Case Study 1 – An Evidence-Based Practice Review Report

Theme: Interventions Involving Parents

How effective is the use of video feedback in modifying child behaviour outcomes in positive parenting programmes?

Summary

Video-feedback has been used in parent training programmes to identify and increase key sensitive parenting behaviours. The intervention involves identification of successful parent-child interactions by a trained intervener from selected parts of a video recording of the parent and child, which are then fed back to the parent. The aim of this review is to determine how effective video feedback is when delivered to parents in improving children's behaviour. A systematic literature search identified six studies which met the inclusion criteria. These were coded using a specifically adapted version of a published protocol (Kratchowill, 2003) and evaluated using the Weight of Evidence Framework (Gough, 2007). In spite of a number of methodological concerns, all the studies received an overall Weight of Evidence of Medium. The design of three studies showed promise in determining the evidence for the unique contribution of video-feedback to the intervention. Effect sizes on child outcome measures varied considerably and suggested that the intervention may have differential effects relating to behaviour type, age of child and circumstance of the family. Recommendations for the use of video feedback in professional practice in the light of these findings are discussed.

Introduction

The use of video footage as a tool for therapeutic work goes back to early work (Ainsworth, Blehar, Waters & Wall, 1978; Bowlby, 1988; Robertson & Robertson, 1989) on the observations of children and infants. From these observations, they argue that key sensitive parenting behaviours taking the child's perspective, and parent sensitivity, form the basis for the provision of a secure base for the infant from which they can explore. Video-feedback has been used in interventions which focus on improving the attachment relationship between caregiver and child (see Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003 for a review). Although programs differ in design and procedures they are in keeping with generally formulated principles for this method. First, most programs describe the situations to be filmed, i.e. natural interactions between a parent and child. Second, the therapist carefully edits the recording to select certain images. Thirdly, the video is replayed to the caregiver. The therapist focusses the attention of the caregiver on certain aspects of their interaction with the child, to highlight areas of strength and/or elicit discussion. Finally, the therapist offers positive feedback to the caregiver. At this point it is important to note that the term 'caregiver' has been used. This is because, while video-feedback in relation to attachment theory has predominantly focussed on the mother-child relationship, it is also used in a wide range of contexts including the father-child relationship (Lawrence, Davies, & Ramchandani, 2013), hospitals (Bilszta, Buist, Wang, & Zulkefli, 2012) and schools (Hayes, Richardson, Hindle & Grayson, 2011; Brown & Kennedy, 2011).

(Fukkink, 2008) identifies two major approaches that can be distinguished in the orientation of the programs informed by two different strands of psychological theory, depending on the purpose and outcome of the intervention. One approach focusses

primarily on the interactive behaviour between caregiver and child. The focus of attention is on the sensitivity the caregiver gives to the child. The other, the psychotherapeutic approach, focusses on the mental representations the caregiver has of themselves, the child and their relationship. Particular attention is paid to the caregiver's past experiences of attachment relationships and the video feedback is used to access early memories of childhood.

A series of meta-analytic studies (Bakermans-Kranenberg et al., 2003) examining the effectiveness of attachment-based interventions found that interventions with video feedback were more effective in improving sensitive parenting than interventions without this method. A later meta-analysis (Fukkink, 2008) showed small to medium effects in improvements of parent's behaviour (d = 0.47) and attitude (d = 0.37) toward parenting in studies that used video feedback. It also showed a small to medium effect (d=0.33) on children's behaviour. The observations of even subtle behaviours of both the child and caregiver makes it possible for the caregiver to consider the child's perspective in their thinking. The video can show positive moments of the caregiver-child interaction, empowering the caregiver to use more sensitive parenting skills in their daily interactions and reflect on their caregiving behaviour. Through this enhanced sensitivity and attunement of the parent to child, child behaviour can be modified.

Video Interactive Guidance (VIG) is one particular application of video-feedback based on a model developed in the Netherlands called Video Home Training (VHT) (Biemans, 1990). While attachment theory focusses on caregiver sensitivity, the theoretical concepts underpinning VIG of primary and secondary intersubjectivity are ones that critically concern the link between individuals involved in communication (Trevarthen &

Aitken, 2001). The VIG process starts by helping the parent understand what they would like to be different. These are often focussed on child behaviours so new goals are made between the therapist and caregiver concerning the impacts they have on the child and vice versa. The aim of VIG is to increase attunement between the caregiver and child, which is a responsive relationship where both the caregiver and child play an active role. Thus VIG can be distinguished from attachment theory by way of considering the transmission of attachment as a two-way process rather than one way (i.e. caregiver to child). Further programmes that have developed in parallel to VIG include Video Feedback to Promote Positive Parenting (VIPP) (Juffer, Bakermans-Kranenburg & van IJzendoorn, 2008); Parents Plus Early Years (PPEY) (Sharry, Guerin, Griffin & Drumm, 2005) and Orion (Weiner, Kuppermintz & Guttman, 1994).

The use of video feedback in relation to improving attachment has potential importance in educational psychology practice. A failure to develop a secure attachment relationship with the primary caregiver can leave a child with an inability to identify their feelings, combined with a lack of knowledge or ability as to what to do about them (Fonagy, Steele, Steele, Moran & Higgit, 1991). It can also affect development of the child's resilience, leading to a reduction in their ability to take risks, progressively decreasing their self-confidence and motivation. Inevitably there is an increased risk of developing learning, memory and emotional and behavioural difficulties, which can be caused by neurobiological changes (McCrory, De Brito & Viding, 2011). Interventions that focus on improving the attachment relationship therefore have the potential to improve outcomes for children in school. Educational psychologists have an opportunity to deliver these interventions during the early years through their work with parents and nursery establishments. In particular, they are able to work with other agencies, such as Social Care, to identify children who

experience adversity and are at particular risk of not developing secure early attachments, for example Looked After and adopted children, or children who have been abused or neglected.

The focus on pupil-teacher and pupil-pupil interaction also makes this an accessible intervention for use in the classroom. Brown and Kennedy (2011) reported how the quantity of primary teachers talk decreased, but the quality improved, following training with VIG. They were more effective at extending and probing children's thinking, increasing children's metacognitive strategies. Furthermore, it increased teacher's sense of autonomy, skills and confidence. Hayes et al. (2011) reviewed the relatively small number of studies in school-based contexts and point out that there is some evidence for the use of VIG in schools for changing perceptions, attitudes and behaviour in adults but the evidence base for targeting specific behaviours in children is relatively weak.

Since the end goal of many parent (and school) led interventions is the improvement in behaviour of the child this systematic review will seek to answer the following question:

How effective is the use of video feedback in modifying child behaviour outcomes in positive parenting programmes?

Critical Review of the Evidence Base

A comprehensive literature search of the databases PsycINFO and EBSCO (MEDLINE, ERIC and Child Development and Adolescent Studies) were conducted between 13 December 2014 and 2 January 2015. A Title and Abstract search used the following terms:

> parent* AND video feedback; parent* AND VIG; parent* AND video AND (interaction OR interactive OR intervention); VIPP; Video Home Training and Orion. (* denotes wildcard)

The Parents Plus website was also searched for articles relating to Parents Plus Early Years programme. Out of 211 articles, 106 abstracts were screened against the inclusion and exclusion criteria in Table 1. Eleven articles were left for full text screening, six of which were excluded for reasons outlined in Appendix B. Hand searches of special editions relating to Video Interaction Guidance in two journals and ancestral searches of papers selected for inclusion were also completed, revealing one new article. A summary of the results of the search can be found in Appendix A and Figure 1 depicts the process for study selection. The search revealed a meta-analysis undertaken in 2008 with a near-identical question to the review question of this study (Fukkink, 2008). Therefore all papers preceding, or included in, this review were eliminated.

Table 1.

Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
1. Type of publication	The study must be a peer-reviewed journal to ensure methodological rigour to meet publication standards.	The study is not published in a peer-reviewed journal (e.g. book, dissertation, thesis).
2. Year of study	The study must be published in 2008 or after and is not included in Fukkink (2008).	The study is published before 2008 and is included in Fukkink (2008).
3. Language	The study must be written in English due to lack of resources for translation.	The study is not written in English.
4. Type of study	The study contains primary empirical data derived from randomised controlled studies.	The study does not contain primary empirical data (e.g. a review) or from non-randomised controlled studies e.g. case studies.
5. Intervention	The aim of the intervention must be to promote positive parenting strategies. It must include a substantial element of video-feedback, where the parent and child are videoed together and then aspects of their interaction are fed back personally to the parent via a trained therapist or observer.	The intervention is not for parents or does not promote positive parenting. Video feedback is not utilised in the intervention. Studies involving video modelling will not be included.
6. Participants	The participants will be parent-child dyads.	Only the parent is participating or reported in the intervention.
7. Outcome measures	In order for it to fulfil the brief of 'parent-led interventions', the study must report a child behaviour outcome measure.	The study does not report a child behaviour outcome measure.

Figure 1.

Flow Diagram of the Study Screening Process

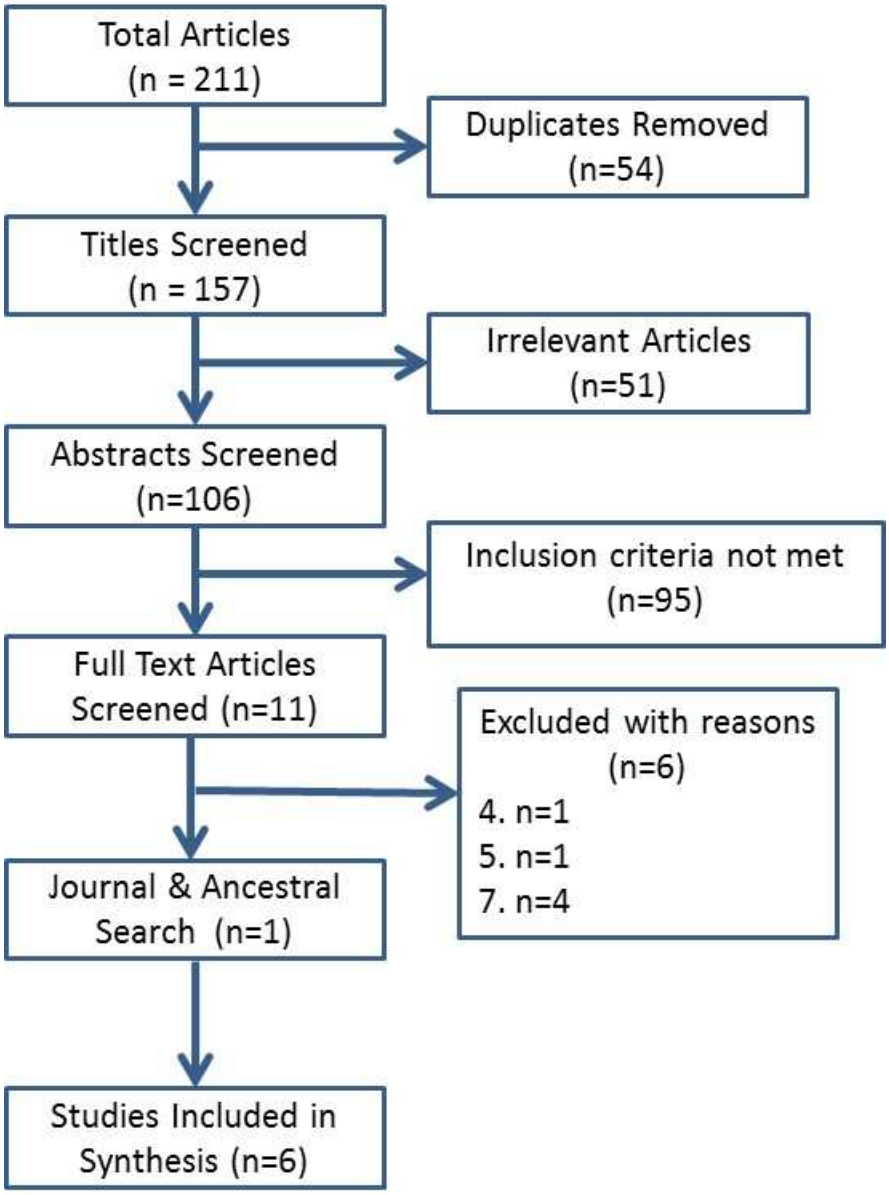

Table 2.

Full References of Studies Included in the Review

Bilszta, J. L. C., Buist, A. E., Wang, F., & Zulkefli, N. R. (2012). Use of video feedback intervention in an inpatient perinatal psychiatric setting to improve maternal parenting. *Archives of Mental Health*, *15*(4), 249–57. doi:10.1007/s00737-012-0283-1

Griffin, C., Guerin.S., Sharry, J. & Drumm, M. (2010). A multicentre controlled study of an early intervention parenting programme for young children with behavioural and developmental difficulties *International Journal of Clinical and Health Psychology, 10(2), 279-294*.

Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsy, G. M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: a randomized control trial. *Development and Psychopathology*, *23*(1), 195–210. doi:10.1017/S0954579410000738

Negrão, M., Pereira, M., Soares, I., & Mesman, J. (2014). Enhancing positive parent-child interactions and family functioning in a poverty sample: a randomized control trial. *Attachment & Human Development*, *16*(4), 315–28. doi:10.1080/14616734.2014.912485

Poslawsky, I. E., Naber, F. B., Bakermans-Kranenburg, M. J., van Daalen, E., van Engeland, H., & van IJzendoorn, M. H. (2014). Video-feedback Intervention to promote Positive Parenting adapted to Autism (VIPP-AUTI): A randomized controlled trial. *Autism : The International Journal of Research and Practice*. doi:10.1177/1362361314537124

Stolk, M. N., Mesman, J., van Zeijl, J., Alink, L. R. a., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., … Koot, H. M. (2007). Early Parenting Intervention: Family Risk and First-time Parenting Related to Intervention Effectiveness. *Journal of Child and Family Studies*, *17*(1), 55–83. doi:10.1007/s10826-007-9136-3

This review is based on six papers, the full details of which are in Table 2. Gough's (2007) weight of evidence (WoE) framework was used to critically analyse the quality of evidence from each study in terms of its methodological quality (WoE A), methodological relevance (WoE B) and relevance to the research question (WoE C). Each paper was coded using an adapted version of the Kratchowill Group-Based Design Protocol (2003) and can be found in Appendix C. Since the intention for this protocol is for school psychologists to make informed choices about interventions to be used in schools, certain sections were

irrelevant to this study. Appendix D lists the sections removed and reasons for the removal. Scores on the three dimensions of WoE were given equal weight and averaged to find an overall weight of evidence – WoE D (see Appendix E for a full description and breakdown). The range of scores from 1 to 3 was split into terciles to give the bandings of 1.0 to 1.6, 1.7 to 2.3 and 2.4 to 3.0. These bandings were assigned Low, Medium and High ratings respectively. Table 3 gives a summary of Weight of Evidence (WoE) for the included studies with their mean score in brackets.

Table 3.

Weight of Evidence Awarded to Each Study

Study	WoE A: Quality of Methodology	WoE B: Relevance of Methodology	WoE C: Relevance of evidence to the review question	WoE D: Overall weight of evidence
(Bilszta et al., 2012)	Low (1)	High (3)	Low (2)	Medium (2)
(Griffin, 2010)	Medium (2)	Medium (2)	Low (2)	Medium (2)
(Moss et al., 2011)	Medium (2)	Medium (2)	High (3)	Medium (2.3)
(Negrão, et al., 2014)	Medium (2)	Medium (2)	Medium (2)	Medium (2)
(Poslawsky et al., 2014)	Medium (2)	High (3)	Medium (2)	Medium (2.3)
(Stolk et al., 2008)	Medium (2)	High (3)	Medium (2)	Medium (2.3)

Family Characteristics

An overview of the studies can be found in Table 4. The studies in this review were conducted in a range of countries. These were Australia; Ireland; Canada; Portugal and two from the Netherlands. They were conducted in their home languages and took the cultural

Table 4.

Overview of Studies Included in the Review

Study and Aims	Sample	Study design	Children's age, gender, presenting difficulty	Country	Pre- measure	Follow-up
Bilstza et al. (2012) Video feedback to improve attachment	N = 74 (video intervention n = 25; verbal intervention n = 26; standard care n = 23)	RCT	Mean = 5.8 +/-3.1 months Mother admitted to hospital for major clinical depression	Australia	Neonatal Perception Inventory	No
Griffin et al. (2010) Video feedback to improve behaviour in children with behavioural and/or developmental difficulties	N = 81 (intervention n = 46; treatment as usual n = 35)	Quasi-experiment waitlist	3-6 years (M = 53.30 months/4.44 years; SD = 10.80 months); 37 boys, 9 girls Behavioural and/or developmental difficulties	Ireland	SDQ –TD Questionnaire – parent form, preschool version	Yes, 5 months
Moss et al. (2011) Video feedback aimed at improving attachment and behavioural outcomes in at risk population	N = 67 (intervention n = 35; control n = 32)	RCT	1-5 years (M= 3.35 years; SD = 1.38 years); 41 boys, 26 girls At risk group - parents reported for maltreatment	Canada	Child attachment CBCL	No
Negrão et al. (2014) Video feedback aimed at improving behaviour in a poverty sample (at risk)	N = 43 (intervention n = 22; control n = 21)	RCT, stratified	1-4 years (M= 29.07mths; SD=10.49); Boys = 51% At-risk families - poverty/deprived context (preventative?)	Portugal	EAS 2 child scales: child responsiveness and child involvement Family relations	No
Poslawsky et al. (2014) Video feedback to improve attachment in children with autism	N = 78 (intervention n = 40; control n = 36)	RCT	16-61 months (M=43 months; SD=9.96) (86% boys) Children diagnosed with Autism	Netherlands	EAS (child responsive-ness and involvement) Early social and communication scales Play behaviour	No
Stolk et al. (2008) Video feedback aimed to improve child behaviour where risk factors and first time parenting involved	N = 237 (intervention n= 120; control n= 117)	RCT	1-3 years (pre-test M=12.41 months, SD = 1.14; post-test M = 39.41 months, SD=10.11) 56% boys; 59% had siblings Risk factors in families with children with high levels of externalising behaviours	Netherlands	CBCL – externalising	no

background's of the participants into account. Parents from a wide age range participated in the programs (18 years to 52 years; M= 32 years). Most of the parent participants were mothers. Two studies explicitly reported numbers of biological fathers participating. The age range of the children in the studies ranged from 5.8 months to 72 months (M = 35 months). Some studies specifically excluded participants that were not living with their biological mother or father or both biological parents. Each study focussed on the use of the video feedback intervention on a particular population and each study used suitable screening measures to determine eligibility for the study.

Research Design & Measures

Design

Five of the studies reported used a randomised controlled trial design. Negrão et al. (2014) also stratified their sample on child age, gender and temperament. One study used a quasi-waitlist design, however the authors reported that there was no evidence that the intervention and control groups differed at baseline.

Group size

Across the studies in this review, intervention group sizes varied from 22 to 120. A meta-analysis of 29 video-feedback intervention studies (Fukkink, 2008) reported the effect size for child behaviour measures as d=0.33. A g-power analysis at 80% power and an alpha level of 0.05 showed that a minimum number of 146 participants would be required to see this effect size. None of the studies in this review achieved this, therefore the statistical power may have been limited to detect significant changes in some of the measures. Only

two out of the six studies in this review make reference to this limitation in their discussion and cite difficulties in obtaining specific samples from the population as the main contributory factor.

Control groups

The type of comparison group used in these studies is key in answering the research question. For the purpose of answering the review question about demonstrating the efficacy of the video-feedback component the most ideal control group would be one which replicated the intervention with the video element of the feedback removed. Two out of the six studies used 'Treatment as Usual' for their comparison group and another two used an attention placebo. While the measures were sound to ascertain differences between intervention and care as usual, this did not help to answer the review question so these four studies could only give a low contribution to the methodological relevance of the study (WoE B). Only one study (Bilstza et al., 2012) demonstrated its ability to answer the review question in its control group by including a verbal feedback and standard care group. Poslawsky et al. (2014) gave additional individual support to control group parents including advice on how they were interacting with their child and the description in the study was sufficient to give it an 'intervention elements placebo' coding.

Measures

All the studies used at least one standardised measure to report pre- and post-intervention behaviours and are summarised in Table 4. The CBCL, NPI and SDQ are all parent reported inventories while classification of attachment, EAS and ESCS are all rated by trained observer. One study (Bilstza et al., 2012) did not provide information to evaluate its reliability or validity or triangulate the data with sources of data collection from different

sources or methods. The other five studies demonstrated reliability and validity. Values for internal consistency were given in both the studies using the CBCL. Moss et al. (2011) reported Cronbach's α value of 0.82 and 0.90 while Stolk et al. (2008) reported α values of 0.66, 0.89 and 0.75 for the scales Overactive, Oppositional and Aggressive respectively. The SDQ Total Difficulties (SDQ-TD) scale used by Griffin et al. (2010) demonstrated moderate internal validity (Cronbach's α= 0.70) but excluded one subscale (Peer problems) from the analyses as its internal reliability coefficients fell below acceptable levels (0.51). The EAS scales demonstrated high inter-coder reliability with an expert EA scales coder in Negrão et al. (2014) (0.81-0.99) and Poslawsky et al. (2014) (0.73 – 0.77). The ESCS measuring joint attention rated 0.92 for Initiating joint attention and 0.94 for Responding joint attention scores in Poslawsky et al. (2014). Three studies used just a parent report measure to evaluate the intervention on the child and two used observer ratings. Just one study used a combination of both parent and observer reports to monitor behaviour and child attachment respectively. Therefore, although most of the studies used measures with a high degree of reliability, the lack of triangulation with multi-methods or multi-sources gave all studies but one a low rating on the measurement section in the coding protocol which is reflected in WoE A.

Characteristics of the video feedback programs

Table 5 summarises the characteristics of the intervention program used in each study. The majority of these programmes had a behavioural focus with just one also addressing parent representation. Most of the interventions were based in attachment theory. Three out of six studies used the Video-feedback Intervention to Promote Positive

Parenting (Juffer et al., 2008) with some modifications to the original protocol to target specific populations.

Table 5.

Summary of Interventions

Study	Program name	Focus	Theoretical underpinning	Trainer	Duration	Sessions	Sessions length	Place of intervention
Bilstza et al. (2012)	Secure base/haven	R + B	Attachment	Clinician	3.3 weeks	3	30 min	Hospital
Griffin et al. (2010)	Parents Plus Early Years	B	-	-	12 weeks	12 (5 of which are video feedback)	2 hours	Clinic
Moss et al. (2011)	(Inspired by) VIPP	B	Attachment	Clinical workers	8 weeks	8	90 min	Home
Negrão et al. (2014)	VIPP-SD	B	Attachment	Trained interveners	4 months	6	2 hours	Home
Poslawsky et al. (2014)	VIPP-AUTI	B	Attachment	Trained interveners	3 months	5	60-90 mins	Home
Stolk et al. (2008)	VIPP-SD	B	Attachment	Trained intervener	8 months	6	2 hours	Home

Note: Focus = (R) Representational-orientated, (B) Behaviour-orientated

VIPP – Video-feedback Intervention to Promote Positive Parenting

SD – Sensitive Discipline; AUTI – Autism

Programme durations ranged from 3.3 weeks to 8 months (M=3.5 months) and frequency of sessions ranged from weekly to every other month. The number of sessions ranged from three to eight (M=5.5) and the duration of the sessions ranged from 30 minutes to 2 hours (M=1.7 hours). The background of the intervener or trainer varied from workers with at least a graduate qualification extensively trained to deliver the programme to clinical workers to clinicians. In the three VIPP programmes, specific video clips were extracted by the intervener for feedback to the parent at the next session, while the other three studies replayed the video clip immediately to the parent. Attention was generally

paid to reinforcing successful parental behaviours with their child. Detail was provided in some studies regarding the specific characteristics of the video feedback, but not all. In all cases the video feedback was delivered one-to-one with parent and intervener. Four out of six of the studies were carried out in the home environment, one at a day clinic and one when the mothers were resident in hospital.

Outcomes

All studies reported effect sizes which are interpreted as small, medium or large according to criteria from Cohen (1988) as indicated below in Table 6.

Table 6.

Interpretations of Effect Sizes (Cohen, 1988)

Type of effect size	Small	Medium	Large
Partial eta square	0.01	0.06	0.14
Eta square	0.02	0.13	0.26
Cohen's d	0.2	0.5	0.8

Table 7 summarises the outcomes and effect sizes of the included studies linked to measures of behaviour. One study did not calculate an effect size (Bilstza et al., 2012) and so effect size was calculated from the reported means and standard error of the mean by using Hedge's g (Hedges & Olkin, 1985). The majority of studies found a significant effect on at least one of their child outcome measures. These effects were either medium or large in most cases. The positive effect size values indicate desired changes in the behaviours outlined. Typically, this would be a reduction in difficult behaviours such as Hyperactivity and Total Difficulties (as in the Strengths and Difficulties Questionnaire (SDQ), Griffin et al. 2010), externalising behaviours and overactive and oppositional behaviours (as in the Child

Behaviour Checklist (CBCL) Moss et al., 2011; Stolk et al., 2008), an increase in Emotional Availability Scores (EAS) (Negrao et al., 2014) and an increase in Initiating Joint Attention (Poslawsky et al., 2014). The negative r-values for the correlation between internalising/externalising behaviour and age in Moss et al. (2011) indicate a reduction in these behaviours as age increases i.e. there is a negative correlation between age and behaviour in the experimental condition.

It may also be interesting to consider the importance of where the intervention is implemented and the background of the trainer. In Table 5 it can be seen that four out of the six studies were implemented in the home setting by experienced clinical workers trained to understand and observe attachment behaviours, while the other two took place in a clinic settings. Due to the lack of homogeneity between studies regarding the participants, the focus of the intervention and the outcome measures used it is difficult to draw any conclusions about the effect of the place of the intervention. However, there was significantly less attrition in the four home-based programmes compared to the PPEY programme where 31% of parents did not complete the post-assessment. While a series of univariate ANOVAS revealed no significant differences between completers and non-completers of the programme on parent-reported data at the baseline stage, it highlights a practical issue in delivering this intervention and the commitment of participants to complete a programme of this type.

There was also a disparity when considering effect sizes within studies. Significant medium effects were seen on SDQ-Total Difficulties and SDQ-Hyperactivity but not in the other three subscales. Across the studies, significant scores were often not seen overall pre-

Table 7. *Outcomes and effect sizes of included studies*

Study	Outcome	Significant?	Effect size	Effect size interpretation	Overall WoE
Bilstza et al. (2012)	Improvements in behaviours as reported by mother (NPI)	Not significant	Cohen's d = .18	Small	Medium
Griffin et al. (2010)	Improvements in children's Total Difficulties and Hyperactivity behaviours compared to control group as reported by parents (SDQ)	SDQ-TD p<.01 SDQ-HYP p<.01 SDQ-PRO ns SDQ-CON ns SDQ-ES ns	Cohen's d =.52 .72 - - -	Medium Medium-large	Medium
Moss et al. (2011)	Externalising and internalising problems pre-post test Improvements in child externalising and internalising behaviour only in older age groups as reported by parents (CBCL) Improvements in attachment security and organisation as rated by coder	No significance CBCL Int p<.05 CBCL Ext p<.05 Attachment scores Security p<.05 Organisation p<.05	 Cohens d =0.03 Cohens d=-.11 (Pearson's) r=-.44 r=-.41 r=.36 r=.37	 Medium strength correlation	Medium
Negrão et al. (2014)	Improvement in child's reaction to parents and attempts to engage the parent in interactions as rated by coder (EAS)	Positive Child Behaviour p<.05 EAS-Responsiveness = p<.05 EAS- Involvement = p<.05	Partial η^2 = .16 Partial η^2=.17 Partial η^2=.12	Large Large Large	Medium
Poslawsky et al. (2014)	Improvement in child's reaction to parents and attempts to engage the parent in interactions as rated by coder (EAS) Increase in joint attention of child as rated by coder Play level and variation of child as rated by coder	EAS responsiveness ns EAS-Involvement ns Initiating joint attention p<.05 Responding Joint attention ns Play Level ns Play Variation ns	 η^2 = 0.24	 Large	Medium
Stolk et al. (2008)	Improvement in child behaviour as reported by parent (CBCL)	*First time parent dissatisfied with support* Decreasing overactive behaviour p<.05 Decreasing oppositional behaviour p<.01 *Not first time parent more daily hassle* Decrease in overactive behaviours p< .01	 partial-η^2 = .02 partial-η^2 =.03 Partial-η^2 = .08	 Small Small Medium	Medium

to post-test, but there were significant differences when subcomponents of the participants were compared. Moss et al. (2011) found no significant differences between pre and post-test overall but did find that age moderated the results with children showing more response to the intervention the older they were. Stolk et al. (2008) found the intervention had significant effects only for first time mothers who were more dissatisfied with their current level of support (small effect) and for mothers with more than one child who were experiencing significantly more daily 'hassles' (stressful events, such as money problems or trouble at work) (medium effect). Considering the studies overall, all were awarded a rating of Medium for WoE D. Examining the breakdown of Weights of Evidence this was because, where some studies demonstrated strong evidence for methodological quality, the focus of their paper was not as relevant to the answering of the research questions as others. Equally, some studies showed strong evidence for their ability to address the research question but were of poor methodological quality.

One criteria that could be argued to be the most pivotal in helping to determine the answer to the research question – is video feedback required to change child behaviour - relates to the nature of the comparison group being as similar as possible to the intervention minus the video feedback. Three studies were awarded a High rating for WoE B. Of these three studies, one showed large effect sizes across all its measures, one showed small effect sizes in most of its measures and one showed no significant effects at all. Therefore out of the six studies, just one was able to provide convincing evidence of the effectiveness of the video feedback element of the intervention.

Conclusion and Recommendations

The aim of this review was to identify the effectiveness of parenting programs which utilise video-feedback in improving their child's behaviour. Six papers were identified according to the inclusion criteria that provided quantitative results of a child outcome measure from which effect sizes could be calculated. All the studies achieved a Medium rating of overall Weight of Evidence (Gough, 2007) due to a large variation in methodological quality, relevance and relevance of topic to the review question.

One key difficulty with this review was the range of outcome measures the studies used. The Strengths and Difficulties questionnaire used by Griffin et al. (2010) had the capacity to report on five separate child behaviours. While two of the measures showed a large significant effect the other three reported no significant effects. If a different measure had been used that just provided a score on externalising behaviours, such as the Child Behaviour Checklist (CBCL), it is possible that those significant effects would be masked. Therefore, video feedback programs may be effective in modifying only certain child behaviours.

The results from this study also suggest that video-feedback may only be effective where the child is already presenting with externalising behaviour difficulties. The two studies that reported very few, or no, significant effects on child behaviour were also the two where the children were not presenting with externalising behaviour difficulties at the start of the study (Poslawsky et al, 2014; Bilstza et al, 2012). However, in 'at risk' families (Negrão et al, 2014; Moss et al., 2011) the intervention proved successful in improving attachment behaviours of the child.

Moss et al. (2011) also reported a correlation between improvement in behaviour and increasing age, with externalising and internalising behaviours decreasing as the child approached school age (r=.41 and .44 respectively). This suggest that this intervention may be more successful if used when the children are of school-age as opposed to the toddler years. This supports the findings of a previous meta-analysis (Bakermans-Kranenberg et al., 2003) where they found that interventions were more effective when starting them later than in the first six months of life.

One question this study hoped to determine is whether the video-feedback element is the active component in the programme in terms of modifying child behaviour. The Bakermans-Kranenberg et al. (2003) meta-analysis found that interventions including video feedback were generally more effective (d=0.44) than interventions without this method (d=0.31). However, it did not address whether it was specifically the video-feedback element that was responsible for the success. Two later meta-analyses (Fukkink, 2008; Kaminiski, Valle, Filene & Boyle, 2008) could also not confirm specific conclusions on the contribution of video feedback as a distinct intervention component. In this review, three of the six studies (Bilstza et al., 2012; Poslawsky et al., 2014; Stolk et al., 2008) had the potential to answer this question due to the type of comparison group used and a high rating for Methodological relevance. However, a range of results were obtained from no significant effects to large significant effects. As discussed previously, the Bilstza study, while showing promise in the design of the study and comparison groups, demonstrated flaws in the methodological quality. Furthermore, the children participant's age of around 6 months conflicts with the findings from the Bakermans-Kranenberg et al. (2003) meta-analysis that interventions are likely to be more effective in older children. Therefore, the Bilstza study cannot contribute significantly to answer this point.

Poslawsky et al. (2014) found that the intervention did not significantly enhance child responsiveness and involvement as measured by the EA scales in children with autism. However, Stolk et al. (2008) reported significant but small effects in particular circumstances where families were first time parents but experienced less satisfaction with their current level of support, and a medium effect where families of more than one child were experiencing more daily hassles.

Therefore, the evidence appears to support the effectiveness of the video feedback intervention. However, use of this intervention in professional practice requires careful consideration around expectations of success in managing behaviour. The evidence base indicates that its use may be optimal in the following circumstances: when children are older; where parents feel less supported or are experiencing more stressful circumstances; where the child is already presenting with externalising behaviour difficulties or if the family is considered 'at-risk'. It should be pointed out that the purpose of this review was to identify if video-feedback to the parent highlighting positive moments with their child was effective in managing externalising behaviour difficulties, rather than improving the attachment relationship per se. The results of this review therefore do not suggest that video-feedback is not effective in addressing early attachment relationships, but that its use as a tool to address behavioural issues may be more successful in children of school age rather than pre-schoolers.

The results from the review also suggest that it is effective in families considered 'at-risk' or are experiencing more stress. Poorer outcomes have been demonstrated in children who experience more adversity. The use of video-feedback in professional practice to improve the attachment relationship in at-risk families could therefore have an impact in

improving the outcome of children from these families. The extent to which the video-feedback element of these interventions determines the success of the intervention warrants further exploration. The intervention requires a therapist or intervener, who has been extensively trained, to undertake up to 12 hours work with each individual. This is a high demand on resources at a time when departments are under-resources and budgets are under heavy scrutiny. Other areas that were notable by their absence in each study was the level of involvement of fathers in the programmes and the voice of the participants (child and parent) regarding their perception of the programme.

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Appendix A

Full Text Results from the literature search

Search terms	Articles	Irrelevant	Duplicates	Abstract screen	Full text screen
Parent* AND video feedback AB	139	33	29	77	Cassiba et al. (2014); Negrão et al. (2014); Bilstza et al. (2012); Kalinauskiene et al. (2009); Bakermans-Kranenberg et al. (2008); Moss et al. (2011); Phaneuf & McIntyre (2011); Poslawsky et al. (2014); Rait (2012)
Parent* AND VIG AB	9	0	0	9	0
Parent* AND video AND (interaction OR interactive OR intervention) TI	23	0	7	16	0
VIPP AB	34	18	18	0	0
Video Home Training TI and AB	4	0	0	4	van Balkom et al. (2010)
Parents Plus website	1	0	0	1	Griffin et al. (2011)
Orion TI and AB	1	0	1	0	0
Hand search ECP[a]	1	0	0	1	0
Hand search AHD[b]	8	0	3	5	0
Ancestral searches	1	0	0	1	Stolk et al. (2010)

TI – Title AB – Abstract

[a]ECP – Educational Child Psychology (Vol 27 [3], 2010)

[b]AHD - Attachment and Human Development (Vol 16 [4], 2014)

Appendix B

Full Reference of Excluded Studies with Reasons for Exclusion

Study	Reason for exclusion
Van Balkom, H., Verhoeven, L., Van Weerdenburg, M. & Stoep, J. (2010) Effects of Parent-based Video Home Training in children with developmental language delay. *Child Language Teaching and Therapy 26(3),* 221-237	7.Does not measure a behaviour outcome, but reports language outcomes
Bakermans – Kranenburg, M.J., Van Ijzendoorn, M.H., Mesman, J. Alink, L.R.A. & Juffer, F. (2008) Effects of an attachment-based intervention on daily cortisol moderated by dopamine receptor D4: A randomised control trial on 1- to 3-year olds screened for externalising behaviour. *Development and Psychopathology 20,* 805-820	7. Does not report behaviour outcomes, only reports behaviour measure in background variable
Cassibba, R., Castoro, G., Costantino, E., Settie, G. & Van Ijzendoorn (2014) Enhancing maternal sensitivity and infant attachment security with video feedback: an exploratory study in Italy. *Infant Mental Health Journal, 0,* 1-8	7.Child outcome measures not reported separately but as an aggregate with maternal outcome measures
Kalinauskiene, L. Cekuoliene, D., Van Izjendoorn, M. H., Bakermans-Kranenburg, M. J., Juffer, F. & Kusakovskaja, I (2009) Supporting insensitive mothers: the Vilinus randomised control trial of video-feedback intervention to promote maternal sensitivity and infant-attachment security. *Child: care, health and development 35(5),* 613-623	7. No child behaviour outcome, only attachment outcomes
Phaneuf, L & McIntyre, L. L., (2011) The Application of a Three-Tier Model of Intervention to Parent Training. *Journal of Positive Behavior Interventions 13(4),* 198-207	5. Video feedback is not a sufficient component of the study
Rait, S. (2012) The Holding Hands Project: effectiveness in promoting positive parent-child interactions. *Educational Psychology in Practice: theory, research and practice in educational psychology, 28(4),* 353-371	5. Video feedback is not utilised, the video is used to code observations

Appendix C

Coded studies

Note: Please see end of document for full protocols

Appendix D

Sections Removed from the Kratchowill Protocol with Reasons

Section Removed	Reason
Part I B7 Coding for qualitative research methods	Included studies were all quantitative
Part II B3 Counterbalancing of Change Agents	Counterbalancing of change agents did not occur in any of the studies. Furthermore, the focus of the review is on the parent being the change agent for the child behaviour. Therefore this section as removed as irrelevant.
Part II C3 Rating for Secondary Outcomes Statistically Significant	This study focussed only on one primary outcome – child behaviour. There were no secondary outcomes reported.
Part II E Identifiable Components	Kratchowill's coding protocol manual recognises that very few studies will identify identifiable components but includes this section on the grounds that it is an important direction for future research. On this basis I believe that to include this section in Weight of Evidence would not be justified.
Part II H Site of Implementation	The protocol has been written with the specific needs of school psychologists in mind and therefore assigns a zero rating to any study implemented on a non-school site. The intervention examined in this review is not intended to be used in the school setting and therefore this section is deemed to be misrepresentative.
Part III A2 External Validity Characteristics – participant characteristics	To avoid unnecessary duplication, the relevant information from this table will be expressed in the summary table of the studies instead.
Part III H Cost Analysis; L Training and support resources; Feasibility	There was not sufficient information in any of these studies to complete these sections.

Appendix E

Weighting of Studies

A: Methodological quality

The methodological quality of a study is a generic judgement about the coherence and integrity of the evidence in its own terms. This means it is judges according to generally accepted criteria for evaluating the quality of a study. The use of a published protocol is recommended. The Kratchowill Group-Based Design Protocol was adapted and used for this review. Details and justification for modifications can be found in Appendix D. Section II of the protocol allows for a scrutiny of key features of the methodological quality of the study which are assessed against criteria in the Coding Manual and awarded points as follows: Strong evidence = 3, Promising evidence = 2, Weak evidence = 1; No evidence = 0. These scores are summarised at the end of each protocol (in Appendix C) for each element and collated in the table below.

	Studies					
Key Features	Bilstza et al. (2012)	Griffin et al. (2010)	Moss et al. (2011)	Negrao et al. (2014)	Poslawsky et al. (2014)	Stolk et al. (2008)
Measurement	0	1	3	1	1	1
Comparison Group	3	2	3	3	3	3
Primary/Secondary Outcomes are Stat. Significant	0	1	1	1	0	1
Educational/Clinical Significance	0	2	0	0	0	2
Implementation Fidelity	0	3	3	2	3	3
Replication	0	2	0	1	1	1
Follow-up Assessment Conducted	0	3	n/a	n/a	2	n/a

A mean score is then calculated to give an overall evidence rating. The range between upper and lower markers was split into terciles to give 0.0 to 1.0, 1.1 to 2.0 and 2.1 to 3.0

which reflected a Low, Medium or High rating respectively. A summary of the ratings for Methodological Quality is given below.

Weight of Evidence A - Score and Rating

Study	Mean score (from final page summary on coding protocol)	Quality rating
Bilstza et al. (2012)	0.43	Low
Griffin et al. (2010)	2.0	Medium
Moss et al. (2011)	1.3	Medium
Negrão et al. (2014)	1.3	Medium
Poslawsky et al. (2014)	1.4	Medium
Stolk et al. (2008)	1.8	Medium

B: Methodological Relevance to the Review Question

The methodological relevance to the review question is a review specific judgement about the appropriateness of that form of evidence for answering the review question. The following three key features were identified as having particular methodological relevance:

1) Randomised controlled studies to demonstrate efficacy

2) An appropriate control group to demonstrate effectiveness of the video feedback component

3) Measurement of externalising child behaviour outcomes

Weighting	Description
High (3 points)	1. Participants must be randomly assigned to control and intervention groups and group equivalence should be demonstrated as the effect size sought is small 2. The comparison group must receive the components of the intervention, including feedback, minus video feedback 3. Child outcome measures must be used that report on externalising behaviours. e.g. SDQ, CBCL
Medium (2 points)	1. The design is nonrandomised with checks made for group equivalence 2. The comparison group may be an attention placebo where the control receives attention or discussion, wait-list or delayed intervention. 3. Child outcome measures are used that report on child behaviour e.g. EAS, NPI
Low	1. The design is non randomised with no checks made for group

(1 point)	equivalence 2. The comparison group is given an alternative intervention which is presumed to give an effect. 3. Child outcome measure are used that report on non- problem behaviours e.g. joint attention, play level

The range of scores from 1 to 3 was split into terciles to give the bandings of 1.0 to 1.6, 1.7 to 2.3 and 2.4 to 3.0. These bandings were assigned Low, Medium and High ratings respectively.

Study	Score for each criteria	(Mean Score) and Quality rating
Bilstza et al. 2012	1 = High (3) 2 = High (3) 3 = Medium (2)	(2.7) High
Griffin et al. (2010)	1 = Medium (2) 2 = Low (1) 3 = High (3)	(2) Medium
Moss et al. (2011)	1 = High (3) 2 = Low (1) 3 = High (3)	(2.3) Medium
Negrão et al. (2014)	1 = High (3) 2 = Medium (2) 3 = Medium (2)	(2.3) Medium
Poslawsky et al. (2014)	1 = High (3) 2 = High (3) 3 = Medium (2)	(2.7) High
Stolk et al. (2008)	1 = High (3) 2 = Medium (2) 3 = High (3)	(2.7) High

C: Topic Relevance to the Review Question

This section is a review specific judgement about whether the focus and character of the article contribute towards answering the review question. Three key features were identified as having topic relevance:

1) Participating children should be presenting with externalising behaviour difficulties in order to demonstrate the effectiveness of the programme on behaviour difficulties

2) Setting, as this is where the parent will exercise the skills they have learnt and the child behaviour occurs in their natural setting

3) Multiple sources or multi-rater evidence of effect on child behaviour outcome. Since the parent will presumably know whether they are part of the intervention group or not this should minimise the bias if only parent-reported measures are used

Weighting	Description
High	1. Children are referred to the study with externalising behaviour difficulties or are assessed as having externalising behaviour difficulties at start of study 2. Intervention and child outcome measures are obtained from the home environment as this is where the parent will exercise the skills they have learnt and child behaviour occurs in their natural setting 3. Measures of child behaviour are collected by both multi-source and multi-method
Medium	1. Only parents are assessed as 'at risk' at start of study 2. Intervention and child outcome measures are obtained from clinic and home settings 3. Measures of child behaviour are collected by either multi-source or multi-method
Low	1. Neither parent or child is assessed as having any particular difficulty at start of study 2. Intervention and child outcome measures are obtained from clinic settings only 3. Measures of child behaviour are collected by single source or method

The range of scores from 1 to 3 was split into terciles to give the bandings of 1.0 to 1.6, 1.7 to 2.3 and 2.4 to 3.0. These bandings were assigned Low, Medium and High ratings respectively.

Study	Score for Each Criteria	(Mean Score) and Quality Rating
Bilstza et al. (2012)	1= Medium (2) 2= Low (1) 3 = Low (1)	(1.3) Low
Griffin et al. (2010)	1=High (3) 2= Low (1) 3= Low (1)	(1.6) Low
Moss et al. (2011)	1=Medium (2) 2= High (3) 3= High (3)	(2.7) High
Negrão et al. (2014)	1= Medium (2) 2= High (3) 3 =Medium (2)	(2.3) Medium
Poslawsky et al. (2014)	1 = Medium*(2) 2= Medium (2) 3= High (3)	(2.3) Medium
Stolk et al. (2008)	1= High (3) 2= Medium (2) 3 = Low (1)	(2.0) Medium

*Judgement was made on this rating as the children were diagnosed with autism but were not presenting with behavioural difficulties

Coding Protocol: Group-Based Design

Domain:

- ☐ **School- and community-based intervention programs for social and behavioral problems**
- ☐ **Academic intervention programs**
- ☑ **Family and parent intervention programs**
- ☐ **School-wide and classroom-based programs**
- ☐ **Comprehensive and coordinated school health services**

Name of Coder(s): _____ **Date**: 6/2/15

M / D / Y

Full Study Reference in APA format: Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsy, G. M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: a randomized control trial. Development and Psychopathology, 23(1), 195–210.

Intervention Name (description from study): Video feedback/attachment intervention

Study ID Number (Unique Identifier): DOI:10.1017/S0954579410000738

Type of Publication: (Check one)

- ☐ **Book/Monograph**
- ☑ **Journal article**
- ☐ **Book chapter**
- ☐ **Other (specify):**

I. General Characteristics

A. General Design Characteristics

A1. Random assignment designs (if random assignment design, select one of the following)

- A1.1 ☒ Completely randomized design
- A1.2 ☐ Randomized block design (between-subjects variation)
- A1.3 ☐ Randomized block design (within-subjects variation)
- A1.4 ☐ Randomized hierarchical design

A2. Nonrandomized designs (if nonrandom assignment design, select one of the following)

- A2.1 ☐ Nonrandomized design
- A2.2 ☐ Nonrandomized block design (between-participants variation)
- A2.3 ☐ Nonrandomized block design (within-participants variation)
- A2.4 ☐ Nonrandomized hierarchical design
- A2.5 ☐ Optional coding of Quasi-experimental designs (see Appendix C)

A3. Overall confidence of judgment on how participants were assigned (select one of the following)

- A3.1 ☐ Very low (little basis)
- A3.2 ☐ Low (guess)
- A3.3 ☐ Moderate (weak inference)
- A3.4 ☐ High (strong inference)
- A3.5 ☒ Very high (explicitly stated)
- A3.6 ☐ N/A
- A3.7 ☐ Unknown/unable to code

B. Statistical Treatment/Data Analysis (answer B1 through B6)

B1. Appropriate unit of analysis ☒ yes ☐ no

B2. Familywise error rate controlled ☐ yes ☐ no ☒ N/A

B3. Sufficiently large *N* ☐ yes ☒ no

Statistical Test: ANCOVA

_ level: .05

ES: 0.33

N required: 146

B4. Total size of sample (start of the study): 76 N

B5. Intervention group sample size: 40 N

B6. Control group sample size: 39 N

~~**For studies using qualitative research methods, code B7 and B8**~~

~~B7. Coding~~

~~B7.1 Coding scheme linked to study's theoretical-empirical basis (select one)~~ ☐ ~~yes~~ ☐ ~~no~~

~~B7.2 Procedures for ensuring consistency of coding are used (select one)~~ ☐ ~~yes~~ ☐ ~~no~~

~~Describe procedures:~~ _____

~~B7.3 Progression from abstract concepts to empirical exemplars is clearly articulated (select one)~~ ☐ ~~yes~~ ☐ ~~no~~

~~B8. Interactive process followed (select one)~~ ☐ ~~yes~~ ☐ ~~no~~

~~Describe process:~~ _____

C. Type of Program (select one)

C1. ☐ Universal prevention program
C2. ☐ Selective prevention program
C3. ☐ Targeted prevention program
C4. ■ Intervention/Treatment
C5. ☐ Unknown

D. Stage of the Program (select one)

D1. ■ Model/demonstration programs
D2. ☐ Early stage programs
D3. ☐ Established/institutionalized programs
D4. ☐ Unknown

E. Concurrent or Historical Intervention Exposure (select one)

E1. ☐ Current exposure
E2. ☐ Prior exposure
E3. ■ Unknown

II. Key Features for Coding Studies and Rating Level of Evidence/ Support

(3=Strong Evidence 2=Promising Evidence 1=Weak Evidence 0=No Evidence)

A. Measurement (answer A1 through A4)

A1. Use of outcome measures that produce reliable scores for the majority of primary outcomes. The table for Primary/Secondary Outcomes Statistically Significant allows for listing separate outcomes and will facilitate decision making regarding measurement (select one of the following)

A1.1 ■ Yes
A1.2 ☐ No
A1.3 ☐ Unknown/unable to code

A2. Multi-method (select one of the following)

A2.1 ■ Yes
A2.2 ☐ No
A2.3 ☐ N/A
A2.4 ☐ Unknown/unable to code

A3. Multi-source (select one of the following)

A3.1 ■ Yes
A3.2 ☐ No
A3.3 ☐ N/A
A3.4 ☐ Unknown/unable to code

A4. Validity of measures reported (select one of the following)

A5.1 ■ Yes validated with specific target group
A5.2 ☐ In part, validated for general population only
A5.3 ☐ No
A5.4 ☐ Unknown/unable to code

Rating for Measurement (select 0, 1, 2, or 3)**:** ■ **3** ☐ **2** ☐ **1** ☐ **0**

B. Comparison Group

B1. Type of Comparison Group (select one of the following)

B1.1 ■ Typical contact
B1.2 ☐ Typical contact (other) specify:
B1.3 ☐ Attention placebo
B1.4 ☐ Intervention elements placebo
B1.5 ☐ Alternative intervention
B1.6 ☐ PharmacotherapyB1.1
B1.7 ☐ No intervention
B1.8 ☐ Wait list/delayed intervention
B1.9 ☐ Minimal contact
B1.10 ☐ Unable to identify comparison group

Rating for Comparison Group (select 0, 1, 2, or 3)**:** ■ **3** ☐ **2** ☐ **1** ☐ **0**

B2. Overall confidence rating in judgment of type of comparison group (select one of the following)

B2.1 ☐ Very low (little basis)
B2.2 ☐ Low (guess)
B2.3 ☐ Moderate (weak inference)
B2.4 ☐ High (strong inference)
B2.5 ■ Very high (explicitly stated)
B2.6 ☐ Unknown/Unable to code

~~B3. Counterbalancing of Change Agents (answer B3.1 to B3.3)~~

~~B3.1 ☐ By change agent~~
~~B3.2 ☐ Statistical~~
~~B3.3. ☐ Other~~

B4. Group Equivalence Established (select one of the following)

B4.1 ■ Random assignment
B4.2 ☐ Posthoc matched set
B4.3 ☐ Statistical matching
B4.4 ☐ Post hoc test for group equivalence

B5. Equivalent Mortality (answer B5.1 through B5.3)
B5.1 ■ Low Attrition (less than 20% for Post)
B5.2 ☐ Low Attrition (less than 30% for follow-up)
B5.3 ☐ Intent to intervene analysis carried out
Findings_____

C. Primary/Secondary Outcomes Are Statistically Significant

C1. Evidence of appropriate statistical analysis for **primary outcomes** (answer C1.1 through C1.3)

C1.1 ■ Appropriate unit of analysis (rate from previous code)
C1.2 ☐ Familywise/experimenterwise error rate controlled when applicable (rate from previous code)
C1.3 ☐ Sufficiently large *N* (rate from previous code)

C2. Percentage of **primary outcomes** that are significant (select one of the following)

C2.1 ☐ Significant primary outcomes for at least 75% of the total primary outcome measures for each key construct

C2.2 ■ Significant primary outcomes for between 50% and 74% of the total primary outcome measures for each key construct

C2.3 ☐ Significant primary outcomes for between 25% and 49% of the total primary outcome measures for any key construct

Rating for Primary Outcomes Statistically Significant (select 0, 1, 2, or 3)**:** ☐ **3** ☐ **2** ■ **1** ☐ **0**

~~C3. Evidence of appropriate statistical analysis for **secondary outcomes** (answer C3.1 through C3.3)~~

~~C3.1 ☐ Appropriate unit of analysis~~
~~C3.2 ☐ Familywise/experimenterwise error rate controlled when applicable (rate from previous code)~~

C3.3 ☐ Sufficiently large *N* (rate from previous code)

C4. Percentage of **secondary outcomes** that are significant (select one of the following)

C4.1 ☐ Significant secondary outcomes for at least 75% of the total secondary outcome measures for each key construct

C4.2 ☐ Significant secondary outcomes for between 50% and 74% of the total secondary outcome measures for each key construct

C4.3 ☐ Significant secondary outcomes for between 25% and 49% of the total secondary outcome measures for any key construct

Rating for Secondary Outcomes Statistically Significant (select 0, 1, 2, or 3)**:** ☐ **3** ☐ **2** ☐ **1** ☐ **0**

C5. Overall Summary of Questions Investigated

C5.1 Main effect analyses conducted (select one) ☒ yes ☒ no
C5.2 Moderator effect analyses conducted (select one) ☐ yes ☐ no
Specify results: age as a moderator of int and ext child behaviours
C5.3. Mediator analyses conducted (select one) ☐ yes ☒ no
Specify results: _____

C. Primary/Secondary Outcomes Statistically Significant (only list $p \leq .05$)

(list primary outcomes first in alphabetical order, followed by secondary outcomes in alphabetical order)

Outcomes	Primary vs. Secondary	Who Changed	What Changed	Source	Treatment Information	Outcome Measure Used	Reliability	ES	(1-_)
Outcome #1: child age moderated intervention effects on behaviour problems	■ Primary ☐ Secondary ☐ Unknown	■ Child ☐ Teacher ☐ Parent/sign. adult ☐ Ecology ☐ Other ☐ Unknown	■ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ■ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown	ext and int decrease as child gets older in intervention group but not in control group	CBCL ext CBCL int	.90 .82	r= .41 r= .44	
Outcome #2 Attachment secure/ insecure	■ Primary ☐ Secondary ☐ Unknown	■ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	■ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ■ Observation ■ Test ☐ Other ☐ Unknown	greater proportion of insecure in intervention became secure in comparison to control	Ainsworth Strange Situation	.84 (infancy); .82 (pre-school)	r= .36	
Outcome #3: Attachment disorganised	■ Primary ☐ Secondary ☐ Unknown	■ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	■ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ■ Observation ■ Test ☐ Other ☐ Unknown	greater proportion of disorganised children in intervention group became organised compared with control	Ainsworth Strange Situation	.84 (infancy); .82 (pre-school)	r= .37	
Outcome #4:	☐ Primary ☐ Secondary ☐ Unknown	☐ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☐ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown					
Outcome #5:	☐ Primary ☐ Secondary ☐ Unknown	☐ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☐ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown					

Null Findings/Negative Outcomes Associated with the Intervention (listed alphabetically by outcome)

Outcomes	Primary vs. Secondary	Who Was Targeted for Change	What Was Targeted for Change	Source	Note null/negative outcomes	Outcome Measure Used	Reliability	ES
Outcome #1: Intervention on ext behaviour	☑ Primary ☐ Secondary ☐ Unknown	☑ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☑ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☑ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown	F(1,56) = 0.03	CBCL externalising		d= .03
Outcome #2 Intervention on int behaviour	☑ Primary ☐ Secondary ☐ Unknown	☑ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☑ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☑ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown	F(1,56) = 0.29	CBCL internalising		d= -.11
Outcome #3: Child age moderator of attachment - security and organisation	☑ Primary ☐ Secondary ☐ Unknown	☑ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☑ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ☑ Observation ☑ Test ☐ Other ☐ Unknown		Ainsworth Strange Situation		
Outcome #4:	☐ Primary ☐ Secondary ☐ Unknown	☐ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☐ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown				
Outcome #5:	☐ Primary ☐ Secondary ☐ Unknown	☐ Child ☐ Teacher ☐ Parent/sign. Adult ☐ Ecology ☐ Other ☐ Unknown	☐ Behavior ☐ Attitude ☐ Knowledge ☐ Other ☐ Unknown	☐ Self Report ☐ Parent Report ☐ Teacher Report ☐ Observation ☐ Test ☐ Other ☐ Unknown				

Type of Data Effect Size is Based On	Confidence Rating in ES Computation
(check all that apply) ☒ Means and SDs ☐ *t* - value or *F* – value ☐ Chi-square (*df* = 1) ☐ Frequencies or proportions (dichotomous) ☐ Frequencies or proportions (polytomous) ☐ Other (specify): ☐ Unknown	(select one of the following) ☐ Highly estimated (e.g., only have *N* p value) ☐ Moderate estimation (e.g., have complex but complete statistics) ☐ Some estimation (e.g., unconventional statistics that require conversion) ☐ Slight estimation (e.g., use significance testing statistics rather than descriptives) ☒ No estimation (e.g., all descriptive data is present)

D. Educational/Clinical Significance

Outcome Variables:	Pretest	Posttest	Follow Up
D1. Categorical Diagnosis Data	Diagnostic information regarding inclusion into the study presented: ☐ Yes ☒ No ☐ Unknown	Positive change in diagnostic criteria from pre to posttest: ☐ Yes ☐ No ☐ Unknown	Positive change in diagnostic criteria from posttest to follow up: ☐ Yes ☐ No ☐ Unknown
D2. Outcome Assessed via continuous Variables		Positive change in percentage of participants showing clinical improvement from pre to posttest: ☐ Yes ☒ No ☐ Unknown	Positive change in percentage of participants showing clinical improvement from posttest to follow up: ☐ Yes ☐ No ☐ Unknown
D3. Subjective Evaluation: The importance of behavior change is evaluated by individuals in direct contact with the participant.	Importance of behavior change is evaluated: ☐ Yes ☒ No ☐ Unknown	Importance of behavior change from pre to posttest is evaluated positively by individuals in direct contact with the participant: ☐ Yes ☐ No ☐ Unknown	Importance of behavior change from posttest to follow up is evaluated positively by individuals in direct contact with the participant: ☐ Yes ☐ No ☐ Unknown
D4. Social Comparison: Behavior of participant at pre, post, and follow up is compared to normative data (e.g., a typical peer).	Participant's behavior is compared to normative data ☐ Yes ☒ No ☐ Unknown	Participant's behavior has improved from pre to posttest when compared to normative data: ☐ Yes ☐ No ☐ Unknown	Participant's behavior has improved from posttest to follow up when compared to normative data: ☐ Yes ☐ No ☐ Unknown

Rating for Educational/Clinical Significance (select 0, 1, 2, or 3)**:** ☐ **3** ☐ **2** ☐ **1** ☒ **0**

~~**E. Identifiable Components (answer E1 through E7)**~~

~~E1. Evidence for primary outcomes (rate from previous code):~~ ☐ ~~3~~ ☐ ~~2~~ ☐ ~~1~~ ☐ ~~0~~
~~E2. Design allows for analysis of identifiable components (select one)~~ ☐ ~~yes~~ ☐ ~~no~~

~~E3. Total number of components:~~

~~N~~

E4. Number of components linked to primary outcomes:

N

Additional criteria to code descriptively:

E5. Clear documentation of essential components (select one) ☐ yes ☐ no

E6. Procedures for adapting the intervention are described in detail (select one) ☐ yes ☐ no

E7. Contextual features of the intervention are documented (select one) ☐ yes ☐ no

Rating for Identifiable Components (select 0, 1, 2, or 3): ☐ **3** ☐ **2** ☐ **1** ☐ **0**

F. Implementation Fidelity

F1. Evidence of Acceptable Adherence (answer F1.1 through F1.3)

F1.1 ■ Ongoing supervision/consultation
F1.2 ■ Coding intervention sessions/lessons or procedures
F1.3 ☐ Audio/video tape implementation (select F1.3.1 or F1.3.2):

F1.3.1 ■ Entire intervention
F1.3.2 ☐ Part of intervention

F2. Manualization (select all that apply)

F2.1 ■ Written material involving a detailed account of the exact procedures and the sequence in which they are to be used

F2.2 ☐ Formal training session that includes a detailed account of the exact procedures and the sequence in which they are to be used

F2.3 ☐ Written material involving an overview of broad principles and a description of the intervention phases

F2.4 ■ Formal or informal training session involving an overview of broad principles and a description of the intervention phases

F3. Adaptation procedures are specified (select one) ☐ yes ☐ no ■ unknown

Rating for Implementation Fidelity (select 0, 1, 2, or 3): ■ **3** ☐ **2** ☐ **1** ☐ **0**

G. Replication (answer G1, G2, G3, and G4)

G1. ☐ Same Intervention
G2. ☐ Same Target Problem
G3. ☐ Independent evaluation

Rating for Replication (select 0, 1, 2, or 3): ☐ **3** ☐ **2** ☐ **1** ■ **0**

H. Site of Implementation

H1. School (if school is the site, select one of the following options)

H1.1 ☐ Public

H1.2 ☐ Private
H1.3 ☐ Charter
H1.4 ☐ University Affiliated
H1.5 ☐ Alternative
H1.6 ☐ Not specified/unknown

H2. Non School Site (if it is a non school site, select one of the following options)

H2.1 ☐ Home
H2.2 ☐ University Clinic
H2.3 ☐ Summer Program
H2.4 ☐ Outpatient Hospital
H2.5 ☐ Partial inpatient/day Intervention Program
H2.6 ☐ Inpatient Hospital
H2.7 ☐ Private Practice
H2.8 ☐ Mental Health Center
H2.9 ☐ Residential Treatment Facility
H2.10 ☐ Other (specify):_____
H2.11 ☐ Unknown/insufficient information provided

Rating for Site of Implementation (select 0, 1, 2, or 3)**:** ☐ **3** ☐ **2** ☐ **1** ☐ **0**

I. Follow Up Assessment

☐ Timing of follow up assessment: specify_____

☐ Number of participants included in the follow up assessment: specify_____

☐ Consistency of assessment method used: specify_____

Rating for Follow Up Assessment (select 0, 1, 2, or 3)**:** ☐ **3** ☐ **2** ☐ **1** ☐ **0**

III. Other Descriptive or Supplemental Criteria to Consider

A. External Validity Indicators

A1. Sampling procedures described in detail ■ yes ☐ no

Specify rationale for selection: yes

Specify rationale for sample size: yes

A1.1 Inclusion/exclusion criteria specified ■ yes ☐ no

A1.2 Inclusion/exclusion criteria similar to school practice ■ yes ☐ no

A1.3 Specified criteria related to concern ■ yes ☐ no

A2. Participant Characteristics Specified for Treatment and Control Group

Participants from Treatment Group	Grade/age	Gender	Ethnicity or Multi-ethnic	Ethnic Identity	Race(s)	Acculturation	Pri-mary Lan-guage	SES	Family Struc-ture	Locale	Disability	Functional Descriptors
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												

Participants from Control Group	Grade/age	Gender	Ethnicity or Multi-ethnic	Ethnic Identity	Race(s)	Acculturation	Pri-mary Lan-guage	SES	Family Struc-ture	Locale	Disability	Functional Descriptors
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												
☐ Child/Student ☐ Parent/caregiver ☐ Teacher ☐ School ☐ Other												

A3. Details are provided regarding variables that:

A3.1 Have differential relevance for intended outcomes ☐yes ■no

Specify: _____

A3.2 Have relevance to inclusion criteria ☐ yes ■ no

Specify: ____________________________

~~A4. Receptivity/acceptance by target participant population (treatment group)~~

~~**Participants from Treatment Group**~~	~~**Results (What person reported to have gained from participation in program)**~~	~~**General Rating**~~
☐ ~~Child/Student~~ ☐ ~~Parent/caregiver~~ ☐ ~~Teacher~~ ☐ ~~School~~ ☐ ~~Other~~		☐ ~~Participants reported benefiting overall from the intervention~~ ☐ ~~Participants reported not benefiting overall from the intervention~~
☐ ~~Child/Student~~ ☐ ~~Parent/caregiver~~ ☐ ~~Teacher~~ ☐ ~~School~~ ☐ ~~Other~~		☐ ~~Participants reported benefiting overall from the intervention~~ ☐ ~~Participants reported not benefiting overall from the intervention~~
☐ ~~Child/Student~~ ☐ ~~Parent/caregiver~~ ☐ ~~Teacher~~ ☐ ~~School~~ ☐ ~~Other~~		☐ ~~Participants reported benefiting overall from the intervention~~ ☐ ~~Participants reported not benefiting overall from the intervention~~

A5. Generalization of Effects:

A5.1 Generalization over time

A5.1.1 Evidence is provided regarding the sustainability of outcomes after intervention is terminated ☐ yes ■ no

Specify: ______________________________________

A5.1.2 Procedures for maintaining outcomes are specified ☐ yes ■ no

Specify: _____________________________________

A5.2 Generalization across settings

A5.2.1 Evidence is provided regarding the extent to which outcomes are manifested in contexts that are different from the intervention context ☐ yes ■ no

Specify: ____________________________________

A5.2.2 Documentation of efforts to ensure application of intervention to other settings
☐ yes ■ no

Specify: _____

A5.2.3 Impact on implementers or context is sustained ☐yes ■no

Specify: _____

A5.3 Generalization across persons

Evidence is provided regarding the degree to which outcomes are manifested with participants who are different than the original group of participants for with the intervention was evaluated
☐yes ■no

Specify: _____

B. Length of Intervention (select B1 or B2)

B1. ☐ Unknown/insufficient information provided

B2. ■ Information provided (if information is provided, specify one of the following:)

B2.1 weeks 8 / N

B2.2 months _____ / N

B2.3 years _____ / N

B2.4 other _____ / N

C. Intensity/dosage of Intervention (select C1 or C2)

C1.☐ Unknown/insufficient information provided

C2.■ Information provided (if information is provided, specify both of the following:)

C2.1 length of intervention session 90 mins / N

C2.2 frequency of intervention session weekly / N

D. Dosage Response (select D1 or D2)

D1. ■ Unknown/insufficient information provided

D2.☐ Information provided (if information is provided, answer D2.1)

D2.1 Describe positive outcomes associated with higher dosage: _____

E. Program Implementer (select all that apply)

E1. ☒ Research Staff
E2. ☐ School Specialty Staff
E3. ☐ Teachers
E4. ☐ Educational Assistants
E5. ☒ Parents
E6. ☐ College Students
E7. ☐ Peers
E8. ☐ Other
E9. ☐ Unknown/insufficient information provided

~~**F. Characteristics of the Intervener**~~

~~F1. ☐ Highly similar to target participants on key variables (e.g., race, gender, SES)~~
~~F2. ☐ Somewhat similar to target participants on key variables~~
~~F3. ☐ Different from target participants on key variables~~

G. Intervention Style or Orientation (select all that apply)

G1. ☒ Behavioral
G2. ☐ Cognitive-behavioral
G3. ☐ Experiential
G4. ☐ Humanistic/interpersonal
G5. ☐ Psychodynamic/insight oriented
G6. ☐ other (specify):_____
G7. ☐ Unknown/insufficient information provided

~~**H. Cost Analysis Data** (select G1 or G2)~~

~~H1. ☐ Unknown/insufficient information provided~~
~~H2. ☐ Information provided (if information is provided, answer H2.1)~~

~~H2.1 Estimated Cost of Implementation:_____~~

~~**I. Training and Support Resources** (select all that apply)~~

~~I1. ☐ Simple orientation given to change agents~~
~~I2. ☐ Training workshops conducted~~

~~# of Workshops provided _____~~

~~Average length of training _____~~

~~Who conducted training (select all that apply)~~

~~I2.1 ☐ Project Director~~
~~I2.2 ☐ Graduate/project assistants~~

I2.3 ☐ Other (please specify):
I2.3 ☐ Unknown

I3. ☐ Ongoing technical support
I4. ☐ Program materials obtained
I5. ☐ Special Facilities
I6. ☐ Other (specify):

J. Feasibility

J1. Level of difficulty in training intervention agents (select one of the following)

J1.1 ☐ High
J1.2 ☐ Moderate
J1.3 ☐ Low
J1.4 ☐ Unknown

J2. Cost to train intervention agents (specify if known): _____

J3. Rating of cost to train intervention agents (select one of the following)

J3.1 ☐ High
J3.2 ☐ Moderate
J3.3 ☐ Low
J3.4 ☐ Unknown

Summary of Evidence for Group-Based Design Studies

Indicator	Overall Evidence Rating NNR = No numerical rating or 0 - 3	Description of Evidence Strong Promising Weak No/limited evidence or Descriptive ratings
General Characteristics		
General Design Characteristics		
Statistical Treatment		
Type of Program		
Stage of Program		
Concurrent/Historical Intervention Exposure		
Key Features		
Measurement	3	
Comparison Group	3	
Primary/Secondary Outcomes are Statistically Significant	1	
Educational/clinical significance	0	
Identifiable Components	n/a	
Implementation Fidelity	3	
Replication	0	
Site of Implementation	n/a	
Follow Up Assessment Conducted	n/a	

Descriptive or Supplemental Criteria		
External validity indicators		
Length of Intervention		
Intensity/dosage		
Dosage Response		
Program Implementer		
Characteristics of the Intervener		
Intervention Style/Orientation		
Cost Analysis Data Provided		
Training and Support Resources		
Feasibility		