Effectiveness of Early Family/Parent Training Programs in Preventing Antisocial Behavior & Delinquency

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1. **Background for the Review**

A key observation in longitudinal studies of antisocial behavior, delinquency, and crime indicates that chronic disruptive behavior that emerges early in the life course leads to serious delinquency and crime during childhood, adolescence, and adulthood (McCord, Widom, and Crowell, 2001; Piquero, Farrington, and Blumstein, 2003) and also produces negative reverberations in other, non-crime life domains such as education, employment, relationship quality, and so forth (Moffitt, 1993). Because of this strong linkage or cumulative continuity over the life course and across life domains, it is not surprising to learn that early prevention has been suggested as an important avenue of policy with respect to early childhood problem behavior (Farrington and Welsh, 2007). And because children evincing early-life behavior problems become increasingly resistant to change over the life course (Frick and Loney, 1999; Tremblay, 2000), it becomes even more important to begin such efforts as early in the life course as possible, as these efforts may have a larger benefit when focused on high-risk families.¹

One such vehicle includes early family-/parent-training (EFPT) programs. Such programs generally postulate that improving the quality of parent-child relations, which is a key feature of EFPT programs, will facilitate learning of control over impulsive, oppositional, and aggressive behavior, thus reducing disruptive behavior and its long-term negative impact on social integration (Bernazzini and Tremblay, 2006:22). In practice, such interventions attempt to change the social contingencies in the family context and/or provide advice/guidance to parents on raising their children or general parent education (Tremblay and Craig, 1995; Hawkins et al., 1999; Kazdin et al., 1992).² Although a recent meta-analysis found that the two main types of family-based programs, general parent education (i.e., home visiting programs aimed at improving health and parenting skills and parent education plus daycare services) and parent management are effective in preventing delinquency or later criminal offending (Farrington and Welsh, 2003), and other reviews of the effectiveness of home visiting programs, including a systematic review (Bilukha et al., 2005) and a narrative review (Gomby et al., 1999) found that the evidence on child behavior outcomes was a bit more mixed, the totality of the evidence on early EFPT programs is muddied (Farrington and Welsh, 2007:122), largely because of the lack of a significant number of experimentally-based EFPT programs that contain long-term information on delinquency and crime.

As background, we provide a brief overview of Farrington and Welsh’s (2003) meta-analysis of the effectiveness of family-based crime prevention programs (carried out in several settings: home visiting programs, daycare/preschool programs, parent training programs, school-based programs, home/community programs with older

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¹ It is the case that despite this strong cumulative continuity, most children assessed as ‘antisocial’ when young do not grow up into antisocial adults (Robins, 1978; Scott, 2002).

² It is worthwhile to make the distinction between the theoretical bases for different parenting interventions. Previous reviews have, for example, highlighted a separation between interventions with a ‘behavioral’ focus (often derived from Patterson’s Parent Management Training) and ‘cognitive’ programs, including Adlerian approaches, where the focus is on interpersonal relationships and changing attitudes and beliefs. Moran et al. (2004) found that both could be effective in changing parental attitudes, wellbeing and behavior, but the former achieve more measurable effects on children’s behavior.
adolescents, and multi-systemic therapy programs). Specifically, these authors included in their review studies that met the following criteria: (a) the family was the focus of the intervention, (b) there was an outcome measure of delinquency or antisocial child behavior, (c) the evaluation used a randomized or well-controlled experiment, and (d) the original sample size included at least fifty persons. In general, while effect sizes were generally greater in smaller scale studies, the forty studies that met their criteria had a favorable effect on delinquency, with a decrease in offending from 50% in the control group to 34% in the experimental group. Additionally, the effects persisted in long-term evaluation studies. Their review also indicated that the most effective interventions employed behavioral parent training, while the least effective were based in schools. Finally, home-visiting, day care/preschool, home/community, and multi-systemic therapy programs were generally effective.

The specific focus of the current review is on early parent training programs through age 5 (of the child) in preventing delinquency. This focus permits us to compare our results to one previous review that we extend in important ways, to which we now turn our attention to.

In a systematic review of early parent training interventions designed to impact children’s delinquency limited to families with a child under age three at the start of the intervention (but without limits concerning the child’s age at the end of the intervention), Bernazzani and Tremblay (2006) identified seven studies. Although the studies varied

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3 It is important to note that these authors did not conduct an exhaustive review as they did not search major abstracting services such as PSYCHINFO, which would have, using general search terms, identified a great many more studies that they likely identified through their process.

4 Specifically, the family and family factors were the focus of the intervention, and programs that targeted only the child were excluded from their review.

5 Given the focus of the current review on parent training programs, we provide a bit more detail here with respect to Farrington and Welsh’s review. Specifically, they identified ten behavioral parent training programs (programs were rather short in length and were delivered to children between ages 2 and 8, and followed until about age 9, with the one study that followed them until age 14), all of which were designed to teach parents to use rewards and punishments consistently and contingently in child-rearing. The programs were delivered in a variety of settings, though usually group but sometimes in a primary care setting or even televised. Moreover, the follow-up period was longer than one year in only one of the ten studies. The findings from these sets of studies indicated that for all but one study (the one with the longest follow-up), children who received parent training had fewer behavior problems subsequently than children in the control conditions. The findings from these sets of studies indicated that for all but one study (the one with the longest follow-up), children who received parent training had fewer behavior problems subsequently than children in the control conditions.

6 Their original starting point for identification of studies was from two previous reviews (Mrazek and Brown, 1999; Tremblay et al., 1999), and their wide search strategy included the following search terms: “parent training”, “childhood”, “pre-school”, “delinquency”, “conduct disorder”, “antisocial behavior”, “aggression”, “physical aggression”, and “behavior problems”. Studies were eligible when parent training or support was a major component of the intervention, although not necessarily the only one; in fact, half of the studies had additional intervention components. Since they found only one study that assessed delinquency as an outcome – the others focused on child disruptive behavior (e.g., opposition to adults, truancy, aggression), they used a broader scope for the review and selected studies with outcome measures of disruptive behaviors (including self-, parent-, or teacher-rated measures of disruptive behaviors, and observer-rated assessments of disruptive behavior in the classroom). Only studies employing random assignment or quasi-experimental (pre- and post-intervention assessments and adequate control groups) designs were included. A total of six trials met their study inclusion criteria, and one other study was identified in the Cochrane Library and the Future of Children publications, thus bringing their review sample to seven total studies, all of which were randomized controlled experiments. Their review produced effect sizes, but because of the small number of studies and the presence of substantial heterogeneity among them, they did not combine them into a meta-analysis.
greatly with respect to outcome measures, child’s age at evaluation, the nature and duration of the intervention and sample size, and the study’s geographic location and its inclusion criteria (selective vs. universal), their analysis indicated that, overall, results concerning the effectiveness of parent training in the prevention of behavior problems in children were mixed: four studies reported no evidence of effectiveness, two reported beneficial effects, and one study reported mainly beneficial effects with some very minor harmful effects (p.26). Only one study in their review evaluated the effectiveness of home visitation and parent training on delinquency, and it reported very positive, crime-reduction effects (Olds et al., 1998). In short, it is still too early, from their review, to draw any definitive statement as to whether early parent training and support is effective in preventing disruptive behaviors in children and delinquency during adolescence. This is so because of the limited number of adequately designed studies, the results of the well-designed studies available are mixed and where positive often modest in magnitude, and very few studies were specifically designed to prevent disruptive behaviors in children. With respect to parent management training, several narrative and comprehensive vote-counting reviews, as well as one meta-analysis (Serketich and Dumas, 1996) provided support that this is an effective early family-based intervention to prevent delinquency and offending. And while cost/benefit analyses have been rare, Greenwood et al. (2001) reported a benefit/cost ratio of 4:1 of the Elmira nurse home visitation program (i.e., the Olds et al., 1998 study). Both Greenwood (2006) and Aos et al. (2004, 2006) have recently reported similar benefit/cost ratios for nurse home visitation programs generally, and EFPT programs in particular.

To conclude this section, it is useful to repeat Farrington and Welsh’s (2007:136) summary of the evaluation literature on this issue: “parent education plus daycare services and parent management training are effective in preventing delinquency and later offending. There is seemingly less consensus among evidence-based reviews on the effectiveness of parent education in the context of home visiting. Our meta-analytic review, based on four clearly defined, well-implemented, and methodologically rigorous home visitation programs, found that this form of early intervention was effective in preventing child antisocial behavior and delinquency. None of the other reviews (one a narrative review) utilized meta-analytic techniques to assess results, and in two of the reviews, programs other than home visiting were included. In our estimation, these differences go a long way toward explaining why these reviews found mixed results regarding the efficacy of home visiting.”

2. Objectives of the Review

The objective of this systematic review is to synthesize the extant empirical evidence (published and unpublished) on the effects of EFPT programs implemented up

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7 A number of reasons could account for these findings including: the heterogeneity in the definition of parent training, the absence of evidence regarding which components of parent training are most effective, the small number of findings, the lack of consistency in outcomes (especially delinquency) assessed, which intervention components are most important, which parents are more likely to benefit from the intervention, how long it should last, and whether parent training should be combined with other intervention types (pp.28-29).

8 We should also note that recent public polling data indicates that the public is willing to pay a significant amount of resources for early-life nurse home visitation programs (Nagin, Piquero, Scott, and Steinberg, 2006).
to age 5 in preventing later antisocial behavior and delinquency. The report will conform to the systematic review methodology and will incorporate meta-analytic techniques to assess results. It will build on and update (actually add and complete) the Bernazzani et al. (2001) and Bernazzani and Tremblay (2006) systematic reviews of the effectiveness of early parenting training programs (for families with children up to age 3) in preventing child disruptive behavior (i.e., opposition to adults, truancy, aggression) and delinquency. Their review included parent education in the context of home visiting and parent education plus daycare.\(^9\) As such, the primary question of this review is: What is the effectiveness of EFPT programs implemented up to age 5 in reducing later antisocial behavior and/or delinquency? When data are available, we will also collect information on cost-effectiveness of EFPT programs and their effect on antisocial behavior, delinquency, and crime.

3. **Methods**

3.1. **Criteria for inclusion and exclusion of studies in the review**

Following the earlier Bernazzani and Tremblay (2001:92) review and the more general Campbell reviews, the scope of this review is experimental and quasi-experimental studies including pre-post evaluations of family programs. Studies lacking control groups were excluded as they cannot help differentiate intervention effects from other effects including developmental effects. The preliminary eligibility criteria are as follows:

1. **Types of Studies:** Only studies employing random assignment or quasi-experimental designs were included. Studies lacking control groups were excluded.\(^{10}\)

2. **Types of Participants:** The review was limited to families with a child under age 5 at the start of the intervention to ensure that the interventions were provided early in the child’s life. However, no limits were set concerning the child’s age at the end of the intervention. In addition, selected interventions could target either the general population (universal intervention) or a high-risk group (selective intervention).

3. **Type of Intervention:** Following the same terminology and criteria outlined in the Bernazzani and Tremblay review, studies were eligible for this review when parent training or support was a major component of the intervention, i.e., parent training was the central component of the intervention, although not necessarily the only one. Since it can be construed as a very general term, it is useful here to define what parent training is and is not (though this was not done in the Bernazzani and Tremblay review). There are two general subcategories that deal with prevention programs for early childhood based on their general approach (Greenwood, 2006:52). The first, home visitation, include those programs for mothers with infants, with or without additional services. According to Greenwood (2006:52), these programs "work with at-risk mothers to improve

\(^9\) Further, the Bernazzani and Tremblay review was registered as a Campbell review but then deleted when they were unable to continue, so we have, in effect, re-registered this as a Campbell review.

\(^{10}\) We do not include one group pretest-posttest studies.
their prenatal health status, reduce birth complications, and provide guidance and support in caring for the infant and improving the quality of their own lives. Programs differ in how they identify at-risk mothers, when the home visits begin and end, who the visitors are, what the visits cover, and what other services are provided.” The main goals of home visiting programs center around educating parents to improve the life chances of children from a very young age, often beginning at birth and sometimes in the final trimester of pregnancy. According to Farrington and Welsh (2007:123), “Some of the main goals include the prevention of preterm or low-weight births, the promotion of healthy child development or school readiness, and the prevention of child abuse and neglect. Home visits very often also serve to improve parental well-being, linking parents to community resources to help with employment, educational, or addiction recovery.” The second subcategory includes those programs that combine parent training, daycare, and preschool for parents with preschool children. According to Greenwood (2006:54), these programs “attempt to advance cognitive and social development of the children, as well as the parenting skills of their caregivers, so that participants will be better prepared and more successful when they enter regular school. Some programs include home visits as well.” According to Farrington and Welsh (2007:125), “[D]aycare programs are distinguished from preschool programs, in that the daycare programs are not focused on the child’s intellectual enrichment or necessarily on readying the child for kindergarten and elementary school, but serve largely as an organized form of daycare to allow for parents (especially mothers) to return to work. Daycare also provides children with a number of important benefits, including social interaction with other children and stimulation of their cognitive, sensory, and motor control skills.” Another set of programs within this subcategory include parent management training programs which refer to treatment procedures in which parents are trained to alter their child’s behavior at home (Farrington and Welsh, 2007:126). Many of these programs are based on Patterson’s (1982) behavioral parent management training theory and policy efforts.

4. Types of Outcomes: The original aim of the review was to assess the impact of the interventions on the children’s delinquent behavior. However, since only a few studies assess delinquency, we expanded the scope of our review and selected studies with outcome measures of disruptive behaviors as well. These assessments included self-reported delinquency; self-, parent-, or teacher-rated measures of disruptive behavior; and observer-rated assessments of disruptive behavior in the classroom. Outcomes will also include aggressive behavior. (Note: Some of these programs have influences in other non-crime domains, such as education, employment, and so forth. We do not formally measure these

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11 To be sure, some home visiting programs start prior to the third trimester, and thus operate during pregnancy.
12 We do not include outcomes based on clinical judgment, because there are very few of these studies and they are not based on random assignment. Moreover, we have not seen meta-analyses that have used clinical judgments generally, and in the parent/family-training area that we are building on, no one has coded/used clinical judgments. So to remain consistent with this extant literature, we do not code them. (Note: As of our current coding, there have been no studies that solely used clinical judgments).
outcomes, but discuss them in the conclusion section of our report and offer studying the effect of EFPT programs on long-term non-crime life domains as a point of future research). The data source of the outcome measure (official records, self-report records, maternal/paternal ratings) will be identified. Other (secondary) outcomes are also noted if reported.

5. There is no restriction to timeframe, other than we will begin with the first study identified by Bernazzani and Tremblay.

6. There are no geographic restrictions.

7. At this time, the only language restriction is that the study be published in English. Studies not conforming to this rule will be mentioned in the Discussion section and identified as a point of future research.

Table 1. Family Program Evaluations NOT MEETING Inclusion Criteria

<table>
<thead>
<tr>
<th>Author, Publication Date, &amp; Location</th>
<th>Reason for Not Including Program</th>
<th>Other Interventions</th>
<th>Sample Size</th>
<th>Follow-up &amp; Results</th>
</tr>
</thead>
<tbody>
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3.2. **Search strategy for identification of relevant studies**

Several strategies were used to perform an exhaustive search for literature fitting the eligibility criteria. First, a key word search was performed on an array of online abstract databases (see lists of keywords and databases below). Second, reviewed the bibliographies of four past reviews of EFPT programs (Mrazek and Brown, 1999; Tremblay, LeMarquand, and Vitaro, 1999; Bernazzani et al., 2001; Farrington and Welsh, 2007). Third, we performed forward searches for works that have cited seminal studies in this area. Fourth, we performed hand searches of leading journals in the field. Fifth, we searched the publications of several research and professional agencies (see list below). Sixth, after finishing the above searches and reviewing the studies as described later, we e-mailed the list to leading scholars knowledgeable in the specific area. These scholars were defined as those who authored two or more studies that appear on our inclusion list. These experts referred us to studies we may have missed, particularly unpublished pieces such as dissertations. Finally, we consulted with an information specialist at the outset of our review and at points along the way in order to ensure that we have used appropriate search strategies.

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13 The seminal pieces used here were: Tremblay and Craig (1995); Olds et al. (1998); Bernazzani et al. (2001).

The following databases were searched:

1. Criminal Justice Periodical Index
2. Criminal Justice Abstracts
4. Sociological Abstracts
5. Social Science Abstracts (SocialSciAbs)
6. Social Science Citation Index
7. Dissertation Abstracts
9. PsychINFO
10. C2 SPECTR (The Campbell Collaboration Social, Psychological, Educational and Criminological Trials Register)
11. Australian Criminology Database (CINCH)
12. MEDLINE
13. Web of Knowledge
14. IBSS (International Bibliography of the Social Sciences)
15. Future of Children (publications)

The publications of the following groups were searched:

1. Washington State Institute for Public Policy
2. Institute for Law and Justice
3. Vera Institute for Justice
4. Rand Corporation

The following agencies’ publications were searched and the agencies will be contacted if necessary:

1. Home Office (United Kingdom)
2. Australian Institute of Criminology
3. Swedish National Council for Crime Prevention
4. Cochrane Library
5. SAMSHA
6. Institute of Medicine
7. American Psychiatric Association
8. ODDJP
9. Youth Justice Board, Department of Health and Department of Children, Schools, and Families (UK)
10. NICE (National Institute for Health and Clinical Excellence) UK
11. National Children’s Bureau (which publishes ‘Child Data Abstracts’)

The following keywords were used to search the databases listed above:
1. “Parent Training” and “childhood” or “pre-school” and “delinquency” or “conduct disorder” or “antisocial behavior” or “aggression” or “physical aggression” or “behavior problems”.

2. “Family Training” and “childhood” or “pre-school” and “delinquency” or “conduct disorder” or “antisocial behavior” or “aggression” or “physical aggression” or “behavior problems”.

Several strategies were used to obtain full-text versions of the studies found through searches of the various abstract databases listed above. First, attempted to obtain full-text versions from the electronic journals available through the John Jay/CUNY library research port as well as those from the University of Maryland and the University of Louisville. When electronic versions were not available, we used print versions of journals available at the library. If the journals were not available at the university libraries, we used of the Interlibrary Loan Office (ILL) to try to obtain the journal from the libraries of other area schools. When these methods did not work, we contacted the author(s) of the article and/or the agency that funded the research to try to obtain a copy of the full-text version of the study.

3.3. Description of methods used in the component studies

The studies included in this review will use methodologies that are variations of a treatment versus comparison group research designs with a post-test measure and possible follow-up measurement points. In all cases, the participant samples will be families and children, a sample of who will participate in the program and a sample who will not participate in the program. The studies varied with respect to the method of constructing the comparison group. The studies also varied with respect to the degree to which they employed statistical controls to reduce the threat of selection bias.

All studies included in the review included a post-program measure of antisocial behavior, delinquency, or crime. These included dichotomous indicators or more differentiated indicators that indicated the specific types of offenses or the frequency of offenses committed. A few studies reported on other outcomes, such as school performance. We did not code these other outcomes, but documented all reported outcomes.

3.4. Criteria for determination of independent findings

Some studies reported multiple findings on different outcomes and/or different samples. In the case of independent samples, the results will be treated as separate findings and all such results will be included in the analysis. Other studies reported on outcomes for the same sample. For cases such as this with multiple findings from the same sample, each was examined independently to decide how to either combine the findings or to choose the one that best represents the study (recognizing that we do not wish to select the measure with the largest or smallest effect). Our final decision here was to pool together the separate effects into a single summary estimate because (1) different studies measure different antisocial and delinquent behaviors in different ways with respect to item wording, combined scales/indices, and time period referenced, and
(2) we were primarily interested in the overall effect of the EFPT program on antisocial behavior/delinquency in general. (Note: We do indicate that future evaluation studies parcel out and specifically focus on the effect of EFPT on unique antisocial/delinquent behaviors). It is the case that many interventions were designed to deal with a specific outcome, but some also targeted some secondary problems and reported outcomes for these as well. In these cases the effect size for the primary outcome was reported. To be sure, different outcome contrasts were analyzed separately, and thus the independence issue was addressed. The issue, of course, is one that deals with multiple measures of the same construct or the same measure at multiple time points. Yet, we selected the best measure of a construct and analyzed these separately. So, for example, most studies had the primary outcome measure of interest be mother-reports of child delinquency. If other outcomes were also examined in the reviewed study (i.e., teacher reports of child delinquency), we analyzed these separately.15

3.5. Details of study coding categories

All eligible studies were coded (see coding protocol attached in Appendix A) on a variety of criteria (including details related to them) including:

a. Reference information (title, authors, publication etc.)

b. Nature of description of selection of sample, outcomes, etc.

c. Nature and description of selection of comparison group or period

d. The unit of analysis

e. The sample size

f. Methodological type (randomized experiment, quasi-experiment or pre-post test)

g. A description of the family/parent intervention

h. Dosage intensity and type

i. Implementation difficulties

j. The statistical test(s) used

k. Reports of statistical significance (if any)

l. Effect size/power (if any)
m. The conclusions drawn by the authors

15 There may certainly be some concerns regarding establishing the independence of findings. Given the potential controversial nature of a review in this area, the rules used to decide which effects to include in the various analyses require careful thought. We do not discard any outcomes. We utilize all the various outcome sources that are available (parent, teacher, and/or direct observer reports). We pool (average) these outcomes together to generate one effect size per study, but we also report on the effect sizes for each of these outcome sources separately. (Also, when multiple measures of the same outcome exist (i.e., the Child Behavior Checklist and the Eyberg Child Behavior Inventory both measure child behavioral problems post-treatment), we pool (average) the effect size across the outcome source (i.e., one effect size generated for these two parent report instruments). When multiple comparison groups exist (i.e., parent training for one group, parent training plus a special classroom for another group) an effect size will be calculated for each group compared to the no treatment control group and these effect sizes for the two treated groups are pooled (averaged) together. We recognize and are sensitive to the fact that there are many ways of dealing with the independence issue, and that reasonable people may disagree with our (and other) decision criteria. We will address this in the final report.
Dr. Jennings will independently code each eligible study and consult with Dr. Piquero when questions arise in order to determine the final coding decision.  

3.6. **Statistical procedures and conventions**

Meta-analytic procedures were used to combine data from studies. For eligible studies, with enough data present, effect sizes were calculated using the standardized measures of effect sizes as suggested in the meta-analytic literature (Lipsey and Wilson, 2001). We also used the standardized mean difference effect size or odds-ratios, depending on the outcome construct. Mean effect sizes were computed across studies and we used a correction such as the inverse variance weight for computing the associated standard error. Though we examined the Q statistic to assess heterogeneity of effect sizes across studies, it is our initial assumption that study random factor in our analysis, that is, that there are meaningful differences across the studies affecting the size of the effect. As such, we implemented a random effects model for all analyses involving effect sizes. This is the case because EFPT strategies are diverse and they are oftentimes designed to ameliorate different types of problems. In this context, we believed that a mixed effects model will be most appropriate in analyzing the effectiveness of EFPT programs.

We had originally hoped to examine contextual or moderating features of these programs. Though it was difficult to know at the outset, we thought it important to explore the differential effects of EFPT programs across different outcomes and across different types of treatments. Our goal was to assess this using the analog to the ANOVA method of moderator analysis (Lipsey and Wilson, 2001) for categorical moderator variables and meta-analytic regression analysis for continuous moderator variables or analyses involving multiple moderators. We also initially recognized that such analyses would be dependent on the number of studies that are available for inclusion in the meta-analysis. For reasons discussed above with respect to different outcomes, we did not continue further on this issue, but identified it as an important future research effort.

Methodological quality will also be examined. For example, we will report the results of experimental and quasi-experimental studies combined and separately. We also plan to conduct moderator analysis of other method variables, such as attrition, similarity at baseline, or other method variations that are important within the more general prevention literature.

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16 Only one reviewer will be responsible for coding all the eligible studies: (1) The study must use either a random or quasi-experimental design with an adequate control or relevant comparison group that does not receive the parent training treatment; (2) The study has to have an intervention initiated during early childhood (i.e., approximately prior and up to age 5 or mean age of sample was age 5); (3) The study has to have a child behavioral outcome measure post intervention for experimental and control group; and (4) The study has to have a sufficient amount of data to calculate an effect size (i.e., sample size of treated and control groups, means/standard deviations, t-tests, F-tests, etc.)

17 Specifically, we use the Hedges and Olkin (1985) formula to weight the ESs for small sample bias (i.e., the unbiased d) and we also weight the ESs in an additional analysis using the inverse variance weight, which is a more conservative approach to weighting ESs. We report the ES outcomes using both statistical adjustments for small sample bias to provide a comparison.
Finally, publication bias is a concern in every meta-analysis. As such, we use traditional methods to test for the sensitivity of the findings to publication bias in the experimental and quasi-experimental studies. These methods include a comparison of the mean effect size for published and unpublished studies and a trim-and-fill analysis. We recognize that it may be difficult to rely upon traditional quantitative methods to deal with publication bias.

3.7. Treatment of qualitative research

Qualitative studies will not be included in the current review.

3.8. How study quality will be assessed?

Although we recognize that assessing study quality can be both an objective and a subjective exercise, we attempt to assess the quality of the studies in terms of research design, sample bias, and attrition bias, and make notation of study quality at various points in the review.

4. Timeframe
The review process will adhere to the following schedule (and will likely be completed sooner than projected):

- Relevance assessments: December 2007-January 2008
- Coding of eligible studies: January-March 2008
- Statistical analysis: March-April 2008
- Preparation of report: April-June 2008
- Submission of completed report: June 2008

5. Plans for Updating the Review

The authors expect to update the review every five years.

6. Statement Concerning Conflicts of Interest

Drs. Piquero, Farrington, Welsh, Tremblay, and Jennings have no financial interest in any existing or planned family/parent program. Dr. Tremblay has been involved in several intervention and prevention programs in Canada; thus, the only potential conflict of interest is consistent with prior scholarly publications. The research team will strive to avoid any potential conflict.

7. References


Appendix A: Parent/Family Meta-Analysis Coding Sheets

I. ELIGIBILITY CHECK SHEET

1. Document ID: __ __ __ __

2. First author last name: ________________

3. Study Title: ___________________________

4. Journal Name, Volume and Issue: _________________________________

5. Document ID: __ __ __ __

6. Coder’s Initials __ __ __

7. Date eligibility determined: __________

8. A study must meet the following criteria in order to be eligible. Answer each question with a “yes” or a “no”

a. The study is an evaluation of a parent/family intervention. _____

b. The study includes a comparison group (or a pre-intervention comparison period in the case of pre-post studies) which did not receive the treatment condition. Studies may be experimental, quasi-experimental, or pre-post evaluations. ______

c. The study reports on at least one outcome (antisocial behavior, disruptive behavior, delinquency, crime). ______

d. The study is written in English. _____

If the study does not meet the criteria above, answer the following question:

a. The study is a review article that is relevant to this project (e.g., may have references to other studies that are useful, may have pertinent background information) ______

9. Eligibility status:
   ____ Eligible
   ____ Not eligible
   ____ Relevant review

Notes:
__________________________________________________________
II. CODING PROTOCOL

Reference Information

1. Document ID: __ __ __ __

2. Study author(s): ____________________

3. Study title: _______________________

4a. Publication type: ______
   1. Book
   2. Book chapter
   3. Journal article (peer reviewed)
   4. Thesis or doctoral dissertation
   5. Government report (state/local)
   6. Government report (federal)
   7. Police department report
   8. Technical report
   9. Conference paper
   10. Other (specify)

4b. Specify (Other)__________________

5. Publication date (year): ___________

6a. Journal Name: ____________________

6b. Journal Volume: ________________

6c. Journal Issue: ____________

7. Date range of research (when research was conducted):
   Start: ____________
   Finish: ____________

8. Source of funding for study: _________________

9. Country of publication: _________________

10. Date coded: ____________

11. Coder’s Initials: __ __ __

Sample Characteristics
The following questions are about the target population of the intervention (if the intervention is not targeting groups of problem people skip to question 38):

12a. What is the target population of the treatment? _____
    1. Universal
    2. Low-income
    3. Selective infants (low-birth weight, etc.)
    4. Entire population (no specific groups targeted)
    5. Pregnant women
    6. Selective women (based on age)
    7. Other (specify)

12b. Specify (other) __________

13. What is the exact target population? ______________________

14. Total population of target population (if known): ______

15. Gender composition of target population:
    1. Mostly male
    2. Mostly female
    3. Unknown/not mentioned

16. Age composition of target population
    1. Mostly children
    2. Mostly adolescents
    3. Unknown/not mentioned

17. Socio-economic status of target population:
    1. Mostly below poverty line
    2. Mostly above poverty line
    3. Unknown/not mentioned

18. Race/ethnicity of the sample
    1. percentage white
    2. percentage African-American
    3. percentage Asian
    4. percentage native American
    5. percentage white/Caucasian

19. What country did the intervention take place in: __________

20. What was the initial sample size recruited into the study and what was the final N (sample number related to outcomes examined in the review)? ______ (initial) / ______ (final)
**Intervention Characteristics**

21. What was the average age at the Start of the Intervention? _______ months

22. How long was the intervention period (child’s age)? ________ years

23. What was the type of intervention?
   a. clinic-based interview with practitioner
   b. family workshops
   c. home visits only
   d. parent groups
   e. child development center
   f. other (specify)

23b. Specify (Other)________

**Methodology/Research design:**

24a. Type of study: _____
   1. Randomized experiment
   2. Nonequivalent control group (quasi-experimental)
   3. Multiple time series (quasi-experimental)
   4. Pre-post test (no control group)
   5. Other (specify)

24b. Specify (Other)___________________

25. Was the program highly structured, that is, followed a set protocol?
   a. yes
   b. no
   c. cannot tell

26. Did the program remain consistent over time?
   a. yes
   b. no
   c. cannot tell

26a. Were there adjustments for baseline differences?
   a. yes
   b. no
   c. cannot tell

26b. Were there adjustments for attrition?
   a. yes
   b. no
c. cannot tell

26c. Were there adjustments for differential attrition?
   a. yes
   b. no
   c. cannot tell

Outcomes reported (Note that for each outcome, a separate coding sheet is required)

27. How many outcomes are reported in the study? _____

28. What is the specific outcome recorded on this coding sheet?18

_______________________________________________________________

29. Was it the primary outcome of the study? ______
   1. Yes
   2. No
   3. Can’t tell/researcher did not prioritize outcomes

30a. Was this initially intended as an outcome of the study? ______
   1. Yes
   2. No (explain)
   3. Can’t tell

30b. If no, explain why:

________________________________________________________________________

Dependent Variable

31a. What type of data was used to measure the outcome covered on this coding sheet?
   1. Official data (from the police, court, etc.)
   2. Mother’s report
   3. Teacher’s report
   4. Self-report surveys
   5. Other (specify) (professional observation, assessment, or diagnosis)

31b. Specify (Other)___________________

32a. If official data was used, what specific type(s) of data were used? (Select all that apply)
   1. Police contacts

18 Although we do have some general construct categories in mind, we will likely come up with the final set of construct categories during/after study coding.
2. Arrests
3. Court records
4. Convictions
5. Other (specify)
6. N/A (official data not used)

32b. Specify (Other)___________________

33. Did the researcher assess the quality of the data collected?
   1. Yes
   2. No

33a. Did the researcher(s) express any concerns over the quality of the data?
   1. Yes
   2. No

33b. If yes, explain
   ____________________________________________________________________
   ____________________________________________________________________

34. Does the evaluation data correspond to the initially stated problem? (i.e., if the problem is delinquency, does the evaluation data look at whether delinquency decreased)
   1. Yes
   2. No

34b. If no, explain the discrepancy:
   ____________________________________________________________________
   ____________________________________________________________________

35. If self-reports are used, were outcome data:
   1. dichotomous
   2. continuous
   3. ordinal
   4. combination
   5. Other (specify)

35b. Other (specify): ________

**Effect Size/Reports of statistical significance**

**Dependent Measure Descriptors**

**Sample size**
36. Based on the unit of analysis for this outcome, what is the total sample size in the analysis? ________
37. What is the total sample size of the treatment group (group that receives the response)? ______

38. What is the total sample size of the control group (if applicable)? _____

38a. Was attrition a problem in the analysis for this outcome?
   1. Yes
   2. No

38b. If attrition was a problem, provide details (e.g., how many cases lost and why they were lost).

   ______________________________________________________________
   ______________________________________________________________
   _____________________________

Effect Size Data

39. Raw difference favors (i.e., shows more success for):
   1. Treatment group (or post period)
   2. Control group (or pre period)
   3. Neither (exactly equal)
   9. Cannot tell (or statistically insignificant report only)/ Not Applicable (Pre-Post study)

40. Did a test of statistical significance indicate statistically significant differences between either the control and treatment groups or the pre and post tested treatment group? ____
   1. Yes
   2. No
   3. Can’t tell
   4. N/A (no testing completed)

41. Was a standardized effect size reported?
   1. Yes
   2. No

42. If yes, what was the effect size? ______

43. If yes, page number where effect size data is found ______

44. If no, is there data available to calculate an effect size?
   1. Yes
   2. No
44a. Type of data effect size can be calculated from:
1. Means and standard deviations
2. $t$-value or $F$-value
3. Chi-square (df=1)
4. Frequencies or proportions (dichotomous)
5. Frequencies or proportions (polychotomous)
6. Pre and Post (and/or during counts)
7. Other (specify)

44b. Specify (other) _________

45. Did the evaluation control for validity by using multivariate methods (i.e., regression) to assess the impact of the program on the outcome? ______
45b. If yes, did this analysis find that the intervention reduced the outcome at a statistically significant level (p=.05)? __________________

Means and Standard Deviations

46a. Treatment group mean. _____
46b. Control group mean. _____

47a. Treatment group standard deviation. _____
47b. Control group standard deviation. _____

Proportions or frequencies

48a. $n$ of treatment group with a successful outcome. _____
48b. $n$ of control group with a successful outcome. _____

49a. Proportion of treatment group with a successful outcome. _____
49b. Proportion of treatment group with a successful outcome. _____

Significance Tests

50a. $t$-value _____
50b. $F$-value _____
50c. Chi-square value (df=1) _____

Calculated Effect Size

51. Effect size ______

Conclusions made by the author(s)
Note that the following questions refer to conclusions about the effectiveness of the intervention in regards to the current outcome/problem being addressed on this coding sheet.

52. Conclusion about the impact of the intervention? _____
   1. The authors conclude problem declined
   2. The authors conclude the problem did not decline
   3. Unclear/no conclusion stated by authors

53. Did the author(s) conclude that the parent/family intervention beneficial? _____
   1. Yes
   2. No
   3. Can’t tell

54. Did the author(s) conclude there a relationship between the parent/family intervention and a reduction in delinquency/crime? _____
   1. Yes
   2. No
   3. Can’t tell

55. Additional notes about conclusions:

________________________________________________________________________
________________________________________________________________________
____________