new beginnings in a randomised trial</li> <li>- Determine whether the programme improved the quality of mother-infant relations</li> </ul>             | <ul style="list-style-type: none"> <li>- PDI</li> <li>- CES-D</li> <li>- MORS</li> </ul>                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>- Significant increase in the rating of RF at follow-up in intervention group compared to control (<math>p = .002</math>).</li> <li>- Mothers in control group deteriorated in their level of RF and behavioural interaction with babies.</li> <li>- No significant group effects on levels of maternal depression or self-reported representations of their babies over time.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

(Continued)

Table 1. (Continued)

| Study name                                     | Trial details                                                        | Participants                                                                    | Aims                                                                                                                                                       | Instruments                                                                                                                                         | Results or relevant findings                                                                                                                                                                                                                                             |
|------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bain (2014, New Beginnings)                    | Randomised trial<br>Country: South Africa<br>Manual: Yes             | - 22 mothers<br>(n = 16 intervention;<br>n = 6 control)                         | - Assess the effectiveness of<br>New Beginnings group                                                                                                      | - PDI<br>- Emotional Availability Scales<br>- Kessler-10<br>- Griffiths Scales of Mental<br>Development                                             | - Significant improvement in speech development in<br>intervention compared to control ( $p = .02$ ).<br>- No significant effects of the programme on<br>infant's level of responsiveness and maternal RF.                                                               |
| Ramires et al.<br>(2012)                       | Single case study<br>Country: Brazil<br>Manual: No                   | - One boy<br>(n = 1)                                                            | - Assess if mentalization-<br>based therapy contributed<br>to reduction in depressive<br>symptoms and capacity for<br>improved RF in a 7-year-<br>old-boy  | - CDI<br>- MCAST                                                                                                                                    | - Significant improvement in depressive symptoms<br>at 6 months.<br>- Insecure attachment at post treatment.                                                                                                                                                             |
| Halfon and Bulut<br>(2019)                     | Pre-post design<br>Country: Turkey<br>Manual: No                     | - 48 children<br>(age range:<br>4–10 years)                                     | - Investigate changes in<br>symbolic play and affect<br>regulation and if adherence<br>to RF was associated with<br>symbolic play and affect<br>regulation | - The CBCL Parent and<br>Teacher version<br>- Health of the Nation<br>Outcome Scale for<br>Children and Adolescent<br>(HoNOSCA)                     | - Adherence to mentalizing principles associated<br>with affect regulation and symbolic play.<br>- Significant reductions in total CBCL scores ( $d = .95$ )<br>and improvements on HoNOSCA ( $d = .88$ ).                                                               |
| Hertzmann et al.<br>(2016), MBT-PT             | Random allocation<br>feasibility study<br>Country: UK<br>Manual: Yes | - 30 parents<br>(n = 15 intervention;<br>n = 15 TAL)                            | - Evaluate if MBT-PT can<br>help separated parents<br>work together more co-<br>operatively around their<br>children                                       | - STAXI<br>- PRFQ<br>- PDI<br>- Perceived Stress Scale (PSS)<br>- Patient Health<br>Questionnaire<br>- PAM<br>- RAM<br>- SDQ<br>- SIMS-PR<br>- FMSS | - No significant main effects found on primary<br>outcome measure (expressed anger, both groups<br>showed reduction in expression of anger).<br>- No significant main effect found for parenting<br>alliance, parental attributions, parental RF or total<br>SDQ scores. |
| Bammens et al.<br>(2015), Family<br>Minds (FM) | Explorative controlled<br>study<br>Country: USA<br>Manual: Yes       | - 31 foster/<br>adoptive<br>parents<br>(n = 18 intervention;<br>n = 13 control) | - Investigate if the FM<br>intervention led to an<br>improvement in the<br>parent's RF                                                                     |                                                                                                                                                     | - Post-intervention group scores showed a<br>significant increase in RF compared to those in the<br>control group.<br>- 47% in intervention group moved to next<br>significant level on RF measure compared to none<br>in the control group.                             |
| Adkin et al.<br>(2018), FM                     | Quasi-experimental<br>design<br>Country: USA<br>Manual: Yes          | - 102 foster<br>parents<br>(n = 54 intervention;<br>n = 48 control)             | - Evaluate the effectiveness<br>of the FM group in<br>increasing parental RF                                                                               | - FMSS<br>- PRFQ<br>- PSI-SF                                                                                                                        | - Significant differences between groups at post-test<br>in terms of RF as measured by PRFQ ( $d = .74$ ).<br>- Increases in all FMSS subscale scores for<br>intervention group ( $d = 1.31$ ).<br>- Overall F on PSI not significant.                                   |

(Continued)

Table 1. (Continued)

| Study name                                | Trial details                                             | Participants                                                                                    | Aims                                                                                                        | Instruments                                                                                                                                                 | Results or relevant findings                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Byrne et al. (2019), Lighthouse Programme | Pilot trial<br>Country: UK<br>Manual: Yes                 | - 16 parents of children aged 0–2 years                                                         | - Acceptability of study of programme and evaluate effectiveness of programme                               | - PDI<br>- Parental sensitivity: Observation Scales<br>- Maternal Efficacy Questionnaire<br>- PSS<br>- PHQ-9<br>- GAD-7                                     | - No significant improvement in parental RF, non-significant trends found for improvement in parental sensitivity.<br>- Significant reductions in PSS but no improvement on PHQ-9 or GAD-7.                                                                                                                                                    |
| Enav et al. (2019)                        | Non-randomised trial<br>Country: USA<br>Manual: No        | - 64 parents of children with autism<br>( <i>n</i> = 36 intervention;<br><i>n</i> = 28 control) | - Examine mentalization-based group therapy for parents of children with autism                             | - PDI<br>- Implicit Theories of Emotion Scale<br>- Emotional Regulation Questionnaire<br>- CBCL<br>- Parenting Sense of Competency Scale<br>- SDQ<br>- FMSS | - Significant improvement on RF ( <i>d</i> = .79).<br>- Significant reductions in CBCL ( <i>d</i> = .13–.33).                                                                                                                                                                                                                                  |
| Midgley et al. (2019a)                    | Randomised controlled trial<br>Country: UK<br>Manual: Yes | - 36 foster-care families<br>( <i>n</i> = 15 MBT; <i>n</i> = 21 usual clinical care)            | - Examine feasibility and acceptability of programme<br>- Preliminary estimate of likely treatment efficacy | - SDQ<br>- FMSS                                                                                                                                             | - No significant reduction in SDQ total foster-carer report score.<br>- Significant reduction in young person self-report SDQ total score with medium effect sizes noted at 12 and 24 weeks.                                                                                                                                                   |
| Midgley et al. (2019b)                    | Feasibility study<br>Country: UK<br>Manual: Yes           | - 28 foster carers                                                                              | - Gather preliminary evidence of effectiveness of Reflective Fostering Programme                            | - PSI<br>- PRFQ<br>- Parental Self-Efficacy Scale<br>- Reflective Functioning Questionnaire<br>- SDQ<br>- BAC-C                                             | - Non-significant reductions in measures of parental RF.<br>- Significant reduction in parental stress ( <i>d</i> = .56)<br>- Significant reduction in the two measures of child behavioural difficulties ( <i>d</i> = .30)                                                                                                                    |
| Twemlow et al. (2001), CAPSLE             | Controlled pilot study<br>Country: USA<br>Manual: Yes     | - 110 students at two schools<br>( <i>n</i> = 46 intervention;<br><i>n</i> = 64 control)        | - Evaluate the effectiveness of CAPSLE in reducing school violence and improving academic achievement       | - Metropolitan Achievement Test                                                                                                                             | - Disciplinary referrals decreased from 74 for physical aggression to 35 after first year of implementation of CAPSLE; suspension rates significantly lower in CAPSLE school compared to control ( <i>p</i> < .02).<br>- Improved academic achievement CAPSLE students' scores increased from 40th to 58th percentile, no increase in control. |

(Continued)

Table 1. (Continued)

| Study name                                                  | Trial details                                                      | Participants                                                                                                                                                                                                                                                            | Aims                                                                                                                                                                                                                                                                        | Instruments                                                                                                              | Results or relevant findings                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fonagy et al. (2005), CAPSLE                                | Multiple baseline design<br>Country: USA<br>Manual: Yes            | - 2206 students ( $n = 1106$ intervention; $n = 1100$ control)                                                                                                                                                                                                          | - Identify whether improvements in educational attainments was associated with schools in which CAPSLE had been implemented over 5-year-period                                                                                                                              | - Metropolitan Achievement Test                                                                                          | - Programme participation associated with improvements in students' attainment scores in maths ( $p < .001$ ) and reading ( $p < .001$ ).                                                                                                                                                                                                                                                                                                      |
| Fonagy et al. (2009), CAPSLE                                | Cluster randomised controlled trial<br>Country: USA<br>Manual: Yes | - Nine elementary schools comprising 1345 students. Three schools in CAPSLE, three in School Psychiatric Consultation (SPC) and three in TAU. Three boys and girls selected randomly from a 3rd, 4th and 5th class in each of the nine schools ( $n = 162$ , each year) | - If those schools in CAPSLE and SPC experienced lower levels of aggression and victimisation than schools in control<br>- Assess if CAPSLE schools were associated with more positive bystanding behaviours, greater victim empathy and lower tolerance towards aggression | - Peer nominations of aggression and victimisation<br>- The Peer Experiences Questionnaire                               | - Small to medium effect sizes found for CAPSLE in terms of primary measures (mean $ES = .32$ ) and medium to large effect sizes for classroom observations (mean $ES = .97$ ).<br>- Compared to TAU, CAPSLE moderated development of increasing peer-reported victimisation ( $p < .01$ ) and aggression ( $p < .05$ ).<br>- Superiority of CAPSLE compared to TAU was maintained at follow-up for victimisation, aggression and helpfulness. |
| Valle et al. (2016), Thoughts in Mind Project (TIM Project) | Randomised controlled trial<br>Country: Italy<br>Manual: Yes       | - 46 10-year-old children in two school classes and the respective two teachers ( $n = 26$ intervention; $n = 23$ control)                                                                                                                                              | - Assess the efficacy of the TIM project in promoting children's theory of mind and mentalization skills                                                                                                                                                                    | - The mentalizing task<br>- False belief tasks<br>- Strange stories<br>- Reading the mind in the eyes test-child version | - Children in TIM intervention demonstrated significant improvement in third-order false beliefs ( $p = .003$ ).<br>- Significant main effect for the overly positive (OP, $p = .001$ ) and rational and neutral (R, $p = .001$ ) mentalizing styles in TIM group.                                                                                                                                                                             |

(Continued)

Table 1. (Continued)

| Study name                       | Trial details                                                      | Participants                                                    | Aims                                                                                                     | Instruments                                                                                 | Results or relevant findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rossouw and Fonagy (2015), MBT-A | Randomised controlled trial<br>Country: UK<br>Manual: Yes          | - 80 adolescents with self-harm and depression                  | - Assess if MBT-A is effective in reducing self-harm compared to TAU                                     | - RTSHI<br>- CI-BPD<br>- MFQ<br>- BPFS-C                                                    | - Recovery rate of 44% in MBT-A group compared to 17% in TAU.<br>- Interview-based assessment blinded to group reported 57% recovery in MBT-A compared to 32% in TAU.<br>- Larger standardised mean difference scores found in MBT-A group ( $SMD = 1.62$ ) compared to TAU ( $SMD = 1.06$ )<br>- Moderate effect sizes for post-treatment depression scores ( $d = .49$ ) and self-reported borderline personality features ( $d = .36$ ).<br>- No significant difference found among treatment groups on measures of borderline personality features.<br>- No significant group differences found on secondary outcome measures. |
| Beck et al. (2020)               | Randomised controlled trial<br>Country: Denmark<br>Manual: Yes     | 112 adolescents<br>- ( $n = 56$ MBT group; $n = 56$ TAU)        | - To test the efficacy of group-based MBT for adolescent presenting with borderline personality disorder | - BPFS-C<br>- BDI<br>- RTSHIA<br>- YSR<br>- ZAN-BPD<br>- Children's Global Assessment Scale | - No significant difference found among treatment groups on measures of borderline personality features.<br>- No significant group differences found on secondary outcome measures.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Laurensen et al. (2014), MBT-A   | Pilot Feasibility trial<br>Country: The Netherlands<br>Manual: Yes | - 11 adolescents accessing inpatient treatment                  | - Assess feasibility and preliminary results of inpatient MBT-A                                          | - ADIS-C<br>- SCID-I<br>- SCID-II<br>- BSI<br>- SIPP-I18<br>- EuroQol (EQ-5D)               | - Significantly less symptomatic distress on BSI ( $d = 1.46$ ).<br>- Large effect sizes found on a number of SIPP-I18 domains: self control ( $d = 1.29$ ), social concordance ( $d = .70$ ), identity integration ( $d = 1.42$ ), responsibility ( $d = .58$ ) and overall quality of life ( $d = 1.11$ ).<br>- Significant reduction in personality disorder traits and symptoms.                                                                                                                                                                                                                                               |
| Hauber et al. (2017)             | Prospective pilot study<br>Country: Denmark<br>Manual: Yes         | - 62 (out of 115) adolescents treated for personality disorders | - Treatment evaluation of MBT                                                                            | - VKP<br>- SCL-90<br>- SCID-II                                                              | - Three quarters of participants showed lower level of personality disorders and two-third of participants did not meet SCID-II criteria for personality disorder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

(Continued)

Table 1. (Continued)

| Study name                     | Trial details                                                     | Participants                                                                        | Aims                                                                                                                          | Instruments                                                      | Results or relevant findings                                                                                                                                                                                                                                                 |
|--------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bo et al. (2017), MBT-Group    | Non-controlled pre-post design<br>Country: Denmark<br>Manual: Yes | - 34 adolescents with borderline personality disorder attending outpatient services | - Evaluate the effectiveness of MBT-group                                                                                     | - BPFS-C<br>- YSR<br>- BDI-Y<br>- RTSHI-A<br>- IPPA-R<br>- RFQ-Y | - Significant reduction in BPFS-C score at post treatment ( $p = <.001$ ).<br>- Significant improvements on YSR-Total ( $p = .004$ ) and YSR-internalising ( $p = <.004$ ), mentalizing ( $p = <.001$ ), peer and parent attachment and depressive symptoms ( $p = <.001$ ). |
| Bo et al. (2019)               | Non-controlled pre-post design<br>Country: Denmark<br>Manual: Yes | - 8 adolescents with avoidant personality disorder                                  | - Evaluate the feasibility and possible effectiveness of new MBT treatment for adolescents with avoidant personality disorder | - SCID-II<br>- MACI<br>- YSR<br>- CBCL<br>- RFQ-Y                | - Significant changes in avoidant personality pathology.<br>- All eight participants scored below cut-off for avoidant personality on MACI.<br>- Significant improvement on internalising pathology and mentalizing ability.                                                 |
| Griffiths et al. (2017), AMBIT | Observational study<br>Country: UK<br>Manual: Yes                 | - Clinical outcome data available for 161 young people                              | - Evaluate outcomes within patterns of service utilisation and consider AMBIT's influence on team                             | - WHOQOL<br>- BREF<br>- BY1<br>- PANSS                           | - Results indicated improvement on quality of life scales, mood difficulties and positive and negative psychosis symptoms.                                                                                                                                                   |

MTB: minding the baby; TAU: treatment as usual; CES-D: Centre for Epidemiological Studies Depression Scale; BSI: brief symptom inventory; PBI: parental bonding instrument; PI: pregnancy interview; PDI: parent development interview; MBT: mentalization-based treatment; PTSD: post-traumatic stress disorder; RF: relative functioning; CBCL: child behaviour checklist; EPDS: Edinburgh Postnatal Depression Scale; TAQ: Traumatic Antecedent Questionnaire; BSID: Bayley Scale of Infant Development; WMCI: working model of the child interview; NCAT: nursing child assessment satellite training; BDI: Beck depression inventory; BDI-Y: Beck depression inventory youth; MORS: Mother's Object Relation Scale; CDI: children's depression inventory; MCAT: Manchester child attachment story task; STAXI: state-trait anger expression inventory; PRFQ: Parental Relative Functioning Questionnaire; PSS: Parenting Stress Scale; PAM: parenting alliance measure; RAM: relationship attribution measure; SDQ: Strengths and Difficulties Questionnaire; SIMS-PR: security in the marital subsystem-parent report; FMSS: five minute speech sample; PSI: parenting stress index; BA-C-C: brief assessment checklist for children; RTSHI-A: risk-taking and self-harm inventory for adolescence; RTSHI: risk-taking and self-harm inventory; CI-BPD: Childhood Interview for DSM-IV borderline personality disorder; MFQ: Mood and Feelings Questionnaire; BPFS-C: borderline personality features scale for children; YSR: youth self report; ZAN-BPD: Zanarini Rating Scale for borderline personality disorder; ADISC: anxiety disorders interview schedule for DSM-IV child version-child interview; SCID-I: structured clinical interview for DSM-IV Axis I personality disorders; SCID-II: structured clinical interview for DSM-IV Axis II personality disorders; SIPP: severity indices of personality problems; EQD: EuroQol; RFQ-Y: Reflective Functioning Questionnaire-Youth version; MACI: Million Adolescent Clinical Inventory; AMBIT: adolescent mentalization-based integrative treatment; WHOQOL-BREF: World Health Organisation Quality of Life-BREF Questionnaire; BY1: Beck Youth Inventories; PANSS: Positive and Negative Syndrome Scale; IPPA-R: inventory of parent and peer attachment-revised; VKP: Dutch Questionnaire for Personality Characteristics; CAPSLE: creating a peaceful school learning environment; NICHD: The Eunice Kennedy Shriver National Institute of Child Health and Human Development.

**Table 2.** Quality ratings of studies using individual attributes of methodological quality.

| Article                   | Quality rating |
|---------------------------|----------------|
| Sadler et al. (2013)      | 10             |
| Longhi et al. (2020)      | 13             |
| Slade et al. (2020)       | 10             |
| Ordway et al. (2014)      | 9              |
| Pajulo et al. (2012)      | 3              |
| Sleed et al. (2011)       | 3              |
| Suchman et al. (2008)     | 3              |
| Suchman et al. (2010)     | 10             |
| Suchman et al. (2011)     | 10             |
| Suchman et al. (2017)     | 9              |
| Suchman et al. (2016)     | 6              |
| Baradon et al. (2008)     | 3              |
| Sleed et al. (2013)       | 7              |
| Bain (2014)               | 3              |
| Ramires et al. (2012)     | 2              |
| Halfon and Bulut (2019)   | 5              |
| Hertzmann et al. (2016)   | 9              |
| Bammens et al. (2015)     | 8              |
| Adkins et al. (2018)      | 9              |
| Byrne et al. (2019)       | 6              |
| Enav et al. (2019)        | 5              |
| Midgley et al. (2019a)    | 13             |
| Midgley et al. (2019b)    | 5              |
| Twemlow et al. (2001)     | 7              |
| Fonagy et al. (2005)      | 6              |
| Fonagy et al. (2009)      | 9              |
| Valle et al. (2016)       | 5              |
| Rossouw and Fonagy (2012) | 12             |
| Beck et al., (2020)       | 14             |
| Laurensen et al. (2014)   | 5              |
| Hauber et al. (2017)      | 4              |
| Bo et al. (2017)          | 4              |
| Bo et al. (2019)          | 6              |
| Griffiths et al. (2017)   | 2              |

Lighthouse parenting programme, a short-term 12-session MBT approach for foster families, a 10-session Reflective Fostering Programme and a four-session group informed by MBT principles for parents of children with autism. Of the four school-based studies, three used the Creating a Peaceful School Learning Environment (CAPSLE intervention). Regarding the seven studies focusing exclusively on adolescents, five measured the effectiveness of various types of mentalization-based interventions for adolescents presenting with differing emotional regulatory difficulties. One further study focused on a MBT group programme for avoidant personality disorder. The remaining observational study focused on adolescent mentalization-based integrative treatment (AMBIT). Adolescents included in the seven studies ranged in age from 11 to 22. Of the 34 studies, 13 studies originated from the USA, 11 from the UK, 4 from Denmark and 1 each from Finland,

South Africa, Brazil, Italy, The Netherlands and Turkey. Sample sizes ranged from single case studies to 2206 students.

### *Parent–infant therapy*

*Parent RF/maternal representation of child.* A total of 13 of the 14 studies included a measurement of RF (Bain, 2014; Baradon et al., 2008; Longhi et al., 2020; Ordway et al., 2014; Pajulo et al., 2012; Sadler et al., 2013; Slade et al., 2020; Sleed et al., 2013; Suchman et al., 2008, 2010, 2011, 2017, 2016). Sleed et al. (2011) was the only study that did not include a specific measure of RF. The parental development interview (PDI) was the most common assessment used (Slade et al., 2004) which was included in all 13 studies. The Pregnancy Interview (PI; Slade et al., 2004) was used in four studies. The working model of the child interview (WMCI; Zeanah & Benoit, 1993) was used in three studies and the Mother's Object Relations Scale (MORS; Danis et al., 2005) was used in one study.

A total of 11 of the 13 studies indicated varying levels of improved RF as measured on the PDI. Slade et al. (2020) reported on a RCT of Minding the Baby (MTB) comprising 164 (82 in intervention, 82 in control) young first time mothers. The study indicated a significant difference in maternal RF favouring the intervention group, with participants 2.15 times more likely to be in the higher category of RF scores. Sadler et al., (2013) reported on a RCT of the same intervention comprising 139 mothers. RF scores increased significantly for both the intervention and control groups when assessed by the PDI when the child was 2 years of age. The authors speculated that the validity of the PDI may have been affected by age and level of education of the mothers included in the study. Ordway et al. (2014) carried out the first preliminary follow-up results of the Sadler randomised trial. Fifty dyads were available for contact (80.6%). This study focused on the intermediate effects (1–3 years post intervention) of the MTB programme on child behaviour and parental RF. Compared to the control group, whose parental RF slightly decreased during follow-up, the intervention groups' parental RF score increased over time. However, analyses showed that the changes over time within the two groups were not significant. One MTB study found no benefits on a range of outcome measures. Longhi and colleagues (2020) reported no positive improvement on maternal RF as measured by the PDI in their multi-site randomised controlled trial of the MTB programme which included 148 mothers. Similarly, no difference was found in measures of maternal sensitivity for parents when compared to those in the TAU.

A study by Pajulo et al. (2012) aimed to determine whether a mentalization-informed residential programme for substance abusing mothers helped to increase RF. Findings indicated that most mothers' (63%) RF scores increased following the completion of the intervention group. Higher prenatal RF was associated with higher postnatal RF ( $r = .56, p = .02$ ).

Suchman et al. (2008, 2010, 2011, 2017) developed the Mother and Toddler programme (MTP), a manualized mentalization-informed therapy designed to meet the needs of substance abusing mothers. The programme consists of weekly individual sessions that aim to enhance the mentalizing capacity of parents. In a pilot study, Suchman and colleagues (2008) examined the efficacy of a 20-session MTP for eight substance abusing mothers of toddlers aged 12–36 months of age. Regarding maternal RF, results indicated significant increase with medium effect sizes noted ( $d = .48$ ). Findings also suggested that mothers' representational outcomes increased on the Representational Balance Composite Score ( $d = .29$ ). In a small RCT, Suchman et al. (2010) randomly assigned 47 mothers to either the MTP ( $n = 23$ ) or a Parent Education Programme ( $n = 24$ ). Findings indicated moderate improvement of RF in the MTP group compared to those in the Parent Education Programme ( $d = .56$ ). Regarding representational quality, those in the MTP showed small improvements in care-giving sensitivity and coherence in representations. No improvements

were found in other representational qualities such as openness and acceptance. Higher levels of RF and representational quality were associated with improvements in care-giving behaviour at post treatment in the MTP group but there were no group differences in the overall quality of representations or children's interactions with their mothers.

A 6-week follow-up study (Suchman et al., 2011) found that increases in self-focused maternal RF were sustained at follow-up ( $d=.20$ ) although the magnitude of this effect size was smaller. No group difference was found in relation to child-focused RF at post treatment or 6-week follow-up. These findings suggested that MTP is effective in helping substance abusing parents to mentalize about their own difficult emotions and the impact of this on their child rather than on their ability to understand and mentalize their children's emotional states impacting on behaviour.

Suchman and colleagues (2017) reported results from a second RCT for the 12-week Mothering from the Inside Out (MIO) mentalization-based intervention. A total of 87 mothers with histories of alcohol and drug addiction caring for children between 11 and 60 months of age were randomised to either MIO or parent education. The intervention had a small effect on RF at the end of treatment ( $d=.20$ ) increasing at 3-month follow-up ( $d=.36$ ). Total coherence scores also increased at post treatment ( $d=.41$ ) and 3-month follow-up ( $d=.54$ ) with scores indicating absence of risk and adequate representation quality. A further study by Suchman et al. (2016) piloted the 12-session MIO programme with 17 mothers receiving services at a community-based mental health service (children aged between birth and 84 months of age). Findings indicated moderate increase in maternal RF ( $d=.34$ ) as measured by the PDI although scores were still at a pre-mentalizing level. In contrast to Suchman's other findings, scores on the child-focused RF showed a large increase ( $d=.64$ ), while self-focused RF showed no improvement ( $d=.04$ ).

Three studies focused on the New Beginnings programme, an intervention designed specifically for mothers in prison and their babies. Two studies (Baradon et al., 2008; Sled et al., 2013) reported significant improvements on RF as measured by the PDI. Baradon and colleagues reported improvements in the mothers' ability to reflect not only on how their emotions and behaviours may affect their children but also attribute the infant's and their own behaviour to internal states. Sled et al. (2013) noted that parents in the intervention group demonstrated significantly higher RF at follow-up compared to those in the control group. In contrast, Bain (2014) found that an expanded 12-session New Beginnings programme completed in a homeless shelter for women in South Africa did not lead to an increase in RF at treatment end as measured on the PDI.

## *Psychological outcomes*

**Mental health needs.** Results provide a somewhat mixed picture as regards the impact of mentalization-based approaches on maternal mental health although it should be emphasised that in many studies, such measures were not primary outcomes. Four studies provided evidence of programmes positively impacting maternal mental health and the remainder indicating no improvement and in one case, actual deterioration in mental health was noted. Slade and colleagues (2020) reported no significant change in maternal depression or PTSD symptoms at the treatment end. Similarly, Sadler et al. (2013) reported no significant group by time findings in relation to measures of depression and general psychopathology and at follow-up (Ordway et al., 2014). Longhi et al. (2020) reported no significant improvement for those in the MTB compared to usual care on measures of maternal depression, or maternal sense of mastery. There was evidence of treatment  $\times$  interaction effect for parental stress. Suchman et al. (2008) reported a non-significant but large effect size change ( $d=-1.74$ ) on depressive symptoms as well as non-significant findings on measures of maternal global psychiatric distress. In a further study, Suchman et al. (2010) reported small group

differences in depression and psychological distress with those in the intervention group reporting fewer symptoms ( $d = .33-.22$ ). Both intervention and control groups also showed broadly comparable reductions in substance use. However at 6-week follow-up, depression scores were not maintained and mothers in the control group showed lower levels of general psychological distress ( $d = .20$ ) indicating no maintenance of treatment gains.

Suchman et al. (2017) reporting on a second RCT testing MIO, found that mothers in the control condition reported greater reductions in a measure of general psychological stress ( $d = -.64$ ) compared to those in MIO ( $d = -.39$ ) although at 3-month follow-up both groups attained scores within non-clinical levels. Moderate to mild decrease in heroin use was also reported in the MIO group ( $d = -.29$ ) compared to slight increase in use in mothers randomised to the control condition ( $d = .21$ ). Finally, Suchman and colleagues (2016) reported a significant reduction in two of three subscales on a measurement of parental stress. Medium effect sizes were also noted on measures of depression ( $d = -.58$ ) and general psychological distress ( $d = -.41$ ).

Two of the New Beginning studies assessed maternal mental health difficulties. Slead and colleagues (2013) reported no significant reductions in depressive symptoms in their sample. They suggested that it may not be emotional change which moderated improved RF in the study. Bain (2014) reported increase in levels of anxiety and depression among mothers who completed the programme. The above studies suggest that the MIO and MTB programmes may be effective in addressing certain maternal mental health difficulties but the long-term effectiveness of such improvement is unclear. Similarly, preliminary evidence suggests that the New Beginnings programme does not effectively address the maternal mental health difficulties as evidenced by post-outcome measures.

**Child development.** Five studies used child developmental measures (Bain, 2014; Longhi et al., 2020; Pajulo et al., 2012; Slead et al., 2011; Suchman et al., 2017) but only three used these as intervention outcomes. Longhi et al. (2020) found no difference on the Bayley Scale of Infant Development (Bayley, 1993) for children of parents following completion of the MTB. Slead et al. (2011) reported significant increases for the intervention group on the infant mental index score ( $d = .56$ ) on the Bayley scale compared to those in the control condition. Similar gains were also found on the motor index scores, with large effect sizes noted at treatment end ( $d = .89$ ). Bain (2014) also reported that the infants of parents who attended the New Beginnings programme demonstrated significant gains in speech development, with babies catching up between approximately 1–6 months whereas those in the control group demonstrated a slight increase in mean speech delay.

**Attachment.** Four studies reported information on attachment styles and patterns following treatment completion. Three studies used the Strange Situation Procedure (Ainsworth et al., 1978) and one used the Attachment Q-Set (Waters, 1995). Longhi et al. (2020) using the Attachment Q-Set, found no difference between the MTB group and TAU on attachment security. Slade and colleagues (2020) reported a significant difference across the three attachment classifications, with those in the MTB group 2.69 times more likely to be classified as organised and 2.59 times more likely to be classified as secure than those in the control group. Sadler et al. (2013) noted that there were a significantly higher percentage of secure infants in the intervention group compared to the control group dyads. Specifically, the intervention dyads were 3.4 times more likely to have infants who had secure attachment patterns than infants in the control group. Children in the control group were also 3.1 times more likely to present as having a disorganised attachment pattern compared to those in the intervention group. Suchman et al. (2017) reported no significant group differences in the percentage of children whose attachment status either remained secure or became more secure. The

authors suggest that attachment style may have been measured prematurely and changes in this require consolidation of maternal RF and representations. At this point, the limited literature provides equivocal evidence of mentalization based therapies in modifying attachment styles.

**Child behavioural difficulties.** Only two studies provided information about effectiveness in reducing child behavioural difficulties. Longhi et al. (2020) found a significant improvement in child behavioural difficulties ( $p=.011$ ) for children in the MTB compared to peers in TAU. Ordway and colleagues (2014) found that parents who attended the MTB programme rated their children as demonstrating significant reductions in child externalising behaviours and total problem scales (with effect sizes in the medium to large range). No significant difference was noted between the groups on child internalising symptoms. The study, a follow-up to Sadler's, demonstrated that 1–3 years after attending the MTB programme, parents reported reductions in child externalising behaviours. This occurred despite no significant increase in parental RF.

### *Mentalization-based child therapy*

Halfon and Bulut (2019) found that 48 children with behavioural problems who completed mentalization-informed psychodynamic play therapy (average 40 sessions) reported significant improvement on parent ( $d=.95$ ), teacher ( $d=.41$ ) and therapist ( $d=1.15$ ) rating measures of externalising behaviours and general functioning. Ramires et al. (2012) reported on the treatment of a 7-year-old boy living in a residential home in Brazil referred for treatment of depressive symptoms. The child showed a significant decrease on depressive symptoms at treatment end. Post assessment indicated no change in the child's insecure attachment pattern, similar to that found in the pre-treatment. No measure of RF was used to assess mentalizing skills. This study provides limited evidence for the effectiveness of mentalization-based child therapy. Furthermore, studies are required in order to determine the potential uses of MBT approaches directly with young children.

### *Mentalization parenting programmes*

**RF.** All seven studies included at least one measure of RF. The PDI and Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2009) were used by Hertzmann et al. (2016) in their study of MBT-PT, a programme adapted for use with inter-parental conflict. Byrne et al. (2019) also used the PDI in the Lighthouse Study for families where children were at risk of maltreatment. Enav et al., (2019) also used the PDI for parents of children with autism. Bammens et al. (2015) and Adkins et al. (2018) assessed parental RF using the five minute speech sample (FMSS; Magaña-Amato, 1983) coded for RF using the RF scale (Fonagy et al., 1998) in their respective analysis of the Family Minds programme for foster and adoptive parents. Midgley et al. (2019a) used the FMSS for foster parents but it was not reported as an outcome measure in the study. Finally, Midgley et al. (2019b) used the PRFQ and an 8-item RFQ. Hertzmann and colleagues noted contradictory findings in terms of RF, with no significant improvements noted on the PRFQ but more nuanced shifts found in the qualitative study using the PDI and the Expectations/Experience of Therapy Interview-Parents in Conflict Version. Bammens et al. (2015) reported that just under half (47%) of those in the intervention group moved to the next significant RF level from pre-to-post speech samples and 41% stayed within their pre-RF level. A significant difference was found between the groups in term of post-RF scores, with the intervention group demonstrating significantly increased levels of RF. The positive results were supported further by Adkins et al. (2018). At treatment end, there were large effect sizes found for RF as measured by the PRFQ

( $d = .74$ ) and the FMSS ( $d = 1.31$ ) for those randomised to the Family Mind programme compared to those in the control group. These results provide preliminary evidence for the use of the FM programme in helping promote foster parental RF. Byrne and colleagues (2019) reported that parents showed no significant improvement in parental mentalizing capacity following completion of the 20-session Lighthouse programme. In contrast, Enav and colleagues (2019) found that the intervention group demonstrated a significant improvement in RF at treatment end ( $p = .0002$ ). This was the only study that focused on parents of children with neurodevelopmental delays. Finally, Midgley et al. (2019b) reported non-significant improvement on all subscales bar one of the two mentalization measures used with small effect sizes noted ( $d = .15-.35$ ) of 28 foster carers who completed a 10-session Reflective Fostering Programme.

### *Psychological outcomes*

**Parental mental health.** Five of the seven studies included parental mental health measures. Results from the MBT-PT study indicated no significant improvement on measures of parental anger, parenting stress and quality of parenting alliance compared to control group at 6-month follow-up. Adkins and colleagues (2018) noted a significant interaction effect on three of the five subscales of the Parenting Stress Index (Abidin, 1995) with moderate effect sizes noted. Enav et al. (2019) reported no difference in parents' emotional regulation capacity following treatment, however, parents' sense of self-efficacy showed a significant improvement with small effect sizes noted ( $d = .37$ ). Midgley et al. (2019b) reported significant reductions in total parenting stress ( $d = .56$ ) but non-significant improvement in parental self-efficacy. Finally, Byrne et al. (2019) reported that parents who completed treatment indicated significant reductions in self-reported parenting stress and higher levels of parental self-efficacy. No significant findings were found concerning measures of general anxiety and low mood.

**Child measures.** The MBT-PT programme reported a reduction in children's reported symptomology on the Strengths and Difficulties Questionnaire ( $d = -.92$ ) indicating a highly significant direction of improvement. No such improvement was evident for internalising scores. Two of four subscales on a measure of children's reaction to parental conflict evidenced large intervention effects ( $d = 1.35-1.63$ ). Midgley et al. (2019a) reported no significant improvement on foster-carer-reported measures of child emotional and behavioural difficulties compared to those in the TAU. In contrast, child reported measures indicated significant improvements at 12 and 24 weeks, respectively, with medium effect sizes noted. Midgley and colleagues (2019b) reported conflicting findings with significant improvement found on one measure of total child emotional and behavioural difficulties ( $d = .30$ ) but not on the second measure. Finally, Enav and colleagues (2019) noted that parents reported a significant reduction in child behaviour difficulties with small effect sizes noted ( $d = .23$ ).

### *Mentalization-informed school interventions*

**Mentalization.** Of the four studies that took place in schools only one specifically measured mentalizing and other related concepts. Valle and colleagues (2016) examined the effectiveness of the 'Thought in Mind Project' (TiM Project) which aimed to increase the capacity of teacher's mentalizing skills. The TiM intervention comprised of two meetings with teachers, each lasting 3 hours. A particular strength of this study was the range of mentalizing abilities assessed in children. Assessments completed before and after the intervention included the mentalizing task (Sharp et al., 2007), strange stories (Happé, 1994) and the reading the mind in the eyes test-child version

(RMET; Baron-Cohen et al., 2001). Performances were found to increase in the intervention group in third-order false belief understanding and two of three parts in the mentalizing task involving a more realistic appraisal of events and a less overly positively-biased mentalizing stance compared to controls with moderate effect sizes noted.

*Attainments and school environment.* Three of the studies focused on the CAPSLE, a manualized psychodynamic social systems approach, with strategies specifically designed to promote and enhance mentalization in order to positively modify the educational and disciplinary school environment. Twemlow and colleagues (2001) examined the effectiveness of the intervention in a pilot investigation. There was a dramatic reduction in disciplinary referrals and improvement on achievement testing on the Metropolitan Achievement Test (MAT, in reading scores but not mathematical scores) compared to the control school.

The second study utilised a multiple baseline design to assess academic attainment testing scores in five elementary schools in which CAPSLE was introduced (Fonagy et al., 2005). A total of 2206 students participated in the study of which 1100 were in control group who did not have access to CAPSLE. The study reported that those students attending schools participating in CAPSLE performed better on standardised achievement testing. The authors noted that participation in CAPSLE showed an average gain of 8 to 10 percentile points relative to non-CAPSLE students. The multiple baseline design further strengthens the authors' conclusions that improved academic ability was directly linked to CAPSLE. A well designed RCT compared the effects of the manualized School Psychiatric Consultation (SPC) to CAPSLE and treatment as usual (Fonagy et al., 2009). A total of 1345 third–fifth graders were randomised to one of the three arms. The authors report that the teacher implemented intervention reduced aggression and improved classroom behaviour, with effect sizes ranging from small to moderate on primary outcome measures of aggression and victimisation (mean  $d = .32$ ). Specifically, the programme led to a reduction in the number of children nominated by peers as aggressive. This methodologically rigorous study provides some evidence of the effectiveness of CAPSLE in reducing disruptive and aggressive behaviours when applied at a whole-system level.

### *Mentalization approaches for teenagers*

*Mentalization.* Three of the seven studies included measures to assess mentalization skills. Ros-souw and Fonagy (2012) examined the effectiveness of individual mentalization-based treatment for adolescents (MBT-A). Eighty adolescents who engaged in self-harm were randomised to MBT-A or treatment as usual (TAU). On a measure of mentalizing, those in the MBT-A group showed an increase in accurate recognition of effect and greater awareness of hypothetical scenarios ( $d = .38$ ) compared to no change in the TAU group. Measurements of attachment avoidance also decreased in the MBT-A group compared to TAU post intervention ( $d = .42$ ). Interestingly, the correlation between improved mentalization and reduction in self-harm behaviour was highly significant ( $p < .001$ ) as was the reduction in attachment avoidance and episodes of self-harm ( $p < .001$ ). Although findings are positive, half of those assigned to treatment did not finish therapy and a quarter dropped out from therapy by 2 months. Bo, Beck and Sharp (2017) carried out an observational study ( $n = 34$ , age range 13–17) with female adolescents who were engaged in three out-patient clinics in Denmark. Findings at treatment end indicated clinically significant change in terms of adolescent RF as well as increased attachment to both parents and peers. Finally, Bo et al. (2019) reported on a MBT group therapy specifically for adolescents with avoidant personality disorder and found clinically significant change in terms of self-reported RF.

## Psychological outcomes

**Personality disorder and self-harm measures.** Six studies included assessments of various personality disorder symptoms. Rossouw and Fonagy (2012) found a significant reduction in borderline personality features among those in the MBT-A compared to the treatment group ( $d=.34$ ). In real terms, by 12 months, 58% of teenagers in the TAU compared to 33% in the intervention group met criteria for borderline personality diagnosis ( $p<.05$ ). In addition, self-report borderline personality disorder traits was significantly lower for the MBT-A group ( $d=.36$ ). Bo et al. (2017) also reported significantly reduced scores in borderline personality traits. Another study presenting data from a feasibility study, reported on 11 female adolescents presenting with at least two of nine of the criteria for borderline personality disorder (aged 14–18) who completed a year of MBT-A (Laurensen et al., 2014). Results indicated that between 27% and 55% of individuals' demonstrated reliable change and 9% to 55% showed clinical change. Significant improvements were also noted on a range of personality functions with medium to large effect sizes noted ( $d=.58$ – $1.46$ ). Hauber and colleagues (2017) also reported significant reductions in personality traits and symptoms at treatment end among a sample of adolescents who received and completed intensive MBT. Approximately 75% of participants showed a reduction in overall number of personality disorders and 66% no longer met criteria for personality disorder according to SCID-II criteria. Finally, Bo et al. (2019) reported significant changes in avoidant personality pathology at treatment end.

One study indicated no significant improvement in personality functioning. Beck and colleagues (2020), in one of the strongest rated methodological studies included in the analysis, found that borderline personality features at treatment end were not significantly different from TAU among 112 adolescents. Only 29% of the MBT-group remitted and 29% attended less than half of the group sessions.

Three studies provided information about self-harm and risk-taking behaviours. At 12-month-point, those assigned to the MBT-A group demonstrated significantly lower self-harm scores but no difference was found on measures of risk-taking (Rossouw & Fonagy, 2012). The authors also noted that rates of self-harm assessed by blind raters indicated that 68% of TAU were definitely self-harming compared to 43% in the MBT-A group. Similar findings were reported by Bo and colleagues (2017) with significant reduction found in self-harm but no change in risk-taking behaviours. In contrast, Beck and colleagues (2020) reported almost no pre-post change in a measure of self-harm.

**Mental health.** All seven studies provided evidence for the effectiveness of mentalization treatments with adolescents in addressing mental health needs. Rossouw and Fonagy (2012) found moderate improvement in rates of depression for those in the MBT-A group ( $d=.49$ ). At treatment end, 68% of the TAU group compared to 49% in the MBT-A presented with scores in the probable clinical range for depression. Significant improvements were also reported on measures of depression and internalising symptoms by Bo et al. (2017) as well as large effect sizes noted by Laurensen et al. (2014) for general psychiatric distress ( $d=1.46$ ). Significant reductions were also noted on general psychological distress symptoms by Hauber et al. (2017) and internalising pathology but not externalising pathology (Bo et al., 2019). Griffiths and colleagues (2017) also reported that those who attended the AMBIT demonstrated significant reductions in positive and negative symptoms of psychosis. Finally, Beck et al. (2020) found no significant improvement on measures of externalising and internalising symptomology, as well as on a measure of depression.

**Quality of life measurements.** Laurensen et al. (2014) reported significant improvements in quality of life measures ( $d=1.11$ ). Griffiths et al., (2017) also reported on significant improvements on a

range of measures of quality of life including physical, social and psychological domains. Finally, Bo et al. (2019) reported that participants significantly increased social engagements and acquired more friends at treatment end.

## **Discussion**

The aim of this review was to assess the state of the evidence regarding MBT interventions in use with children, families and adolescents. This systematic review provides preliminary evidence of the effectiveness of MBT interventions in reducing psychological distress and increasing RF with families and children. Populations ranged from parental–infant dyads, foster/parents and adolescents presenting with self-harm and/or borderline personality disorder. Study settings included community services, residential services, prisons and schools. Although these findings are encouraging, the small number of RCT's completed and the poor methodological rigour of some of the studies included in the review limit conclusive findings. Study quality varied and a high number scored below the cut-off point of seven indicating poor methodological rigour. Despite these shortcomings, MBT approaches appear to demonstrate some effectiveness in addressing a range of child and family presenting difficulties common across a range of primary and secondary services.

The majority of the included studies focused on three particular areas: improving parent–infant relationships, school-based MBT-programmes and interventions focusing on adolescents with personality disorders and accompanying difficulties. A total of 14 of the 34 studies specifically focused on improving parents' sensitivity, attunement and parental RF in a range of settings. Of note, the majority of the studies focusing on parent/child dyads reported some degree of improvement in RF but the specific areas of improvement (self-reflection as opposed to reflection on the mental states and behaviours of others) differed among the various interventions. The parents in the aforementioned studies were characterised mainly by significant mental health and substance abuse difficulties. This may limit the generalisability of these findings to other parenting groups.

This review failed to find strong evidence for the effectiveness of specific types of MBT approaches such as AMBIT (Bevington et al., 2013) and Mentalization-Based Therapy for Children (Midgley, O'Keffe, et al., 2017). Similarly, no specific effectiveness in studies were found to focus specifically on Mentalization-Based Therapeutic Interventions for Families (MBT-F) or Short-term Mentalization and Relational Therapy (SMART). Although the former approach was integrated in the Mentalization-Based Therapy for Parental Conflict-Parents Together study (MBT-PT; Hertzmann et al., 2016) and MBT-A (Rossouw & Fonagy, 2012). Regarding MBT-F, Asen and Fonagy (2012) questioned whether the approach can really be seen as a new approach or if it is an adjunct to already established and familiar systemic approaches. Indeed the nature of mentalization has made it an increasingly popular treatment with some arguing that it can be conceptualised as a common therapeutic factor that bridges differing orientations (Bateman & Fonagy, 2004; Byrne & Egan, 2018; Goodman, 2013; Swenson & Choi-Kain, 2015). This positive feature of MBT treatments may also work against it, as the pull of well-established and common treatment components may pale in comparison to other treatments that focus on seemingly novel intervention components.

The duration of treatment varied greatly depending on the presentation but what was common among interventions with parenting/foster-carer interventions was the relative short duration of treatment, with no treatment being longer than 20 weeks and most under 12 sessions. This is in line with research from other reviews that have found that relatively short treatment dosages were associated with greater improvement than more intensive interventions and the effect sizes reported in the mentalization literature compare favourably to other attachment focused interventions (Bakermans-Kranenburg et al., 2003). The intervention studies to date have tended to focus on more severe clinical presentations. This makes sense given the deeply rooted relational or

representational characteristics that underpin such clinical difficulties. The literature may benefit from expanding its focus on other clinical areas and age ranges. Regarding the middle years parenting programmes, MBT seems to be effective in reducing child behavioural difficulties although this was not the focus of interventions as all interventions aimed to increase RF. Interestingly, this review found limited evidence for a sleeper effect in which long-term benefits are evident after treatment has ceased but this was mainly due to the lack of long-term follow-up. This is an area in need of further research to see if mentalization can provide longer-term improvements than more behaviourally focused interventions.

Regarding MBT in schools, the limited research to date, indicates that schools that adopt a mentalizing informed environment may help improve students' scores on standardised attainment tests as well as reduce aggressive episodes among peers. Furthermore, work is needed in clarifying if indeed increased RF moderated such improvements. The specific role of mentalizing in reducing borderline personality features in adolescents is somewhat clearer. The evidence to date provides preliminary support for the targeting of mentalizing deficits in reducing self-harm and other personality dysfunction (Rossouw & Fonagy, 2012) and is broadly in line with other systematic reviews of MBT approaches (Malda-Castillo et al., 2019) and MBT with adults presenting with borderline personality disorder (A. Bateman & Fonagy, 2008). However, it should be noted that recent findings (Beck et al., 2020) indicated that adolescents attending MBT terminated therapy prematurely and earlier than TAU. Group MBT showed no benefit over TAU. Similar rates of attrition were reported by Rossouw and Fonagy (2012) but the clinical need of this complex population may have been better addressed through individual rather than group therapy. Questions persist as to what is the most effective treatment modality with this high need group and if clinical staging may be effective in mapping specific treatment components to clients with varying levels of need (Hutsebaut et al., 2020).

## Limitations and conclusions

Although promising, the findings from this review have to be considered in the context of the following limitations. Studies not in English were not included. The review also included a number of non-controlled, methodologically poor studies that may have potentially inflated the number of positive findings reported. There may be other reasons (such as regression to the mean, spontaneous remission or non-specific effects of treatment) that may account for improvement. At this point we can tentatively conclude that MBT provides some evidence in the following areas for children and families: (1) for promoting parental RF among mothers, especially those with addiction issues; (2) decreasing aggression and promoting pro-social and academic ability in school and (3) with adolescents presenting with self-harm or features of borderline personality disorder. These findings warrant further investigation with larger sample sizes, measures of treatment fidelity, active control conditions, and specific assessments that gauge mentalizing capacity. Given the strong emphasis that proponents of MBT put on accruing evidence, and the number of ongoing studies taking place, it is envisaged that further studies will address the aforementioned issues.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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