

Case Study 1: An Evidence-Based Practice Review Report

Theme: Interventions implemented by Parents

Is Parenting Wisely an intervention that effectively enables parents to reduce behavioural problems in their children?

Summary

Parenting Wisely (PW) is an intervention aimed at empowering parents to interact more successfully with their children. This intervention was developed particularly for those who have children with behavioural difficulties. Parents participate in a short, computer based intervention which challenges their current thought and behavioural patterns, and provides them with alternative strategies through a series of video clips and questions. The intervention aims to improve parents' attitudes and behavioural practices, supporting more positive interactions with their child and therefore improving their child's behaviour. This report systematically reviewed five identified studies on the effectiveness of PW in enabling parents to reduce behavioural problems in their children. All children involved were aged between 9 and 18 years, and the Eyberg Child Behaviour Inventory (ECBI) was used as a measure of child behavioural difficulties. Four of the five studies were randomised control trials. The effectiveness of the intervention on participants was limited when compared to an active control group. The usefulness and implications for practice are discussed.

Introduction

What is Parenting Wisely?

Parenting Wisely (PW) is a parenting intervention devised by Gordon and publicised in 2000. The intervention is designed to equip parents with skills in order to reduce children's behavioural problems and promote positive parenting skills. PW is an intervention that can be delivered via a compact disc used as a read-only optical memory device for a computer (CD-ROM). It is an interactive program in which parents watch nine video clips of a parent-child dyad in conflict. Once this clip ends, the parent chooses from a variety of ways to deal with the situation. Their choice then plays out in the rest of the clip. The parent is then given feedback on their choice and have to answer questions in order to progress in the intervention, so parents can progress at their own pace. In addition, a workbook is given to the parents upon completion of the computer program. This includes activities relating to the clips shown on the CD-ROM in order to consolidate their learning. The intervention is considerably short, taking between 2-3 hours to complete and the workbook being completed shortly after. From the studies investigated, it appears that the intervention does not take longer than two weeks to complete.

Psychological background

The intervention is grounded in cognitive and behavioural psychology and based on the Functional Family Therapy model (FFT). FFT is an intervention designed to promote positive family outcomes. FFT is based on systems theory and behaviourism (Barton & Alexander, 2013), as well as cognitive theories. It aims to target the functions (systems) of family behaviour and then improve interactions and family relationships

working at both the systemic and individual level. FFT has specific phases including engagement of the whole family (building alliance), challenge their behaviours and encourage change, and then generalise these new behaviours to benefit the whole family (Barton, Alexander, Waldron, Turner, & Warburton, 1985). FFT has a key goal to increase protective factors and resilience within the family by fostering positive relationships. In the Parenting Wisely Programme, cognitions are challenged through posing different ways of dealing with familiar scenarios and the workbook furthers this.

There are four aspects of psychology pertinent in the PW program. Bronfenbrenner's Ecological systems theory (1979) demonstrates that issues and problems not isolated in their influence. Instead those around the child can influence the things that child experiences. PW aims to challenge and change the closest system around the child, the parent, in order to create a change in the child's experiences to promote more cohesive behaviours.

As with FFT, PW is underpinned by the theories of attribution and information processing. Attribution theory is the way in which people attach meaning to actions of others (Taylor & Fiske, 1991). Jones and Davis' Correspondence Inference theory (1965) highlights that parents may be attributing some of their child's behaviours to internal factors and not external and therefore not giving them a chance to change. The video clips shown in the PW program highlight potentially negative scenarios, then once a parent has chosen a solution their attributions are challenged through the quiz and questioning.

Furthermore, the video clips providing more appropriate ways of dealing with problem situations is grounded in the psychology of modelling. Through viewing the more appropriate responses, Gordon believed that these will be modelled by the parent in

their own real life situations. Bandura's Social Learning Theory (1977) supports this notion. His study with bobo dolls showed that children imitated what they were shown on video in real life, even when it was more aggressive. The intervention hopes that by showing parents a better way to interact with their children on the CD-ROM then this will take place in their homes also.

In FFT the therapist challenges the families' way of processing and reacting to verbal and non-verbal communication through presenting new behaviours that could benefit them (Wetchler, 1985). . PW also does this by presenting parents with video clips of alternative ways to handle situations with their children. This can cause cognitive dissonance as the video clips may contradict the parents' current behaviours and beliefs. However, resolution of the dissonance is achieved by showing how that different behaviour can result in positive outcomes, encouraging the parent to adopt the new behaviour and achieve consonance. The intervention is designed to cause changes in the parents schema's not only towards their children, but with the way they interact with their child. PW aims to bring about positive behavioural changes in the parent, which will lead to behavioural improvements in the child.

Relevance to Educational Psychology (EP) practice

Parenting interventions are relevant to the practice of EPs and should be given due consideration. (Hoghughi, 1998) suggested that parenting is probably the largest variable implicated in childhood illness, teenage pregnancy, school disruption, young offenders, and underachievement. EPs can use a systemic approach such as parenting interventions to change a range of factors around the child or young person which can positively influence the child's outcomes. Research studies have shown

that parental involvement can prevent mental health problems (Matthew R Sanders, 2002), lead to better performance and engagement at school (Steinberg, Lamborn, Dornbusch, & Darling, 1992) and promote self-regulation (M. R. Sanders & Mazzucchelli, 2013). Therefore, an intervention like PW can help develop parenting thoughts and behaviours (factors around the child) to improve the child's behaviours.

Children from low Socio-Economic Status (SES) backgrounds are over represented in those children reported as having behavioural, social and emotional difficulties (Lindsay, Pather & Strand., 2006). By definition, the parents of these children may face more challenges in accessing and engaging with external agencies. They may find the process of dealing with such agencies intimidating or off putting. With engaging parents in the process of helping their child, they may display desirability effects and therefore not give a full or complete picture of the issues they face. Therefore an intervention that is delivered by CD-ROM may prove to be the easiest to implement and effective with such parents. As this would give parents the opportunity to engage with the intervention without feeling 'under pressure'.

PW is an interactive intervention that is delivered by CD-ROM and can be completed within two to three weeks. In a government that has made cuts to intervention and provision whilst in office, finding cheaper ways of providing support for families. The PW programme is both cost and time effective and could be implemented with relatively ease. It does not require anyone to receive any training in order to deliver it, neither does it require the recipient to have a literacy level beyond 5th grade (year 4) in order to complete the intervention (Woodruff, Gordon & Lobo, 1999). This

intervention could be disseminated widely in Local Authorities in order to reach some of the most vulnerable groups in society.

Review question

In light of its relevance to EP practice, the review aims to demonstrate PW's effectiveness in its ability to affect change in a relatively short space of time. Therefore the review question is:

'Is Parenting Wisely an intervention that effectively enables parents to reduce behavioural problems in their children?'

1. Critical Review of the Evidence Base

1.1 Literature search

Systematic searches of electronic databases PsychINFO, Educational Resource Information Centre (ERIC), and Medline were conducted in December 2014 and January 2015. The details of the search terms used are documented in Table 1. A search of the parenting wisely website found a list of studies within their 'Independent Research' section which resulted in 13 studies being identified. After screening, removing duplicates and applying limits (such as the year of the study) 128 study remained. Further screening took place and further articles were removed. 11 studies remained and the full text was read to screen for eligibility (see Figure 1).

Table 1

Search Terms Used in the Search of Electronic Databases

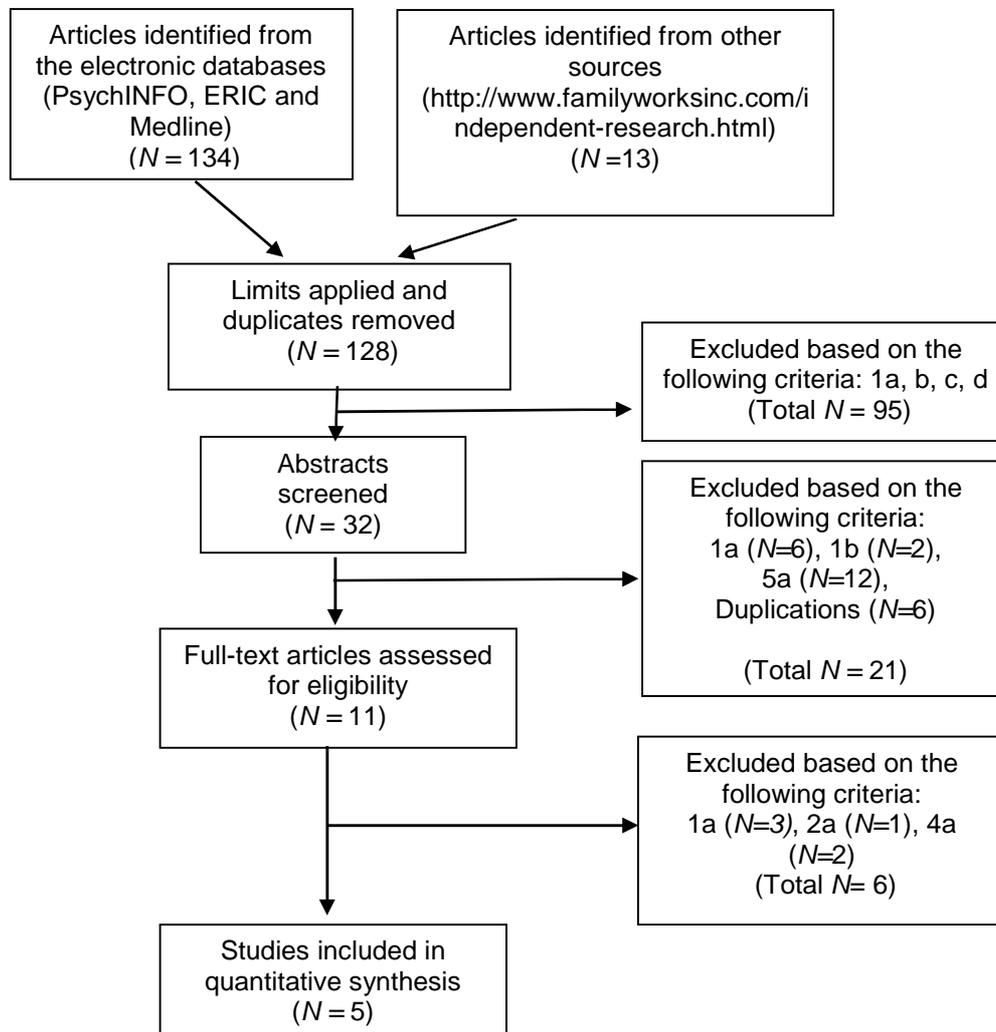
PsychINFO	ERIC	Medline
Parenting Wisely 'T'	Parenting Wisely 'AF'	Parenting Wisely
Internet based, intervention, parenting 'AF'		Parenting* Wisely
Internet based, intervention, parenting 'A'		
Parenting training, behavioural problems 'A'		

Note: 'A'= Abstract, 'AF'= All Fields, 'T'=-Title

1.2 Inclusion/exclusion criteria

Figure 1

Process of Screening and Selecting Studies for Review



After the screening process five studies were deemed eligible for critical review. The studies included in this review are listed in Table 2. Studies excluded from the review following full text screening are listed in Appendix B. For further details on the inclusion and exclusion criteria please see Appendix A.

Table 2

Studies identified as suitable for critical review

Study number	Studies included in the review
1.	Cefai, J., Smith, D., & Pushak, R. E. (2010). Parenting wisely: Parent training via CD-ROM with an Australian sample. <i>Child & Family Behavior Therapy</i> , 32, 17–33.
2.	Kacir, C & Gordon, D. (1999). Parenting Adolescents Wisely: The effectiveness of an Interactive Videodisk Parent Training Program in Appalachia. <i>Child and Family Behaviour Therapy</i> , 21, 1-22.
3.	O'Neill, H., & Woodward, R. (2002). Evaluation of the Parenting Wisely CD-ROM parent-training programme: An Irish replication. <i>Irish Journal of Psychology</i> , 23, 62–72. Retrieved from http://www.familyworksinc.com/independent-research.html
4.	Segal, D., Chen, E Y., Gordon, D. A., Kacir, C. D., & Gyls, J. (2003). Development and evaluation of a parenting intervention program: Integration of scientific and practical approaches. <i>International Journal of Human-Computer Interaction</i> , 15, 453-468.
5.	Woodruff, C., Gordon, D.A., & Lobo T.S. (1999). Home delivery of a CD-ROM family intervention to high risk families. Retrieved from http://www.familyworksinc.com/independent-research.html

1.3 Quality and relevance of studies

The studies were assessed for their methodological quality and relevance to the critical review. Initially, each study was summarised to elicit their most relevant details such as sample size, measures and outcomes (Appendix C). The methodological quality was assessed using Kratochwill's Coding protocol for group based design studies (2003). All five studies were group based design and so this was applied to each study. The criteria to form the weighting of methodological design and topic relevance and the overall weighting of each study was ascertained following Gough's (2007) protocol. The four weightings are summarised below:

Weight of Evidence A: Methodological quality- How sound the execution of the study was for a study of that type.

Weight of Evidence B: Methodological relevance- How appropriate the research design is for addressing the review question

Weight of Evidence C: Topic relevance- The relevance of the study to the review question

Weight of Evidence D: Overall weight of Evidence

Table 3 shows the weightings for each study. The details on how each study was allocated their ratings can be found in Appendix D. As seen in the table below, the majority of the studies were able to achieve a medium overall weighting, with one study achieving a low overall weighting.

Table 3

Weight of Evidence Ratings

Studies	<u>Weighting score</u>			Overall Weight of Evidence D
	Methodological Quality A	Methodological Relevance B	Topic Relevance C	
Cefai et al. 2010	2	3	2	2.3 Medium
Kacir & Gordon 1999	2.3	2	2	2.1 Medium
O'Neill & Woodward 2002	1.6	1	3	1.9 Medium
Segal et al. 2003	2	2	3	2.3 Medium
Woodruff et al. 1999	1.6	2	3	2.2 Medium

*1.4 Design and Measures**1.4.1 Design*

All five studies claimed to be randomised control trials. O'Neill and Woodward (2002) had initially randomly assigned their participants to a treatment or control group. However the number of participants were so few that they combined the groups when reporting the results and did not provide any separate results on the control group's outcomes; a reason why it is rated lower on its methodological quality and relevance in answering the review question. Kacir and Gordon (1999) explicitly stated how they randomly assigned participants using a random number generator, whereas other studies did not.

According to Kratochwill's coding protocol, Woodruff et al. (1999) compares the PW program to an active participant comparison group, being an alternative intervention.

Three other studies (Cefai, Smith & Pushak, 2010; Kacir & Gordon, 1999; Segal, Chen, Gordon, Kacir & Gylys, 2003) have either a waitlist or no intervention control group. With the majority of the studies being randomised control trials, they are deemed very relevant to critically review how effective PW is in enabling parents to reduce externalising behavioural problems with their children.

1.4.2 Measures

Four of the studies (not Segal et al., 2003) only use one measure to analyse child behavioural problems. One source of information (the parents) can cause a skew results as it is just one perspective. Secondly, self-report measures may not always be representative of real-life situations as there may be some biases (social desirability effect) influencing the way the parent fills them in. For these reasons, all five studies are not rated very highly in Kratochwill's protocol for measures hence why none of the studies are rated high in WOE A.

All five studies used the Eyberg Child Behaviour Inventory (ECBI) (Eyberg & Ross, 1978) as a measure of children's problem behaviours. This inventory is a parent report of how they perceive their child's behaviour on two scales: total problem behaviours and intensity of the child's problem behaviours. Segal et al. (2003) only reported on the total problems scale from the ECBI. Cefai et al. (2010), Kacir and Gordon (1999) and Woodruff give the reliability of the ECBI which is reported as having quite high test-retest reliability 0.88 and internal consistency of 0.98. Woodruff et al. (1999) went further to state the inter-parent agreement of the measure which is much lower but still moderate 0.59. Kacir and Gordon (1999) noted that the ECBI was standardised on 102 parents aged 13-16, with the sensitivity to detect changes from clinical to non-

clinical populations (Eyberg & Robinson, 1983). This measure is a promising one to use for the measurement of this review because of its topic relevance.

Segal et al. (2003) report on a modified version of the Parent Daily Report (Webster-Stratton, 1990) also. This entails parents to select negative behaviours they perceive their child to display as well as positive behaviours they wish to see. These are then tailored depending on the parents' responses and are re-visited at post intervention to see if there are less negative behaviours and more positive ones apparent. No reliability given for this measure, it is assumed because it was a modified version. Therefore, although it is a second measure, it warrants caution in interpretation.

1.5 Participants

1.5.1 Recruitment

Three studies (Cefai et al, 2010; Kacir & Gordon, 1999; Woodruff et al., 1999) recruited participants through advertising for volunteers. Both Woodruff et al. (1999) and Kacir and Gordon (1999) made attempts to recruit participants through schools via letters or telephone; Cefai et al. (2010), only mention advertising and not exactly how they did so. This differs slightly from Segal et al. (2003) which aimed to recruit participants from three outpatient mental health clinics, as well as the local community. O'Neill and Woodward (2002) appears to have the most targeted set of participants as they were recruited from children referred to the Educational Psychology Service clinic in Ireland. This is reflected in it being rated high for its relevance to the review topic.

1.5.2 Inclusion

Three of the studies (Kacir & Gordon, 1999; O'Neill & Woodward, 2002; Segal et al., 2003) had given explicit inclusion criteria for participation in their study. O'Neill and Woodward (2002) and Segal et al. (2003) included participants whose parents were not involved in another parenting training intervention and who had a primary concern of behavioural problems. These studies were highly relevant as Segal et al. (2003) screened the children due to become participants for behavioural difficulties using the Eyberg Child Behaviour Inventory (ECBI). Only those deemed above average on the behavioural scores were invited to participate. O'Neill and Woodward (2002) involved parents who children had been referred to the Educational Psychology Service. These two studies were deemed relevant and is reflected in the Weight of Evidence C.

1.5.3 Demographics

Of the three studies that gave the mean age of the children concerned with the intervention, the range of mean ages ranged from 11.4-14 years old. Kacir and Gordon (1999), Segal et al. (2003) and Cefai et al. (2010) gave parents age ranges and the means were between 39.05-42.00 years of age. Four studies referenced the economic status of the participants. This is deemed important as the intervention is aimed at families in more high risk, vulnerable groups and low SES can indicate this. Segal et al. (2003) reported 85% participants were of low SES, Woodruff et al. (1999) 60% had low SES, Kacir and Gordon (1999), 52%. However in Cefai et al.'s (2010) study only 5% of participants were of low SES. This may be due to the fact they recruited volunteers and did not seem to have any exclusion criteria. Whilst this study may have findings easier to generalise to the general population, the aim of the intervention is to

target children and parents who may be more vulnerable and disadvantaged and so may not be generalisable to the target population.

1.5.4 Sufficient N

None of the studies included in this review are deemed to have sufficient N to achieve statistical significance given a moderate effect size ($p < .05$) on the child behavioural outcomes, evidencing that these studies are underpowered. Woodruff et al. (1999) stated that McNeil and Nelson (1991) found a 0.53 effect size on cognitive and performance measures across a variety of contexts with an interactive computer program. In order to achieve a medium effect size at 0.8 power for $p 0.05$, there would need to be 64 participants in each group. The largest sample group out of these studies however was 40 participants per group (Woodruff et al., 1999). Segal et al. (2003) recognised this and took steps to try to address this by reporting effect sizes and reliable change indices, as did Cefai et al. (2010), Kacir and Gordon (1999) and Woodruff et al. (1999). These effect sizes only took into account within group standard mean difference rather than a pooled standard deviation. The justification reported was that due to the nature of the intervention, it wouldn't be easy to gain access to many of these types of families, therefore they looked at within group effects.

1.6 Intervention

Intervention implementation was incorporated into Weight of Evidence A. O'Neill and Woodward's (2002) were the only study that did not deliver the full intervention to participants. This could have implications for the effectiveness of the study as the workbook is meant to consolidate any learning that took place with the CD-ROM.

Participants completed the intervention either at home (Segal et al., 2003; Woodruff et al., 1999), the Educational psychology clinic (O'Neill & Woodward, 2002) or a University Psychology Clinic (Cefai et al., 2010; Kacir & Gordon, 1999). Kratochwill's coding protocol stated that a school is to be considered the highest rating setting for an intervention. However, considering the intervention is aimed at parents and how their involvement can influence their child behaviour, the three settings stated are considered relevant.

All studies gave information on how long the intervention took to complete. The amount of sessions to complete the intervention ranged from 1-3 sessions as did the timing, from an average of 2.5 hours (O'Neill & Woodward, 2002; Segal et al., 2003) to 3.2 hours (Cefai et al., 2010). These timings are within the amount of time given as a guideline for how long the intervention should take to be implemented (Gordon, 2000).

2. Effectiveness of Parenting Wisely in reducing behavioural problems

2.1 Effect sizes

All of the studies in this review presented effect sizes in their papers of either Cohen's *d* or eta squared, however these were given as within group effect sizes. Given that four of these studies had control groups (all excluding O'Neill & Woodward, 2002), effect sizes using the pooled standard deviations were calculated.

As O'Neill and Woodward (2002) only reported within group results, the effect size was calculated using Becker's (1988) pretest-posttest within group formula. Having conducted this calculation on the other four studies also to gauge the relative size the effect, it appears appropriate to give the effect sizes of 0.2 as small, 0.5 medium and

0.8 as large. Please see Appendix E for details. For the purpose of this review the Morris' (2007) pretest-posttest-control formula was used on the other four studies to estimate the standard mean difference for that. As this calculation is similar to Cohen's *d*, the effect size indicators, 0.2 will be regarded as small, 0.5 medium and 0.8 large also.

Table 4

Standard Mean Differences of Studies with Control Groups

Outcome	Measure	Study	ES	Overall WoE
Reduction in behavioural problems	ECBI	Cefai et al. (2010) Waitlist Control group	-0.83	Medium
		Kacir & Gordon (1999) Control group	-0.83	Medium
		Segal et al. (2003) Alternative form of PW	.06	Medium
		Woodruff et al. (1999) Alternative intervention	-0.27	Medium
		Segal et al. (2003) Alternative form of PW	-0.12	Medium
Reduction in intensity of behavioural problems	ECBI	Cefai et al. (2010) Waitlist Control group	-0.63	Medium
		Kacir & Gordon (1999) Control group	-0.79	Medium
		Woodruff et al. (1999) Alternative intervention	-0.07	Medium
		Parent Daily Report (PDR)		

Table 5

Standard Mean Differences of Studies with Pre-test, Post-test Results

Outcome	Measure	Study	ES	Overall WoE
Reduction in behavioural problems	ECBI	O'Neill & Woodward (2002)	-.49	Medium
Reduction in intensity of behavioural problems	ECBI	O'Neill & Woodward (2002)	-.22	Medium

*2.2 Eyberg Child Behaviour Inventory**2.2.1 Total problems*

There is a large difference in the effect sizes of the total problems reported in the control group studies varying from -0.83 to 0.06. This may be due to variations in the control groups. In comparing the no intervention control group to the alternative of PW (Segal et al., 2003) and the active control group (Woodruff et al., 1999), PW appears to decrease in effectiveness.

O'Neill and Woodward (2002) demonstrates a medium effect size which suggests a moderate reduction in the child's total behaviour from pre to post of the intervention.

2.2.2 Intensity

Cefai et al. (2010), Kacir and Gordon (1999) and Woodruff et al. (1999) reported on this measure. Again, two of the studies (Cefai et al., 2010; Kacir & Gordon, 1999) report medium and verging on large effect sizes whereas Woodruff et al. (1999) reports almost no effect size. This again may be due to the type of control group

involved in the studies. O'Neill and Woodward (2002) found a small effect size in reducing the intensity of behavioural problems.

2.2.3 Parent Daily Report

Segal et al. (2003) also reported on the Parent Daily Report. The calculated effect size was found to be below the small effect size indicator (-0.12). This suggests a minimal effect in the reduction of perceived negative behaviours displayed by the children at post intervention.

3. Conclusion

The systematic review analysed five studies to investigate how effective PW was in enabling parents to reduce behavioural problems in their children aged 9 to 18. The studies included in this review provide very limited evidence that PW is an effective intervention in reducing child problem behaviours.

Four studies (Cefai et al., 2010; Kacir & Gordon, 1999; Segal et al., 2003; Woodruff et al., 1999) were rated medium in Overall Weight of Evidence. The original statistical analyses could not be used as they only considered within group means and standard deviations. Therefore their effect sizes were calculated using Morris' (2007) formula. These effect sizes showed that PW had a medium approaching large effect size when the control group is inactive (-.47 to -.83), however the more active the control group, the less the effect size (.06), suggesting that there was virtually no effect of PW on behaviour at post-test in comparison to an alternative intervention. This finding

suggests that PW cannot be considered an effective intervention in helping parents reduce behavioural problems, above and beyond other interventions.

O'Neill and Woodward (2002) rated 'Medium' for overall Weight of Evidence but yielded support for the PW program. The medium effect size of -0.49 suggests a moderate reduction of child's problem behaviours in this sample. These findings are to be interpreted with caution however because there was no control group and as shown above, with the introduction of a control group to calculating the effect size, it decreases.

Methodological issues would warrant hesitation in interpreting the results found. All five studies were considerably underpowered by having less than the required 64 participants per sample group. This would lead to the possibility of finding a type one error. PW studies should endeavour to conduct some larger scale studies in order to tackle this kind of error occurring and therefore being able to more fully attribute findings to the intervention.

A lack of triangulation of the outcome measure could also have affected the perceived effectiveness of the intervention. The primary source of information was obtained from the parents who were taking part in the intervention. As the intervention is geared towards changes in the parents' cognition and behaviour towards their children along with the change in their child's behaviour, their responses may have been biased post intervention. Parents may have rated their child's behavioural problems as having decreased because their perceptions toward their child had changed, not necessarily their child's behaviour. Therefore by having more the one source (such as behaviour observations) to measure outcomes would aid in triangulation to rule this out.

Longer term follow ups would also be crucial in establishing whether the reduction in behavioural problems continues (for example a one year follow up) and to see if the behavioural changes in the children has generalised.

As found through the literature search for this review, an internet based version of the program has been developed in recent years. Comparisons and research into the internet based version of the program would be useful to see if there are differences in using the different but similar types of technology to this intervention.

In all, although the intervention has the scope to reach parents and vulnerable groups that EPs may not be able to fully engage with, it does not involve professional input. Often EPs help to provide contextual information and act as a sounding board for parents and other systems around the child. General and long term effectiveness of the intervention may be enhanced by implementing it within the context of a consultation framework, where the outcomes will be reviewed and monitored, with the goal of sharing best practice with stakeholders. Parenting Wisely, within this type of framework, could be a useful tool for EPs to tackle the large number of pupils deemed to have behavioural problems in schools with the UK.

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Appendices

Appendix A.

Inclusion and Exclusion Criteria

Appendix A includes the inclusion and exclusion criteria that was applied to the studies found in the searches conducted. Furthermore, rationale as to why these points for inclusion and exclusion are important

Inclusion criteria	Exclusion criteria	Rationale
<p>1. Publication</p> <p>a. The study examines the effects of Parenting Wisely the CD ROM program, as a parenting programme for children with conduct problems, at risk of having conduct problems or whose parents believe their child would benefit from the programme.</p>	<p>a. The study does not examine the effects of Parenting Wisely the CD ROM programme as a parenting training programme for children with conduct problems, at risk of conduct problems.</p>	<p>To critically evaluate the effects of Parenting Wisely only.</p>
<p>b. The study was published in a journal or had been submitted for publication.</p>	<p>b. The study was published in a book or is a thesis or dissertation.</p>	<p>The study would have been submitted to be peer-reviewed</p>
<p>c. The study was written in English as translation would not be required.</p>	<p>c. The study was not written in English and is not possible to translate due to limited resources</p>	<p>There is no availability for translation of studies.</p>
<p>d. The study was written between 1995 and 2011</p>	<p>d. The study was written before 1995 or after 2011 when there were changes made to adapt the intervention for the internet.</p>	<p>To account for the establishment of the intervention and so that adapted versions using the internet would not confound variables.</p>

Inclusion criteria	Exclusion criteria	Rationale
<p>2. <u>Participants</u> a. The target participants must be aged 9-18 years old</p>	<p>a. The target participants are not 9-18 years old and would not be within the age range of the onset of adolescent conduct problems.</p>	<p>The programme was originally designed to target this age range</p>
<p>b. Parent participants must be the living with the child targeted.</p>	<p>b. Parent participants are not living with the targeted child.</p>	<p>So that changes to the child's behaviour changes can be attributed to the intervention.</p>
<p>3. <u>Settings</u> a. The intervention must have taken place in an appropriate setting for the parent to complete the program by themselves. For example at home.</p>	<p>a. The intervention takes place in a group setting.</p>	<p>To examine the efficacy of the CD-ROM version of the intervention.</p>
<p>4. <u>Intervention</u> a. The study must focus on the delivery the Parenting wisely only and not combine the parenting programme with other interventions.</p>	<p>a. The study delivers the Parenting Wisely intervention and other interventions to parents at the same time.</p>	<p>This is to ascertain that changes to the child's behaviour are due to the Parenting Wisely intervention.</p>
<p>5. <u>Study design</u> a. The study must be an empirical examination of the relationship between parents' completion of the Parenting Wisely intervention and a reduction in their child's reported behavioural difficulties.</p>	<p>a. The study is not an empirical one. For example the article is a review.</p>	<p>This is so outcome measures can be discussed and effect sizes calculated.</p>

Inclusion criteria	Exclusion criteria	Rationale
b. The article collects and analyses its own data.	b. The article does not collect its own data.	Secondary analyses may report data that it not 'fit' for purpose, but has been made to appear so.
c. The study must report a variable on the child's behaviour.	c. The study does not report a variable on the child's behaviour.	The review is considering the children's behavioural outcomes.
<u>6.Outcomes</u>		
a. The study is a group experimental design therefore allowing the effect of the intervention to be isolated.	a. The study is not a group experimental design and the effects of the intervention cannot be isolated.	In order to critically evaluate the interventions effectiveness that are not confounded.
b. There is sufficient empirical data (means and SD's) reported	b. There is not sufficient empirical data	In order for standard mean differences to be calculated.

Appendix B.

List of Excluded Studies

Below are the studies that were excluded after full text screening. The alphanumeric given as a reason for exclusion relates to the inclusion/exclusion criteria given in Appendix A.

Study	Reason for exclusion
Caldwell, D. (2001). Parenting Wisely a family strengthening program of SSTAR in Fall River, Massachusetts: Final program evaluation report. Retrieved from http://www.familyworksinc.com/independent-research.html	4a
Cotter, K.L., Bacallao, M., Smokowski, P.R. & Robertson, C.I.B. (2013). Parenting intervention implementation science: How delivery format impacts the Parenting Wisely program. <i>Research on Social Work Practice, 23(6)</i> , 639-650.	1a
Feil, E.G., Gordon, D.A., Waldron, H., Jones, L. B., & Widdop, C. (2011). Development and pilot testing of an Internet-based parenting education program for teens and pre-teens: Parenting Wisely. <i>The Family Psychologist, 27(22)</i> , 22-26.	1a
Hein, M.L. & Martin, T.J. (2002). Final evaluation report: Family Plus program of Employee and Family Resources (EFR) Des Moines, Iowa. Retrieved from http://www.familyworksinc.com/independent-research.html	4a
Laggas, A. & Gordon, D. (1999). Use of an interactive laserdisc parent-training program with teenage parents. <i>Child & Family Behaviour Therapy, 21</i> , 19-35.	2a
Parish, T.S. (n.d.). Determining the effectiveness of the "Parenting Wisely" Program in Wichita, Kansas. Retrieved from http://www.familyworksinc.com/independent-research.html	1a

Appendix C

Article Summaries

Author	Sample	Study Design	Participant Characteristics	Therapeutic method	Setting	Outcome	Follow up
Cefai et al. (1999)	116 (intervention group 25)	RCT	9-15 year old boys (N59) and girls (N57), parents (age 24-55) volunteered in Australia	Individuals spent an average 3.2 hours completing computer program and workbook vs 2x 2-3 hours group sessions delivering the program, and workbook vs. vs. control group	Individual: University Psychology clinic or community clinic	individual intervention group improvement on child behaviour as per the Eyberg as well as parental satisfaction being more than the group or control group; the control group showed a decreased in parent efficacy and increase in problem behaviour scores for their children	3 months- individual group showed a further reduction in parent reported child behavioural issues, the group showed more so. The waitlist however showed another increase in reported behavioural issues and decrease in parental self-efficacy
Kacir & Gordon (1999)	39 (intervention group 19)	RCT	12-18 year old boys (N19) and girls (N19), parents (average age 40) volunteered children with minimal to clinically significant behavioural difficulties (measured on the Eyberg) in the USA	Intervention: 1-3 sessions (3 hours total on average) completing computer program within 2 weeks and given workbook vs no intervention	Ohio University Psychology clinic	At the one month follow up parent reported total problems of their children decreased greater than the control; parent reported intensity of child behaviour problems also decreased where the control groups increased	One month and four months. At four months the intervention group reported total behavioural problems had decreased further and controls had increased. The problem intensity reported followed this vein also
O'Neill & Woodward (2002)	15	initially RCT, pre-post	9-18 year old boys (10) and girls (5), had been referred to the community care psychology service for child misconduct. In Ireland	Intervention: 12 individual parents (3 mother and father sets) completed the computer program in one session lasting on average 2.5 hours vs the delayed treatment group not receiving any intervention during this phase and follow up. They then received the program and completed follow up measures	Wexford Community Care Psychology Service	Results from both groups were combined due to the small sample size. Results showed a 9 point average decline in the ECBI intensity score from pre to 2 week follow up; ECBI total problem scores also decreased by just over a point.	At the six week follow up ECBI intensity score had shown a further slight decrease however the ECBI total problems score had decreased by an average 2.6 points.

Author	Sample	Study Design	Participant Characteristics	Therapeutic method	Setting	Outcome	Follow up
Segal et al. (2003)	42 (intervention group 21)	RCT	11-18 year old boys and girls whose primary problem was behaviour and scored more than average on the ECBI. Parents mean age was 42; in the USA?	Intervention: parents took on average 2.5 hours to complete the computer program and given the workbook vs. watching a video format of the program for an average of 1.5 hours and completing the workbook.	Home	Both groups show decreases in the ECBI total problem scores at one month follow up, with the video (non-interactive) group giving a bigger eta squared effect size (0.54) than the interactive group (0.41)	The collection of the ECBI data took place at the 3rd weekly follow up. Other data was collected in the previous two weeks.
Woodruff et al (1999)	80 (intervention group 40*)	RCT	9-12 year old boys and girls from a high risk area of the USA	PW intervention: parents completed the computer program (approximately 2 hours) and received the workbook as supplement vs. Principles of Parenting leaflets given to parents to read in one session (1 1/2 - 2 hours) and kept the leaflets for future reference	Home	At 6 week follow up the PW intervention group showed a larger decrease in the total behavioural problems (ECBI Total problems) whereas intensity of problems decrease on a par with the PoP intervention group.	At 6 months there was a significant improvement in both interventions scores from pre-test to 6 month follow up but not between 6 weeks and 6 months.

Appendix D

Weighting for the Reviewed Articles

Each study in this review was analysed using Gough's (2007) Weight of Evidence Framework. The framework ensures that studies are thoroughly examined in terms of its methodological quality (WoE A, see Table D1), methodological relevance (WoE B, see Table D2), and study topic relevance (WoE C, see Table D3). An overall rating of the quality of the study is then calculated by averaging WoE A, B and C and is presented as Weight of Evidence D (see Table D4).

Rationale for WoE A

WoE A has been derived from the Kratochwill coding protocol for group-based design (2003). This coding protocol gives a thorough, but generic analysis of the quality of the paper in regards to its methodology. The criteria for methodological quality have been given from the 'key characteristics' section of the coding protocol. Please see Appendix F for details of eliminated parts of the protocol and rationale. The ratings for this WoE are 3 (high), 2 (medium), 1 (low) quality, and mirror the ratings given in the protocol for each section of key characteristics. The scores are then averaged to give an overall WoE A. The key characteristic of 'implementation fidelity' has been changed slightly to meet the factors of the intervention. As the intervention is computer based, there is no need for supervision or coding or audio/video recorded sessions. The criteria is altered to reflect this. Descriptors of the criteria to meet each rating is given in Table D1.

Table D1

Weight of Evidence A- Methodological Quality

Key feature	Summary of criteria for WoE A High (3), Medium (2), or Low (1) evidence
Measurement	<ul style="list-style-type: none">• High: The study uses measures that report a reliability coefficient statistics of 0.85 or higher. The data has been collected using multiple methods and sources when appropriate• Medium: The study uses measures that report a reliability coefficient statistic of 0.70 or higher. The data has been collected using either multiple methods and/or multiple sources• Low: The study uses measure that report a reliability coefficient statistic of at least 0.5. The data may or may not have been collected using multiple methods or sources.

Key feature**Summary of criteria for WoE A High (3), Medium (2), or Low (1) evidence**

Comparison group

- High: The study has at least one type of active comparison group. Group equivalence established through random assignment. Evidence of counterbalancing change agents and low attrition at post reported.
- Medium: The study at least has a 'no intervention' group. In addition there must two of the following: (1) counterbalancing of change agents, (2) group equivalence established, or (3) equivalent mortality with low attrition.
- Low: The study has a comparison group and at least one of the following: (1) counterbalancing of change agents, (2) group equivalence established, or (3) equivalent mortality with low attrition.

Implementation

fidelity

- High: Information should be measured through implementation of whole CD-ROM and workbook completion.
- Medium: information should be measured through implementation of the whole CD-ROM with and told to use workbook if they needed to.
- Low: the study may use the CD-ROM activities only

Key feature**Summary of criteria for WoE A High (3), Medium (2), or Low (1) evidence**

Replication

-
- High: The study is a replication of the same intervention and target problem implemented by an independent evaluator and demonstrate similar or better outcomes.
 - Medium: The study must contain two of the following: (1) same intervention, (2) same target problem, (3) independent evaluation and demonstrate similar or better outcomes.
 - Low: Study must contain at least one of the above criteria and demonstrate similar or better outcomes

Follow up
assessment

- High: The study must have conducted follow up assessments over multiple intervals, with all participants that were in the original sample, using similar measures to analyse data.
 - Medium: The study must have conducted follow up assessments at least once with the majority of participants that were in the original sample, using similar measures to analyse data
 - Low: The study conducted a follow up at least once with some participants from the original study
-

Rationale for WoE B and C

WoE B and C reflect the methodological relevance (WoE B), and study topic relevance (WoE C).of Gough’s Framework. It was important for the methodological relevance that there were pre, post and follow up results given as this enables critical analysis of the effectiveness of the intervention, which is the purpose of the review.

WoE C includes some key elements of relevance to the study topic. For example studies in an OECD country are weighted more so because of their similarities in economy, established nature of their infrastructure. There are also some other key aspects such as the study included a purposeful sample. The relevance is rated higher in this case due to the fact that the intervention was developed for children with behavioural problems. Therefore a study that can demonstrate its effectiveness with this sample is more relevant than children that may not be experiencing difficulties. The criteria for both WoE B and C are described below.

Table D2

Weight of Evidence B- Methodological Relevance

Weighting	Summary of criteria for WoE B
High – 3 points: studies must;	<ul style="list-style-type: none">• Randomly assign participants to the intervention and comparison group• Take pre, post and follow up measures of both the intervention and control group• Conducts statistical analyses on these measures
Medium - 2 points: studies must;	<ul style="list-style-type: none">• Randomly assign participants to the intervention and comparison group Taken pre and either post or follow up measures on both groups• Conducts statistical analyses on these measures
Low – 1 point: studies must;	<ul style="list-style-type: none">• Taken pre and post/follow up measures

Note: Weightings are allocated if the study meets the majority of criteria

Table D3

Weight of Evidence C- Topic Relevance

Weighting	Summary of criteria for WoE C
High – 3 points	<ul style="list-style-type: none"> • Use sample within an OECD country • Use Parenting wisely as a targeted intervention for 9-18 years old • Examines the effectiveness of PW on children who have screened behavioural problems e.g. through the ECBI or observations • Measures child behaviour as primary measure
Medium – 2 points	<ul style="list-style-type: none"> • Use sample within an OECD country • Use Parenting Wisely as an intervention for children aged 9-18 years old • Examines the effectiveness of PW on children have not been screened for behavioural problems
Low – 1 point	<ul style="list-style-type: none"> • Uses the parenting wisely intervention with children aged 9-18 years old • At least 2 time point measures of child behaviour are reported • Examines relationship between the completion of the intervention and child behavioural outcomes

Note: Weightings are allocated if the study meets the majority of criteria

Table D4

Weight of Evidence D

The overall weight of evidence was calculated by averaging the scores for WOE A, B and C.

Overall Weighting	Description
High	Studies with an average score of 2.4-3
Medium	Studies with an average of 1.7 -2.3
Low	Scores with an average of 1-1.6

Appendix E.

Calculating the effect size indicators for O'Neill and Woodward (2002)

O'Neill and Woodward (2002) effect size was calculated using Becker's pre-post-test formula (1988). As the other studies involved a control group, this study could not be compared to the other four studies in terms of effectiveness because of this. As the Cohen's *d* effect size indicators cannot be applied to this formula, an estimation of the effect size was created by taking the other four studies' means and standard deviations and establishing their within group effect size.

Table E1

Within-Group Effect Sizes of reviewed studies

Study	Becker's pretest-posttest with group ES Total behavioural problems	Becker's pretest-posttest with group ES Behavioural intensity
O'Neill and Woodward (2002)	-.49	-.22
Cefai et al. (2010)	-.79	-.62
Kacir and Gordon (1999)	-.92	-1.1
Segal et al. (2003)	-.80	NA*
Woodruff et al. (1999)	-.47	-.29

*Note: Segal et al. (2003) do not have an effect size for behavioural intensity as they did not report on this outcome.

With these effect sizes calculated, it became clear that imposing the same type of effect size indicators as with Cohen's *d* was appropriate. Therefore, for the purpose of this review the Becker effect size is 0.2 as small, 0.5 medium, 0.8 large.

Appendix F.

Rationale for adjustments made to coding protocol

Each study included in this review was coding using Kratochwill's (2003) coding protocol in order to give the weight of evidence A for each study. Due to the nature of the review amendments were made to the coding protocol. These are detailed in the table below along with the rationale for them.

Amendment	Rationale
Sections I.B.7 and I.B.8 removed	Studies did not use qualitative research methods.
Section II.C removed	The purpose of using this protocol was to determine study quality; outcomes are rated separately in this review.
Section II.D removed	This section relates to outcomes which are dealt with separately.
Section II.E removed	The intervention is manualised and components are not separated.
Section II.H.1 removed	'School' was not the site of intervention implementation in the studies.
Rating scale for section II.H removed	The protocol says that in order for the study to be rated as '3, strong evidence', the study must have been conducted in a public school or an alternative school. However the protocol is designed for a different purpose to that which it is being used for in the current review.
Section III.A.1.2	This section is not relevant because the purpose of using this protocol for the current review is to determine the study quality not in relation to school.
Table in section III.A.2 amended so that participants are described before they are allocated to experimental or control group	This is how the participant characteristics are described in the papers.

Appendix G.

Coding protocol for reviewed studies

Coding protocol G1

Coding Protocol: Group-Based Design

- Domain: School- and community-based intervention programs for social and behavioural 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: 01/02/2015

Full study Reference in APA format: Cefai, J., Smith, D., & Pushak, R.E. (2010). Parenting Wisely: Parent Training Via CD-ROM with an Australian sample. *Child & Family Behavior Therapy*, 32, pp.17-33.

Intervention Name (description from study): Parenting wisely

Study ID Number (Unique Identifier): 1

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)
- Randomized block design (within-subjects variation)
- 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	<u>yes</u>	no	N/A
B2.	Familywise error rate controlled	<u>yes</u>	no	
B3.	Sufficiently large <i>N</i>	yes	<u>no</u>	
	Statistical Test: Wilks			
	level: <u>0.05</u>			
	ES: <u>medium</u>			
	<i>N</i> required: <u>64</u>			
B4.	Total size of sample (start of the study):	116		
		N		
B5.	Intervention group sample size:	40		
		N		
B6.	Control group sample size:	46		
		N		

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)

- A3.1 Yes validated with specific target group
A3.2 In part, validated for general population only
A3.3 N/A
A3.4 Unknown/Unable to code

Rating for Measurement: 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 Pharmacotherapy
- 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, 2,3): 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
-

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 one (0,1,2,3): 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 0,1,2,3): 3 2 1 0

I. Follow-Up Assessment

Timing of follow up assessment: specify 3 months

Number of participants included in the follow up assessment: specify 88

Consistency of assessment method used: specify Eyberg child behavioural inventory used

Rating for Follow-Up Assessment select 0,1,2,3): 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: _____

Specify rationale for sample size: _____

A1.1 Inclusion/exclusion criteria specified 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)	Pri - mary Language	SES	Family Structure	Locale
Child/Student ✓ Parent/caregiver Teacher Other	24-55	92 female 24 male			66% aus, 12% Italian, 9% maltese		31% upper m, 27% mid,		Australia
Child/Student Parent/caregiver Teacher School Other									

Participants from Control Group	Grade/age	Gender	Ethnicity or Multi-ethnic	Ethnic Identity	Race(s)	Pri - mary Language	SES	Family Structure	Locale
Child/Student Parent/caregiver Teacher School Other									Australia
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 <input checked="" type="checkbox"/> Parent/caregiver Teacher School Other		<input checked="" type="checkbox"/> 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: 3 month follow up data collection

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 1 week
N
- B2.2 Months
N
- B2.3 Years
N
- B2.4 Other 2.4 hours (mean)
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: 1.5 hours mean
N
- C2.2 Frequency of intervention session: 1 time/week
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: No positive outcomes for higher dose

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 H1 or H2)

- 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): CD-ROM
 - I2.4 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	Description of Evidence Strong Promising Weak No/limited evidence or
Key Features		
Measurement	1	Weak
Comparison Group	2	Promising
Implementation Fidelity	3	Strong
Replication	2	Promising
Follow Up Assessment Conducted	2	Promising