Case Study 1: An Evidence-Based Practice Review Report

Theme: Interventions implemented by parents

How effective are the Parenting Plus Programmes at reducing problem behaviours in clinic-referred children with emotional and behavioural difficulties?

Summary

A systematic literature review was conducted with the aim of evaluating the effectiveness of the Parenting Plus Programmes, specifically in relation to problematic behaviour reduction in clinic-referred children with emotional and behavioural difficulties. The Parenting Plus Programmes are evidence-based parenting programmes, that strive to promote positive parenting practises, with an emphasis on discipline and handling difficult behaviour. Five studies met the inclusion criteria for this review, through searches on PsycINFO and ERIC databases. The selected studies were reviewed using Kratochwill's (2003) Coding Protocol and evaluated using Gough's (2007) Weight of Evidence Framework. Of the studies under review, all received a 'medium' rating, with small to medium effect sizes showing reductions in negative behaviours across the board. The following review will evaluate the findings of these studies, as well as draw implications and recommendations for future research.

Introduction

At least one third of all referrals to child mental health services derive from children who present with serious behavioural difficulties (Kazdin, 1997). Such difficulties can have a poor prognosis – between 35 and 40 percent of children with a diagnosis relating to conduct problems

progress to a diagnosis of antisocial personality disorder in later life, if not supported with adequate intervention (Nolen-Hoeksema, 2001). These statistics come at a considerable cost for families, and for broader society. Families of children with behavioural difficulties have reported feeling isolated and stressed, as well as lacking support (Webster-Stratton&Herbert, 1994). With regard to society, studies have shown that early behavioural problems in children can lead to antisocial behaviour, alcohol and drug problems later on, down the line (Barlow & Stewart-Brown, 2000). As a result of these issues, a strain is put on the economy through the increasing demand of provisions such as special education, social welfare, and child and adult health services (Hutchings, Lane & Kelly, 2004).

Social learning theory (Bandura, 1977) espouses the idea that the observation and reinforcement of behaviours is particularly influential in shaping and consolidating the behaviour of children. As primary caregivers, it follows that parents play a key role in the socialisation process of their child. Indeed, one of the factors said to mediate the development of negative behaviour issues in children is that of quality of parenting (Shaw & Winslow, 1997). Snyder and Stoolmiller (2002) found that parents of children with conduct problems displayed more harsh and punitive behaviours toward their children, in comparison to parents of nonproblematic children. To that end, parent-training courses have been devised in order for parents to learn the skills needed to model positive behaviours, utilise positive parenting strategies and address possible existing behavioural issues in children. There is a convincing body of evidence to support their effectiveness, with studies demonstrating that parent training courses that are guided by social learning principles significantly decrease conduct problems, increase prosocial behaviour, and improve parent-child interactions (Daley, Jones, Hutchings & Thompson, 2009; Kazdin, 1997; Nixon, 2002; Serketich & Dumas, 1996; Taylor & Biglan, 1998)

The Parents Plus Programme

The Parents Plus Programme was originally devised by Sharry & Fitzpatrick (1998), with a view to tackling the presenting problems in children with behavioural, developmental and emotional issues. Over time, this programme has been split into three separate subgroups, in accordance with age: The Parents Plus Early Years Programme, for children aged 1 to 6 (Sharry, Hampson & Fanning, 2003), The Parent's Plus Children's Programme, for children aged 6 to 11 (Sharry & Fitzpatrick, 2007), and the Parent's Plus Adolescents' Programme, for adolescents between the ages of 11 and 16 (Sharry & Fitzpatrick, 2007). These programmes are manualised, and use video footage of parent/child interaction to consolidate their underlying principles. The video mode of transmission has been deemed advantageous, and has been lauded by Coughlin, Sharry, Fitzpatrick, Guerin and Drumm (2009), who state that video training is particularly useful in that the transmission is immediate, and that the dependency on the literacy skills of participants is minimal.

The Parent Plus programmes have specifically been developed for use within the Irish context, with actors speaking in Irish accents, and using Irish idioms. The role plays within the videos depict certain parenting principles by showing parents interacting in both positive and negative ways with their children. Such scenes serve to generate and facilitate discussion relating to the aforementioned principles, and parents are then invited to complete 'homework assignments' to put the positive parenting skills into practise. The Parenting Plus programmes have been devised so that they can be adapted for delivery in a variety of clinical and community settings. The duration of the intervention, and the content of the course, is flexible and may vary according to the group, and whether it is delivered in a specialist or community setting.

Facilitators of these courses can hold a variety of qualifications, but are generally trained health and childcare professionals.

Relevance to EP practice

Poor psychological well-being, emotional maladjustment and conduct problems have been shown to have a markedly detrimental effect on children's progress and adjustment in school (Anderson, 2005). It follows that such issues can lead to a lack of motivation, which in turn has been shown to decrease productivity and create a barrier to teaching and learning (International Union for Health Promotion and Education, 2000). Furthermore, conflict with parents during adolescence has been linked to the manifestation of negative behaviours in school and to overall poor educational outcomes (Forehand, Long, Brody, & Fauber, 1986). This disruptive behaviour within the educational setting can place a considerable strain on teachers and school staff, often leading to a request for Educational Psychologist involvement.

There has been public emphasis on the positive impact that Educational Psychologists can bring to behaviour management in schools, through consultative work, tailored interventions and the provision of resources (AEPEP, 2010). While EPs can disseminate a wealth of relevant information to staff members and families through their line of work, early and preventative intervention is needed in order to target the initial development of conduct issues (McNeil, Capage, Bahl & Blanc, 1999). Studies have shown that up to 53 percent of children with significant emotional disorders have little access or input from specialist child mental health services (Ford, Goodman, & Meltzer, 2003). To that end, targeted mental health programs such as TaMHS have been set up to promote positive mental health and wellbeing within the school context. Such projects have widened the scope of work of the EP, with an increased emphasis on working with mental health. A research report, based on the role and good practice of Educational Psychology services (Kelly & Gray, 2000) highlighted the view that health and social

professionals valued the specific perspective and input an educational psychologist can bring, which they felt complemented their clinical perspective. Schools have voiced the opinion that they view educational psychologists to be the key link between school and home (Kelly & Gray, 2000). Given the weight and influence of parenting styles on children's behaviour, this systematic literature review looks to evaluate the effectiveness of the Parents Plus Program on children with clinically significant social and emotional difficulties.

Review Question

How effective are the Parenting Plus Programmes at reducing problem behaviours in clinic-referred children with emotional and behavioural difficulties?

As aforementioned, the Parenting Plus Programmes have been designed so that they can be facilitated within both clinical and community settings. Coughlin et al. (2009) posits that there are often poorer outcomes in clinical studies, and identifies the need for developing evidence-based programmes that generate effective outcomes for typical referrals to child and mental health services. As previously stated, children who present with clinically significant issues are often not able to access this range of services. Bearing this in mind, and given the scope of this review, this systematic appraisal will focus solely on the effectiveness of the Parenting Plus Programme when facilitated within a clinical setting.

Literature Search

A systematic search of the electronic databases PsycInfo and ERIC (EBSCO) was undertaken on the 12th of December 2014, to identify all studies relevant to the review question.

The following relevant search terms were used when carrying out the review.

Table 1:

Databases	Search terms
PsycInfo, EBSCO	Parent Plus, Parent* Plus, clinic, behaviour*

As can be seen in Figure 1, the database search revealed eleven studies; ten from PsycInfo, one from ERIC. One study was removed as a duplicate and the remaining ten were scrutinised through applying the inclusion/exclusion criteria as seen in Table 2. At the end of this process, five studies were deemed relevant for the scope of this review.

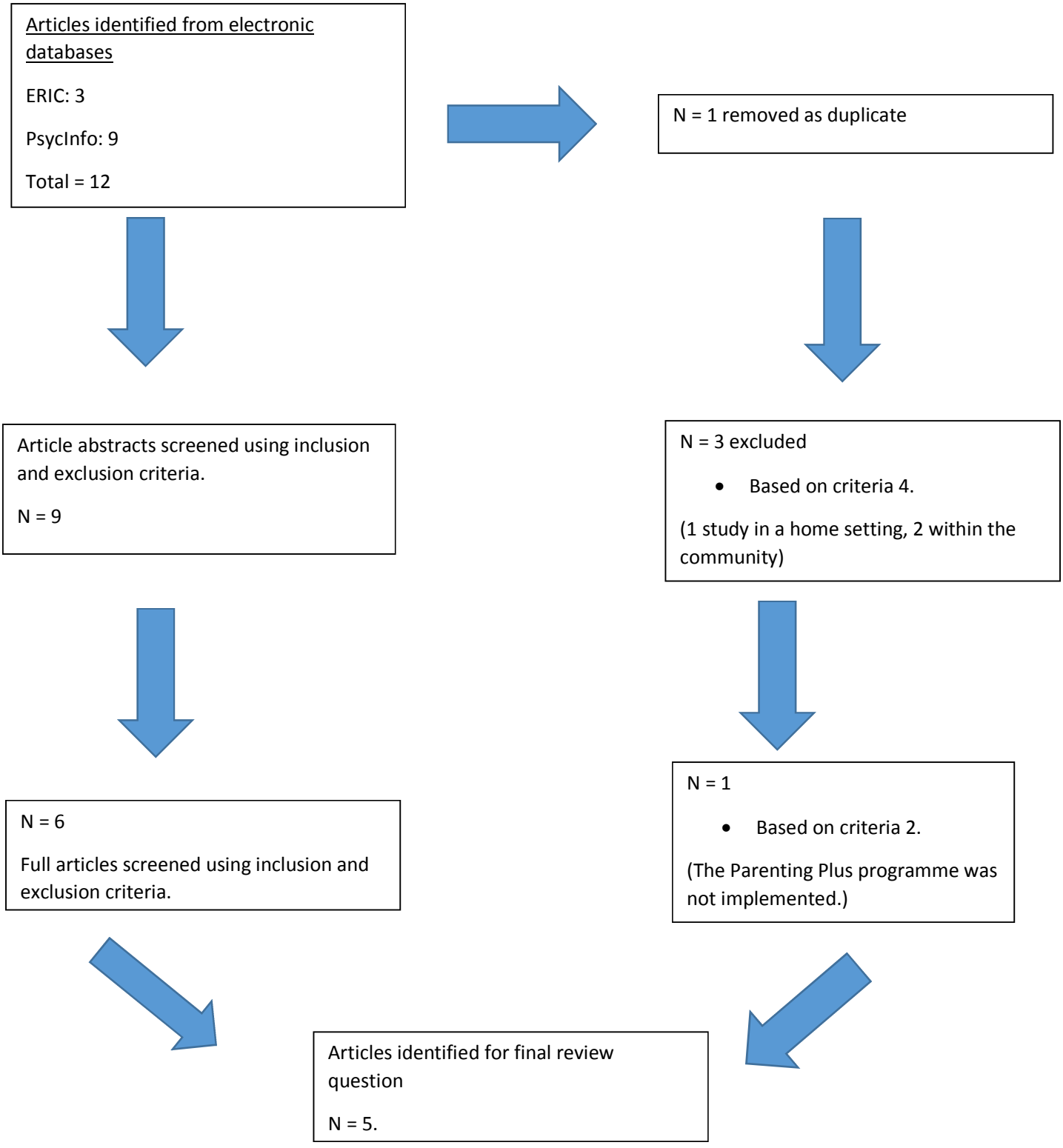
Table 2: Inclusion and Exclusion criteria

		Inclusion Criteria	Exclusion Criteria	Rationale
1.	Publication type	Peer reviewed in a journal	Studies not in a peer reviewed journal	Peer reviewers assess the quality of a study and therefore studies are less likely to contain errors.
2.	Intervention	Must fall under the Parenting Plus Programme, e.g. PPEY, PPCP…	Studies that do not implement any of the Parenting Plus interventions	Review question focuses specifically on the 'Parenting Plus' programmes.

3.	Outcomes	Study reports on child outcomes post intervention	Child behaviour outcomes not reported	The aim of this review is to ascertain the effects of the Parenting Plus Programmes on children's behaviour.
4.	Setting	Study takes place in clinical setting	Studies takes place within a community/home setting	Review question focuses solely on clinical interventions.
5.	Language	Must be written in English	Studies not written in English	Reviewer does not have the resources to access other languages.

Literature Screening Process

Figure 1: Database search



Final studies included in systematic review

Table 3: List of studies, in APA format

Behan, J., Fitzpatrick, C., Sharry, J., Carr, A., & Waldron, B. (2001). Evaluation of the parenting plus programme. *The Irish Journal of Psychology*, *22*(3-4), 238-256.
Coughlin, M., Sharry, J., Fitzpatrick, C., Guerin, S., & Drumm, M. (2009). A Controlled Clinical Evaluation of the Parents Plus Children's Programme: A Video-based Programme for Parents of Children Aged 6 to 11 with Behavioural and Developmental Problems. *Clinical Child Psychology and Psychiatry*, *14*(4), 541-558.
Quinn, M., Carr, A., Carroll, L., & O'Sullivan, D. (2007). Parents Plus Programme 1: Evaluation of Its Effectiveness for Pre-School Children with Developmental Disabilities and Behavioural Problems. *Journal of Applied Research in Intellectual Disabilities*, *20*(4), 345-359.
Quinn, M., Carr, A., Carroll, L., & O'Sullivan, D. (2006). An evaluation of the Parents Plus Programme for pre-school children with conduct problems: A comparison of those with and without developmental disabilities. *The Irish Journal of Psychology*, *27*(3-4), 168-182.
Sharry, J., Guerin, S., Griffin, C., & Drumm, M. (2005). An evaluation of the Parents Plus Early Years Programme: A video-based early intervention for parents

of pre-school children with behavioural and developmental difficulties. *Clinical child psychology and psychiatry*, *10*(3), 319-336.

It is worth noting that there is a qualitative aspect in Sharry, Guerin, Griffin and Drumm's (2005) study. However, as the authors did not refine the review question, and limited quotes were available, a decision was made to exclude these findings from the review.

Evaluation

Critical comparison of the selected studies

The five selected studies for review were appraised and evaluated under Gough's Weight of Evidence (WoE) framework (2007). This framework provides clear and extensive criteria that can be applied when engaging in a systematic review of the literature. WoE evaluates studies based on methodological quality (WoE A); methodological relevance (WoE B); relevance to review question (WoE C), and overall WoE (WoE D), which is calculated by averaging the scores of WoE A,B and C. The methodological quality of each study was evaluated using the Kratochwill (2003) protocol for coding group-based designs. Various adaptations were made to this protocol, which are outlined, with rationale, in Appendix B.

Weight of Evidence

Table 4: Overall Weight of Evidence

Studies	Weight of Evidence A	Weight of Evidence B	Weight of Evidence C	Overall Weight of Evidence D

Behan et al. 2001	2	2	2	2 (medium)
Quinn et al. 2006	2.7	1	2	1.9 (medium)
Quinn et al. 2007	2	2	2	2 (medium)
Coughlin et al. 2009	2	2	2	2 (medium)
Sharry et al. 2005	2	1	3	2 (medium)

Participants Characteristics

All of the studies took place in the Republic of Ireland. The age of participants ranged from 2 years (Sharry et al., 2005) to 12 years (Behan, Fitzpatrick, Sharry, Carr &Waldron, 2005). These ages varied in line with the type of Parenting Plus Program implemented: The Parents Plus Early Years (Sharry et al., 2005), Parents Plus Programme (Quinn, Carroll & O'Sullivan, 2006; 2007; Behan et al., 2001), or the Parents Plus Children's Programme (Coughlin et al., 2009). All studies referred specifically to parents, except for Sharry et al. (2005), who widened the scope of participation to caregivers. However, the adjusted criterion did not greatly impact on the makeup of participants, with only one participant not being a 'parent', but, a child's uncle. Participants were recruited from a variety of child mental health service clinics, due to their child being referred on the basis of conduct problems and/or other social and emotional difficulties.

Sample size

The total number of participants partaking in the studies ranged from 38 to 99. Statistical analysis to determine the power of these studies showed that all five studies were underpowered, in that they failed to provide an adequate sample size. This could have implications for the subsequent findings of these studies, in that small sample sizes increase the chance of intergroup differences going unnoticed

Randomisation

Only one of the five studies was randomised – Behan at al. (2001) randomly assigned parents to treatment or control groups upon commencing participation in the study. Coughlin et al. (2009) carried out a sequential block design, in which participants were assigned to the Parents Plus Children's group (PPCP) or the Treatment as Usual (TAU) group on the basis of the date of their referral. The TAU group were subsequently placed on a waiting list to avail of the next parenting programme. The cases within Quinn's study (2007) were consecutively assigned to treatment and control groups at matched clinics. Quinn (2006) divided participants on the basis of whether or not their children had a developmental disability. This lead to the creation of two groups, Disability and Conduct, who both received the same intervention, in a bid to ascertain whether there were outcome differences between the two. Randomised controlled trials increase the chance of determining whether a cause-effect relationship exists with an intervention, and can reduce sampling bias. Coughlin et al. (2009) posits that random allocation is not always ethically feasible with a clinical population, due to the level of need. However, given that this review looked to isolate the effectiveness of the Parenting Plus Programmes, a high weighting was placed on random allocation within studies. This was reflected in WoE B, with three of the groups

receiving a 'Medium' weighting for methodological relevance on account of their lack of randomisation.

Control Groups

Sharry et al. (2005), and Quinn et al. (2006) both received a 'Low' weighting for methodological relevance, due to the lack of comparative control groups within their studies. In Sharry et al.'s study (2005), there was no control group, therefore measures were taken pre and post implementation of the PPEY intervention, using quantitative methods. This was followed up using qualitative methods, through the use of semi structured interviews. Interviews were subsequently analysed using content analysis. The use of mixed method investigation in research can be useful in triangulating information, however, an 'active' control group would have been useful in highlighting whether differential outcomes occurred as a result of partaking in the intervention. In Quinn et al.'s study (2006), both groups underwent the same Parents Plus intervention, in a bid to ascertain whether there were differences in outcomes for children with and without developmental disabilities. The lack of control group in this study, however, means that it is not possible to scrutinise the effects of undergoing the programme in comparison with an alternative treatment /no intervention group. The other three studies under review (Behan et al., 2001; Coughlin et al., 2009; Quinn et al., 2007) utilised a waiting list control group within their design. It is, however, worth noting that these groups were receiving routine multidisciplinary input from their respective clinics, with the intervention groups benefitting from these services in addition to the parenting programme.

Measures

All studies used the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997, 2001) as a measure of assessing parent perceptions of children's behaviour. This 25 item inventory yields

scores on 5 different subscales: 1) emotional problems, 2) conduct problems, 3) hyperactivity/inattention, 4) peer relationship problems and 5) prosocial behaviour. By adding up the first four subscales it is possible to calculate a 'Total Difficulties' score. Responses are scored from 0 to 2. The SDQ has a high internal consistency and test-retest reliability, aswell as strong criterion validity for predicting psychological disorders (Goodman, 2001).

Three of the studies (Behan et al. 2001; Quinn et al. 2006, 2007) utilised the Child Behaviour Checklist (CBCL, Achenbach, 1991) as a further measure of child behaviour. The CBCL is a 113 item inventory designed for parents to provide a description of their child's behaviour. There are 3 broadband scales and 8 narrowband subscales. The narrowband scales are as follows: somatic complaints, social problems, attention problems, thought problems, anxious/depressed, withdrawn, aggressive behaviour and delinquent behaviour. The broadband scales are: the total problem scale, the internalising behaviour scale and he externalising behaviour scale. The CBCL scales and subscales have sufficient discriminative validity (Kasius, Ferdinand, van den Berg & Verhulst, 1997) and high internal consistency and test-retest reliability (Achenbach, 1991).

The SDQ has a reported Cronbach α of 0.73 and a test re-test reliability score that ranges from 0.51 to 0.73 (Goodman, 2001), while the CBCL has a test-retest reliability coefficient of above 0.7 (Achenbach, 1991). High weighting was given to the use of reliable measures for methodological quality in WoE A. While reliable instruments were used to assess child behaviour outcomes in these studies, all but one study fell short of attaining a 'High' rating for measurement in WoE A, due to the fact that they did not use multiple sources for data collection. Utilising data collection from another party, such as a teacher/childcare provider, could serve to enrich the conceptualisation of outcomes. Sharry et al. (2005) obtained a 'High' measurement, due to the fact that two observers who were blind to the stage of the programme (ie., pre or post

intervention), were invited to code parent-child interactions as captured by video footage. The results of these observations were then analysed using a paired samples one-way t-test to observe any significant changes in interaction over time. The use of these observers (both were postgraduate psychology students) would serve to reduce bias in subsequent findings relating to improvements in parent/child interaction.

Findings

The outcomes examined for the purpose of this review are child behaviour outcomes as reported by parents – specifically, the Total Difficulties scale of the SDQ and the overall score of the Child Behaviour Checklist (Achenbach, 1991). Table 5 shows the overall effect sizes and quality ratings of each study. Three of the studies' effect sizes were calculated using Morris' (2007) effect size estimate using the pre-test pooled SD, while two studies (Quinn et al., 2006; Sharry et al., 2005) used Becker's formula for within-person change, due to their lack of control group. This lack of a control impedes the ability to ascertain the extent of the Parenting Plus program within this study directly. Therefore, the effect size for Sharry et al.'s (2005) study needs to be interpreted with caution. Moreover, it is worth noting that these effect sizes are not directly comparable. Effect sizes were yielded using the criterion of Cohen's *d* (small = 0.20, medium = 0.50, large = 0.80).

Of the five studies, only one (Quinn, 2007) reported an effect size for the SDQ. The effect size reached was 0.49. The authors posit that this indicates that post intervention, treatment cases fared better on the total difficulties scale than 69% of controls. Furthermore, their findings indicate that the mean for the treatment group moved from the clinical to the non-clinical range post intervention. Upon calculation of the remaining four studies, all results showed minus figures for the SDQ, and effect sizes ranged from small to medium. This indicates that the Parenting

Plus programmes have some efficacy in reducing negative behaviours in children, as measured by the SDQ. Of the studies that utilised the CBCL, small effect sizes were found across the board for reductions in behaviour.

	Outcomes	Sample size at pre test	Effect size	Effect size descriptors	Overall Weight of Evidence (WoE D)
Behan et al. (2001)	1) SDQ Total Difficulties 2) CBCL	Intervention N = 26 Control N = 14	1)-0.54 2) -0.29	1)Medium 2)Small	Medium
Coughlin et al. (2009)	1) SDQ Total Difficulties	Intervention N = 22 Control N = 19	1) 0.49 2) 0.09	1)Small 2)Small	Medium
Sharry et al. (2005)	1) SDQ Total Difficulties	Intervention N = 38	1) -0.93	1) Large	Medium
Quinn et al. (2007)	1) SDQ Total Difficulties 2) CBCL	Intervention N= 23 Control N=19	1)-0.45	1) Small	Medium
Quinn et al. (2006)	1) SDQ Total Difficulties 2) CBCL	Intervention N = 47	1) Conduct = -1.41 Disability = -0.76	1) Large, Medium 2) Small, small	Medium

	2) Conduct = -0.31 Disability = -0.14	

Table 5: Effect sizes and overall quality ratings

Conclusions and recommendations

This systematic literature review has produced tentative but promising evidence for the effectiveness of the Parenting Plus Programmes in reducing problematic behaviours in children with clinically significant emotional and behavioural difficulties, with all studies obtaining a 'medium' WoE D rating.

One of the limitations of this review is that two of the five studies lacked a control group, perhaps owing to the ethical and legal restraints of implementing a 'no treatment' group in children or adolescents in need of psychological services (Weisz, Weiss & Donenberg, 1992). Furthermore, all of the children in the studies were receiving routine multidisciplinary input from their respective clinics, which could pose a difficulty in isolating the specific effects of the parent training program. Another limitation was the small sample sizes used in each study, with all five studies being underpowered, thus increasing the risk of intergroup differences going undetected.

A strength of these studies was that valid, reliable instruments were used in the measurement of child behavioural outcomes across the board. Furthermore, results showed clinical relevance – in Behan et al.'s study (2001), twice as many of the treatment group moved from the clinical to non-

clinical range on the total difficulties scale of the SDQ. Quinn et al. (2006) report that more than 70% of their intervention groups showed clinically significant improvements, while 50% of the treatment group in Quinn et al.'s study (2007) showed a similar trend, although this was not statistically significant. All five studies gathered statistical follow-up data, with treatment cases showing a sustained or improved change post intervention (see Appendix C). This provides a convincing body of evidence for the use of the Parenting Plus programmes as a behavioural intervention for children referred to mental health services.

Finally, it is worth noting that the Parents Plus Programmes were developed in the Republic of Ireland, and all five studies were carried out within this country. Due to cultural references, accents, and idioms, adaptations may have to be made if used outside of this context. Future research would benefit from being conducted in other countries, to assess whether these programs can be generalised across other cultures and settings.

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Appendix A

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:** 02.01.2015
M / D / Y

Full Study Reference in APA format: Sharry, J., Guerin, S., Griffin, C., & Drumm, M. (2005). An evaluation of the Parents Plus Early Years Programme: A video-based early intervention for parents of pre-school children with behavioural and developmental difficulties. Clinical child psychology and psychiatry, 10(3), 319-336.

Intervention Name (description from study): Parents Plus Early Years

Study ID Number (Unique Identifier): 5

Type of Publication: (Check one)

- ☐ **Book/Monograph**
- x **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 x 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: ANOVA
_ level: 0.05
ES: medium
N required: 64

B4. Total size of sample (start of the study): 38
N
B5. Intervention group sample size: 38
N
B6. Control group sample size: 0
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. X 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. X Established/institutionalized programs
D4. ☐ Unknown

E. Concurrent or Historical Intervention Exposure (select one)

E1. ☐ Current exposure
E2. ☐ Prior exposure
E3. **x** 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 x Yes
A1.2 ☐ No
A1.3 ☐ Unknown/unable to code

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

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

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

A3.1 x 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 x 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)**:** **X 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 x 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 x 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 Significant secondary outcomes for at least 75% of the total secondary outcome measures for each key construct **secondary outcomes** that are one of the following)

C4.1 ☐

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: _____			
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:	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 #2	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 #3:	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 #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:	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 #2	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 #3:	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 #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: [X] Yes [ ] No [ ] Unknown	Positive change in diagnostic criteria from pre to posttest: [x] Yes [ ] No [ ] Unknown	Positive change in diagnostic criteria from posttest to follow up: [X] Yes [ ] No [ ] Unknown
D2. Outcome Assessed via continuous Variables		Positive change in percentage of participants showing clinical improvement from pre to posttest: [X] Yes [ ] No [ ] Unknown	Positive change in percentage of participants showing clinical improvement from posttest to follow up: [X] 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: [X] Yes [ ] No [ ] Unknown	Importance of behavior change from pre to posttest is evaluated positively by individuals in direct contact with the participant: [X] Yes [ ] No [ ] Unknown	Importance of behavior change from posttest to follow up is evaluated positively by individuals in direct contact with the participant: [X] 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 [X] Unknown	Participant's behavior has improved from pre to posttest when compared to normative data: Yes [ ] No [X] Unknown	Participant's behavior has improved from posttest to follow up when compared to normative data: Yes [ ] No [X] Unknown

Rating for Educational/Clinical Significance (select 0, 1, 2, or 3)**:** [ ] **3** [X] **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 X Ongoing supervision/consultation
F1.2 ☐ Coding intervention sessions/lessons or procedures
F1.3 X ☐ Audio/video tape implementation (select F1.3.1 or F1.3.2):

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

F2. Manualization (select all that apply)

F2.1X ☐ 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 X 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)**:** X **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 :5 months
_____
Number of participants included in the follow up assessment: specify: 31

☐ 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
none
Specify rationale for selection: none given
Specify rationale for sample size: none given

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

follow up measures

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 _____
N

12 weeks
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:)

2 hours
C2.1 length of intervention session _____
N

weekly
C2.2 frequency of intervention session _____
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 unknown_____

Average length of training unknown

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	NNR	
Statistical Treatment	NNR	
Type of Program	NNR	
Stage of Program	NNR	
Concurrent/Historical Intervention Exposure	NNR	
Key Features		
Measurement	3	
Comparison Group	0	
Primary/Secondary Outcomes are Statistically Significant	N/A	
Educational/clinical significance	2	
Identifiable Components	N/A	
Implementation Fidelity	3	
Replication	N/A	
Site of Implementation	N/A	
Follow Up Assessment Conducted	2	

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		

Appendix B

List of excluded studies

Study	Reason for exclusion (criterion number)
Thomas, R., Carroll, A., Chomin, E., Williamson, T., Beran, T., Palacios-Derflingher, L., & Drummond, N. (2013). Perceived usefulness of learning strategies by children with Tourette syndrome plus, their parents and their teachers. *Health Education Journal*, *72*(3), 263-275.	**Criteria 2.** Study not based on any of the Parenting Plus interventions.
Abikoff, H., Hechtman, L., Klein, R. G., Gallagher, R., Fleiss, K., Etcovitch, J. O. Y., ... & Pollack, S. (2004). Social functioning in children with ADHD treated with long-term methylphenidate and multimodal psychosocial treatment. *Journal of the American Academy of Child & Adolescent Psychiatry*, *43*(7), 820-829.	**Criteria 2.** Study not based on any of the Parenting Plus interventions.
Hand, A., McDonnell, E. Honari, B.,& Sharry, J. (2013). A community led approach to delivery of the Parents Plus Children's Programme for the parents of children aged 6-11. *International Journal of Clinical and Health Psychology, 13(2), 81-90.*	**Criteria 4.** Intervention was not facilitated within a clinical setting.
Hand, A., Raghallaigh, C. N., Cuppage, J., Coyle, S., & Sharry, J. (2012). A controlled clinical evaluation of the Parents Plus Children's Programme for parents of children aged 6–12 with mild intellectual disability in a school setting. *Clinical child psychology and psychiatry*, 1359104512460861.	**Criteria 4.** Intervention was not facilitated within a clinical setting.
Berrick, J. D., & Skivenes, M. (2012). Dimensions of high quality foster care: Parenting Plus. *Children and Youth Services Review*, *34*(9), 1956-1965.	**Criteria 4.** Intervention was not facilitated within a clinical setting.
Byrne, E., Holland, S., & Jerzembek, G. (2010). A pilot study on the impact of a home-based parenting intervention: Parents Plus. *Child Care in Practice*, *16*(2), 111-127.	**Criteria 4.** Intervention was not facilitated within a clinical setting.

Appendix C

Mapping the Field – Summary of Studies

Author	Sample Size	Sample characteristics (age, gender, any presenting difficulties)	Country	Intervention
Sharry, J., Guerin, S., Griffin, C., & Drumm, M. (2005).	N = 38	30 pre-school children (38 parents), referred to the Child Mental Health Service. 5 children (7 parents) dropped out and the remaining 25 children (31 parents). Children =17 males and 8 females (females included a set of twin girls), from 2 to 5 years. Mean age = 3.9 years (SD = 1.02).	Ireland	Parents Plus Early Years programme. 7 group and 5 individual sessions over a period of 12 weeks. Video interactive guidance was used in individual sessions. Group meetings involved 8 – 12 members and lasted for 2 hours. There was no control group.
Quinn, M., Carr, A., Carroll, L., & O'Sullivan, D. (2007).	Intervention N = 22, Control N = 19	Forty-two parents of children aged 4–7 years with developmental disabilities and clinically significant behaviour problems participated in this study. Participants were drawn from four rural, early intervention clinics for children with significant cognitive development delay in the Irish public health service.	Ireland	Parents Plus Programme. Cases were randomly assigned to either treatment or wait list control groups. Data was collected before and after the intervention, and in the case of the treatment group, at a follow up period, ten months later. There were 6 weekly sessions of 2 hours each.
Quinn, M., Carr, A., Carroll, L., & O'Sullivan, D. (2006).	N = 39	Participants were 50 parents whose children, aged 3-12 years, had been referred to outpatient child psychiatry clinics	Ireland	Parents Plus Programme. Cases with developmental disabilities and significant conduct problems were assigned to the first treatment group and cases with conduct

		at two major teaching hospitals in central Dublin. Over two thirds of children had a DSM IV diagnosis.		problems but no developmental disability were assigned to the second treatment group. All cases were assessed before and after participation, and again 10 months after the end of treatment. There were 6 weekly sessions of 2 hours each.
Coughlin, M., Sharry, J., Fitzpatrick, C., Guerin, S., & Drumm, M. (2009).	Intervention N = 42, Control N = 32	Participants were parents of 99 children who had been referred to the clinic with significant behavioural and emotional difficulties.	Ireland	Parent's Plus Children's Programme. A sequential block design was used to assign parents to the PPCP Group or the Treatment as Usual (TAU) Comparison Group. Data was collected for both groups before and after the intervention, and for the treatment group 5 months later. There were 8 weekly group sessions of 2 hours each.
Behan, J., Fitzpatrick, C., Sharry, J., Carr, A., & Waldron, B. (2001).	Intervention N = 26, Control N = 14	Participants were 50 parents of children aged 3 to 12 years. This cohort had been referred to outpatient child psychiatry clinics at two major teaching hospitals in central Dublin.	Ireland	Parents Plus Programme. Parents were randomly assigned to treatment or control groups and assessed before and after the intervention. The treatment group was assessed at 22 weeks follow-up. There were 8 weekly sessions of 2 hours each.

Analysis of Study Outcomes

Author	Measures (child measures only)	Analyses	Outcomes (child outcomes only)	Follow up
Sharry, J., Guerin, S., Griffin, C., & Drumm, M. (2005).	The pre-school version of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)	A series of one-way repeated ANOVAs were used to assess significant differences in group means.	A significant difference was found for the Total Difficulties scale ($F(2,40) = 10.324$, $p < .05$).	• Post hoc analyses showed that the means for Time 2 (M=16.71) and 3 (M=15.90) were significantly lower than Time 1 (M=21.09).
Quinn, M., Carr, A., Carroll, L., & O'Sullivan, D. (2007).	• Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) • Child Behaviour	A series of one-way ANCOVAs were conducted on dependent variables to assess whether there were statistically significant	• The mean score of the Treatment group decreased from M = 16.36 (SD =4.58) to M =	• The mean values of the SDQ further reduced at follow up to M = 12.95 (SD = 3.96). This was significantly different from pre-treatment scores, but not scores taken at post.

	Checklist (Achenbach, 1991)	differences on group mean scores. At follow up, a one-way repeated measures ANOVA was conducted on time 1,2 and 3 Treatment group data, followed by paired t-tests among time 1 to 2 to 3 scores to see if improvement or deterioration occurred between the end of treatment and follow up.	13.9 (SD = 4.34). These were significant at ($P < 0.01$). The clinical cut off point for the SDQ is 16, so the treatment group moved from the clinical to non-clinical range from pre to post intervention. • There was no significant difference in mean values in either group from pre to post intervention for the CBCL.	
Quinn, M., Carr, A., Carroll, L., & O'Sullivan, D. (2006).	• Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) • Child Behaviour Checklist (Achenbach, 1991)	A series of 2 (Group) x 2 (Time) mixed-model ANCOVAs were conducted on dependent variable mean scores.	• 50% the disability group that were in the clinical range at Time 1, compared with 27% of the conduct problem group that were in the clinical range at the same phase, showed clinically significant improvement on the SDQ at Time 2. However, this was not statistically significant. • There was no significant difference in CBCL scores from pre to post treatment.	• Four cases in the disability group, and 5 cases in the conduct problems group for which there were follow up data were classified as reliably changed at Time 3. However, this difference in reliable improvement rates at Time 3 was not statistically significant.

Coughlin, M., Sharry, J., Fitzpatrick, C., Guerin, S., & Drumm, M. (2009).	Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)	A series of 2 x 2 one between one-within mixed model ANOVA were used to explore Time and Interaction effects for all subscales of the SDQ.	There were significant group differences at Time 2 for the SDQ ($F(1, 71) = 5.62$, $p < .01$),1 with mean scores being lower for the PPCP Group than for the control group.	There were significant time effects for the SDQ from Time 1 to 3. Post hoc analyses showed that the significant differences in mean values occurred between Time 1 and 2, and were maintained at follow up.
Behan, J., Fitzpatrick, C., Sharry, J., Carr, A., & Waldron, B. (2001).	• Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) • Child Behaviour Checklist (Achenbach, 1991)	To examine statistically significant changes in the SDQ and CBCL, both groups from Time 1 to 2, all dependent variables were analysed using a 2 x 2, one between one within mixed model ANOVA. To assess significant change in the Treatment group from Time 1 to 2 to 3, dependent variables were analysed using a one-way repeated measures ANOVA.	• On the repeated measures ANOVA, a significant (p<.O5) Time effect was observed for the SDQ. • There were no significant effects for the CBCL.	• Gains on both the SDQ and CBCL Externalising Scale were maintained at follow up.

Appendix D

Weight of Evidence A

Methodological quality

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	Four of the five did not use qualitative research methods –The qualitative aspect of Sharry et al's (2005) study was excluded due to the fact that the authors did not refine the review question.
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	This review evaluated clinical settings, therefore 'school' was not the site of intervention implementation.
Rating scale for section II.H removed	The protocol says that in order for the study to be rated as '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.

WOE (Weight of Evidence) A

Methodological quality

The Weight of Evidence A was derived from averaging the scores at the end of each protocol.

Weighting	Description
High (3 points)	• Uses multiple methods of data collection • Uses multiple sources of data collection • Has at least one 'active' comparison group • Produces reliable scores for the majority of primary outcomes and for population of study, with a reliability coefficient of .7 and above. • Demonstrates group equivalence • Demonstrates low attrition (less than 20%)
Medium (2 points)	• Uses reliable measures (r=0.5) • Uses multiple methods AND/OR sources • Has a least one comparison group • Demonstrates group equivalence
Low (1 point)	• Measures have low reliability (r <0.5) • No comparison group • Group equivalence is not established

Weight of Evidence B

Methodological relevance

Weighting	Description
High (3 points)	• Participants are randomly allocated to control or intervention groups.

	• Follow up measures are taken from both groups.
Medium (2 points)	• Participants are not randomly assigned to groups. • Follow up measures are taken from one group.
Low (1 point)	• Has no comparison group • No follow up measures are taken.

Weight of Evidence C

Topic relevance

Weighting	Description
High (3 points)	• Uses children who have specified referral/diagnosis. • Intervention is facilitated in clinic. • Uses two facilitators to deliver intervention. • Implements the whole Parents Plus program • Measures child behaviour as a primary measure • Children are not receiving any other interventions
Medium (2 points)	• Adaptations are made to the Parents Plus programme • Children are receiving other interventions alongside the Parents Plus programme. • Intervention is facilitated in clinic/other health setting.
Low (1 point)	• Referral/diagnosis not specified. • Intervention not facilitated in clinical setting.

Weight of Evidence D

Overall Weight of Evidence

Studies	Weight of Evidence A	Weight of Evidence B	Weight of Evidence C	Overall Weight of Evidence D
Behan et al 2001	2	2	2	2 Medium
Quinn et al 2006	2.7	1	2	1.9 Medium

Quinn et al 2007	2	2	2	2 Medium
Coughlin et al 2009	2	2	2	2 Medium
Sharry et al 2005	2	1	3	2 Medium

To achieve a ‘High’ rating, a study had to receive an average score of at least 2.5. For a ‘Medium’ score, an average score of between 1.5 and 2.4 had to be achieved, while a ‘Low’ rating study received a score below 1.4.