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# Formal System Processing of Juveniles: Effects on Delinquency

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# Campbell Systematic Reviews



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# Table of Contents

# Executive Summary/Abstract


## BACKGROUND

Justice practitioners have tremendous discretion on how to handle juvenile offenders. Police officers, district attorneys, juvenile court intake officers, juvenile and family court judges, and other officials can decide whether the juvenile should be "officially processed" by the juvenile justice system, diverted from the system to a program, counseling or some other services, or to do nothing at all (release the juvenile altogether). An important policy question is which strategy leads to the best outcomes for juveniles. This is an important question in the United States, but many other nations are concerned with the decision to formally process or divert juvenile offenders. There have been a number of randomized experiments in the juvenile courts that have examined the impact of juvenile system processing that should be gathered together in a systematic fashion to provide rigorous evidence about the impact of this decision on subsequent offending by juveniles.

## OBJECTIVES

Our objective is to answer the question: Does juvenile system processing reduce subsequent delinquency?

## CRITERIA FOR INCLUSION OF STUDIES

To be eligible, studies had to: (1) use random or quasi-random (e.g., alternation) assignment to allocate participants to conditions; (2) include only juvenile delinquents ages 17 and younger who have not yet been "officially adjudicated" for their current offense; (3) assign such participants to juvenile system processing -- or to an alternative non-system condition; (4) include at least one quantifiable outcome measure of criminal behavior; and (5) be reported through July 2008 (without regard to language).

## SEARCH STRATEGY

Fifteen experiments that met the eligibility criteria were identified from prior reviews conducted by the authors. To augment these 15 trials, we relied on electronic searches of 44 bibliographic databases, examined the citations in over 50 existing meta-analyses and reviews to identify additional randomized studies, and contacted researchers outside the U.S. to identify non-US. studies. These additional search strategies yielded 40 studies that required inspection of full-text documents, resulting in an additional 14 experiments that met the eligibility criteria. Taken together with the existing 15 trials from our preceding reviews, these additional searches resulted in a final sample of 29 controlled trials.

## DATA COLLECTION AND ANALYSIS

A preliminary instrument was designed to extract data on substantive and methodological characteristics from each of the 29 trials. Standardized mean differences (Cohen's d) effect sizes were computed for the first, longest and strongest effects reported in each study for juvenile system processing, using Comprehensive Meta-Analysis (version 2)[1]. Given the heterogeneity of the sample, analyses of effect sizes were reported assuming random effects models. Main effects were analyzed for each type of crime measure reported: prevalence, incidence, severity and self-report. Five moderating analyses were also conducted.

## MAIN RESULTS

The studies included 7,304 juveniles across 29 experiments reported over a 35-year period. Juvenile system processing, at least given the experimental evidence presented in this report, does not appear to have a crime control effect. In fact, almost all of the results are negative in direction, as measured by prevalence, incidence, severity, and self-report outcomes. The results are not uniform across every study; one important moderating variable is the type of control group. Studies that compared system processing to a diversion program reported much larger negative effect sizes than those that compared it to "doing nothing.

## AUTHORS' CONCLUSIONS

Based on the evidence presented in this report, juvenile system processing appears to not have a crime control effect, and across all measures appears to increase delinquency. This was true across measures of prevalence, incidence, severity, and self-report. Given the additional financial costs associated with system processing

[1] Comprehensive Meta-Analysis (Version 2) [Computer Software]. Englewood, NJ: Biostat.

(especially when compared to doing nothing) and the lack of evidence for any public safety benefit, jurisdictions should review their policies regarding the handling of juveniles.

# 1 Background

Justice practitioners have tremendous discretion on how to handle less serious juvenile offenders. Less serious juvenile offenders are those that commit offenses that are of moderate or low severity, e.g., small property crimes, disorderly person violations. Police officers, district attorneys, juvenile court intake officers, juvenile and family court judges, and other officials can decide whether the juvenile should be "officially processed" by the juvenile justice system, diverted from the system to counseling or services, or released altogether. An important policy question is which strategy leads to the best outcomes for juveniles. Although some experts believe that entry or further "penetration" into the formal juvenile justice system can help deter future criminal behavior by juveniles, others believe that it could lead juveniles to commit more crimes in the future, perhaps due to a "labeling" effect. A further consideration for policymakers is that release or diversion options may be cheaper than juvenile court processing, so that even a net gain of "zero" (no crime impact whatsoever) favors the release/diversion group in a cost-benefit analysis. The question on how to handle such offenders is not a trivial one. For example, in 2005 there were nearly 1.7 million delinquency cases processed at the intake stage by U.S. juvenile courts, and nearly 60% were formally processed, with 40% being diverted or otherwise "kicked out" of the system (Puzzanchera and Sickmund, 2008).

Given the juvenile justice system's dual goal of protecting public safety while rehabilitating juvenile offenders, it is not surprising that a strong argument for traditional processing can be made. For example, some officials believe that low-level offenses are a "gateway" to more serious offending, and should be dealt with intensively to prevent the juvenile from becoming a repeat offender. Some officials believe that official system processing and subsequent handling by the juvenile court will deter or "scare" low-level offenders from future misconduct. Some officials also believe that the primary role of the juvenile (or sometimes family) court is to rehabilitate the child, and therefore believe that offenders can be better linked to treatment and services via the court system. In two studies that tracked youths appearing in juvenile court in Pennsylvania (Brown et al., 1987; 1989), juvenile offenders who were adjudicated earlier rather than later were less likely to be convicted of an adult offense.

On the other hand, there are those who argue for a "minimalist" position: that low-level offenders should be handled in as non-intrusive a manner as possible.

Researchers have warned of a possible "labeling" effect that may come from official processing of juveniles (e.g., Schur, 1973). For example, a petition results in an official label of the child as a delinquent, and significant others around the child will now begin to treat him or her differently. Such a juvenile may receive increased police scrutiny and end up getting rearrested more often than juveniles who are not under the same surveillance. The same actions that resulted in police turning a blind eye to misconduct may now result in an arrest. Labeling is theorized to have other potential impacts, including economic or educational losses, and marginalization by significant others such as family and friends. There are other theories, apart from labeling, that could explain why further processing in the juvenile system may increase crime. For example, such processing could further expose youth to more deviant peers, resulting in a criminogenic effect (e.g., Dishion, et al., 1999).

For less serious juvenile offenders, the question is whether it is better to process the child through juvenile justice system, or to divert the child out of the system? To find out whether a policy alternative "works", we have to examine the scientific evidence on the question. What do prior assessments, or evaluations, of the outcome of this decision tell us? Does it support handling juvenile offenders formally or informally?

Such questions are not only relevant to the United States. Certainly, juvenile justice systems are very different across nations (and can be quite diverse among even just U.S. jurisdictions), and emphases on processing or diversion are also varied. In a study of Bremen, Germany, for example, it was reported that approximately 90% of juvenile offenders were diverted from the system before adjudication (Huizinga, et al., 2003). Nonetheless, many nations are confronted with the decision to formally process or divert juveniles, and evidence on the effects of these choices would be instructive. As stated in the United Nations Standard Minimum Rules for the Administration of Juvenile Justice (1985:11.1), "Diversion, involving removal from criminal justice processing and, frequently, redirection to community support services, is commonly practiced on a formal and informal basis in many legal systems." For example, one Japanese writer speculates that the fear of increased juvenile offending has led to more official processing of youths (Hiroyuki, 2005).

Fortunately, there have been randomized experiments in the juvenile courts that can be gathered together in a systematic fashion to provide rigorous evidence about the impact of this decision on subsequent offending by juveniles. Since the 1960s, a series of randomized experiments have been done in the juvenile courts to test the efficacy of programs that diverted juveniles from official processing into more informal strategies. These experiments for the most part tested diversion programs that included counseling or other services. The control or comparison condition in most of these experiments has been the "traditional system processing" condition. By turning the experiment around, and treating traditional system processing as the "treatment" or "intervention" condition, and the diversion with services, or release (diversion without services) as the control condition, the impact of moving the

juvenile into the formal court process or further “penetration” in the juvenile system on juvenile delinquents can be rigorously tested.

Despite the fact that there have been a fair number of randomized controlled studies that included traditional system processing as a condition, there has not been an attempt to systematically gather only this experimental evidence and analyze it to determine what the crime control impact is for traditional system processing on less serious juvenile offenders. There has been one prior meta-analysis that specifically focused on juvenile diversion programs, with many of these programs comparing diversion to system processing. However, this review is now over 20 years old, including quasi-experiments of varying levels of rigor (including pre-post designs without a comparison group), and overall reported a positive effect size across these studies for diversion from the system of .26 (Gensheimer et al. 1986). Nonetheless, a more recent review, focusing on experimental research, is needed. This Campbell review is designed to fill that gap.

# 2 Objectives

For this project, we collect and analyze studies that respond to the question: Does juvenile system processing reduce subsequent delinquency?

# 3 Methodology

## 3.1 CRITERIA FOR INCLUSION AND EXCLUSION OF STUDIES IN THE REVIEW

For this project, we only included those studies that had the following characteristics:

(1) Used random or quasi-random assignment. Because a well-implemented randomized experiment is the only design that controls both known and unknown factors that may bias evaluation results (e.g., Boruch 1997), our review only included evaluations that involves the random assignment of juvenile delinquent to traditional system processing or to a different condition such as "release," "counsel and release," "diversion," or "diversion with services." Studies that used 'quasi-random' methods for assignment, such as alternation (or assigning every other case to treatment), were also included. Studies that used statistical matching or other quasi-experimental procedures to equate groups were excluded (e.g., Beal and Duckro, 1977; Kelley et al, 1976; Stewart et al., 1986).

(2) Randomly assigned juvenile delinquents (ages 17 and younger) who have not yet been "officially adjudicated" for their current offense. This criterion meant that studies that included overlapping samples of pre-adjudicated and post-adjudicated juveniles were excluded (e.g., Burke et al 2003; Carney and Buttell, 2003; Feis, 1990). Given the import of determining the impact of further system processing on juvenile offenders, including juveniles who have already been processed, adjudicated and received a disposition for their current offense would have presented a confounding factor in interpreting such studies.

Note that juveniles in the studies included in our review may have had a prior record (and may have even been adjudicated for a prior offense). This review, however, focused exclusively on those experiments that randomly assigned juveniles to traditional system or non-system conditions for their current offense prior to adjudication. We did include whether the juvenile had a prior record as a variable in our coding (and included it in one of our five moderator analyses).

(3) Conditions included at least one juvenile system processing condition—and at least one alternative non-system condition. Traditional system processing included any condition to which the juvenile offender is assigned that involves official processing by the juvenile justice system. Such conditions have been described in prior experiments as "juvenile system processing" (Dunford, et al., 1982), "traditional handling by the juvenile court" (Baron and Feeney, 1976), "traditional processing" (Severy and Whitaker, 1982), and "regular petition and processing by the juvenile court" (Klein, 1986). The control conditions in studies gathered by this review included, but were not limited to, such alternatives as diversion, counseling and release, and outright release. Because the system processing condition is usually the control group in the experiments, it is often not described further. Nonetheless, the category does provide a strong contrast between an official sanctioning condition and a non-sanctioning condition.

It is also important to note that studies that included both juveniles and adults were excluded. For example, the Australian experiment (e.g., Strang and Sherman, 2006) that randomized violent offenders under age 30 to system processing or a diversionary restorative justice scheme (conferencing) was excluded.

(4) Included at least one quantifiable outcome measure of criminal behavior. We collected all outcomes of crime from each study report, regardless of whether they were measured by official records, self-report, victim report, or other measures. The priority interest of policymakers, practitioners, and ordinary citizens is whether traditional system processing has a crime reduction effect. The report had to include at least one outcome measure of crime that we could quantify (i.e., provided data so an effect size could be computed). Other measures, such as impact on education, costs, attitudes or satisfaction levels were also collected, provided that the study included at least one measure of crime. However, few studies in our final sample reported results for non-crime measures of outcome, and even fewer reported on them in such a manner that we could statistically analyze them.

(5) The study report was published or available through July 2008, without regard to language. We searched for trials published up to and including July 2008, without regard for the start date of publication. However, all of the experiments in our sample were published after 1973. In concert with Campbell principles, we attempted to find studies in all languages. However, most randomized experiments in justice are carried out in the U.S., and to a much lesser extent in Great Britain and Canada, and reported in English (Farrington and Welsh, 2005). We were not successful in finding any eligible trials in languages other than English.

## 3.2 SEARCH STRATEGY FOR IDENTIFICATION OF RELEVANT STUDIES

Our review built upon earlier work by Weisburd, Sherman and Petrosino (1990) and Petrosino (Petrosino, 1995a, 1995b, 1997, 1998) that identified a large number of randomized experiments in criminal justice. For example, Petrosino (1997) conducted electronic searches of bibliographic databases (e.g., Criminal Justice Abstracts); did visual hand searching of 29 leading social science journals; made personal contact with reviewers and experimental researchers; published solicitations for reports in association newsletters; and chased down citations from existing reviews and experimental literature. Despite the narrow eligibility criteria, several hundred trials were identified; retrieval methods ended after the first 300 trials were obtained. In that collection alone, which only covers experiments published or available through 1993, there were 15 experiments that met the criteria for this review.

To augment the 15 trials in our existing data file, we relied on two strategies (that have been most productive in prior projects) to identify relevant trials published between 1994 and 2008. These were:

*Electronic searches of bibliographic databases.* Researchers used available online resources and databases at institutions such as Boston Public Library, WestEd and Bridgewater State College. The databases that were searched are listed in Appendix 8.1. In short, we searched 44 electronic databases and two Internet search engines (Google and Google Scholar).

*Existing reviews.* There have been many prior reviews of offender treatment, delinquency prevention, experiments, and other relevant literature, particularly since 1993. We searched through the bibliographies of these reviews of research for references to potential experiments meeting our criteria. Over 50 syntheses were searched, including the University of Maryland Report to the Congress on Crime Prevention (Sherman et al 1997); the review of experiments in violent behavior by the Cochrane Collaboration's Schizophrenia Group (Cure et al 2005), the ongoing meta-analyses of Mark Lipsey (e.g., 1992) on juvenile delinquency treatment and prevention at the Center for Evaluation Research and Methodology at Vanderbilt, and a more recent review of experiments by Farrington and Welsh (2005).

As noted in the eligibility criteria, we did not exclusively seek English language reports. We asked colleagues from Spain, Germany, Denmark, Israel, the Netherlands, and other nations for help in identifying any non-English studies. None were identified.

## 3.3 KEYWORD STRATEGIES FOR BIBLIOGRAPHIC DATABASES

The databases in Appendix 8.1 were somewhat idiosyncratic. Our strategy was to conduct a broad search of the available databases that erred on the side of sensitivity rather than specificity. In other words, our goal was to get as many titles and abstracts as possible to sift through, rather than potentially miss relevant citations because our search terms were focused more narrowly. We found that developing the best approach for searching each of the 44 databases and using the two Internet search engines was an iterative process. Appendix 8.1 details the final searches that we ran for each database and search engine.

Initially, in our protocol, we proposed to use two different search strategies, depending on the focus of the bibliographic database. If the database focused on criminal justice content (such as Criminal Justice Abstracts), we planned to combine keywords that identified rigorous evaluation (e.g., experiment) and youth (e.g., juvenile). This strategy, however, produced a very large number of false positives and a very low yield of eligible studies. After a series of pilot searches, our most successful searches resulted from combining three sets of keywords: (1) those associated with rigorous evaluation (e.g., controlled, randomly, experiment); (2) the use of juvenile or delinquent and their derivatives; and (3) more focused keywords to identify components of the juvenile justice system (e.g., diversion, adjudication, processing, system, court).

The second strategy we initially proposed was for those databases that did not focus on criminal justice content (e.g., ERIC or Medline). For these, we proposed to supplement the above strategy by either including a classification code (e.g., Sociological Abstracts, or Sociofile, contains a classification code for criminology or penology abstracts) or a third set of keywords that identifies criminological literature (e.g., crime, law). As we began to conduct pilot searches through these databases, we found that each had to be constructed somewhat differently. For example, Academic Search Premiere covers an immense amount of literature and was yielding an incredibly high false positive rate. To make the searches more manageable, we reduced the literature to be considered by year of publication. This resulted in eight different searches, each covering a different time period (e.g., 2000-2008).

## 3.4 RETRIEVING AND FINAL SCREENING OF STUDIES

Our search methods identified a large number of citations and abstracts ("retrieved"). Our electronic searches, for example, resulted in over 10,077 retrieved

citations and abstracts (not including the 1,000,000 plus from our terminated Google searches).

Many of these were easily excluded, from this information alone, as not being relevant to the proposed review. In some cases, however, the citation and abstract indicated that the study it described was potentially eligible ("hits"). Of the 119 "hits" from the electronic searches, however, many were duplicative across the searches or to the 15 studies we already had in possession from earlier meta-analytic projects.

For the remaining "hits" from all of search strategies combined, the full text documents of potentially eligible studies were retrieved and then screened before the study was formally included in the review. Fortunately, with the advent of the Internet, full-text electronic journal access, and Bridgewater State College's Interlibrary Loan capacity, we were able to retrieve the full reports (we identified in the described searches above) to do a more thorough reading. When the full text report was received, we read it to ensure that it met the aforementioned eligibility criteria.

All told, 40 studies from the full-text documents were examined. An additional 14 experiments were determined to be eligible for the review (along with our existing 15 experiments) following this screening, resulting in a final sample of 29 controlled trials. Twenty-six studies were excluded at this final screening stage and are listed with the reason for exclusion in Appendix 8.3.

## 3.5 EXTRACTING INFORMATION FROM EACH STUDY

Informed by our prior research (Petrosino, 1997; Petrosino, Turpin-Petrosino and Buehler, 2003a), we designed a preliminary instrument to guide us in recording information from each study (see Appendix 8.4). Although the instrument contained several open-ended items, many of these were collapsed into a smaller number of categories to permit more focused analyses (Appendix 8.5 provides the final database variables for the project). For example, we recoded the open-ended responses to the item "prior record" into "none," "low," "moderate," and "high."

The instrument included items in the following areas:

### 3.5.1 Researcher and Study Characteristics

Study reports also provide information about the publication and characteristics about the experiment. For example, we extracted data about the type of publication the study was reported in and the setting in which the trial was conducted.

### 3.5.2 Study Methods and Methodological Quality

We extracted information about the randomization and other methodological aspects of the trials. In particular, two key issues in the implementation of a randomized field experiment in social policy were extracted from each study report:

a) Whether the researchers reported that randomization was subverted by practitioners or was not fully implemented, resulting in less confidence that the groups did not remain fully balanced on all known and unknown factors.

b) Whether the researchers report a loss of participants from the initial randomly assigned sample at the end of the study. Such attrition, if it is significant, can undermine the ability of randomization to produce balanced groups, particularly if different types of people drop out from the intervention than dropped out from the other conditions.

### 3.5.3 Treatment and Control Conditions Data

These items solicited detailed descriptions of the treatment and control condition, and the number of participants assigned to each. Although there was usually only one treatment group in our sample of studies (the juvenile system processing condition is usually represented just once in an experiment), these same studies occasionally assigned youths to several different alternatives to the processing condition. Therefore, we also detailed our rationale for selecting the control group when there were other alternatives (release, diversion, diversion with counseling, etc.). Our standard principle was to select the least intrusive or least harsh condition as the control group, i.e., diversion over diversion with services. Our rationale is that this would provide a control condition that presents the "strongest contrast" with the juvenile system processing condition. For example, if one argues that deterrence applies to the juveniles in these experiments, then a contrast between juvenile court processing and release (the harshest versus least harshest disposition) would be the ideal comparison to test that theory. Moreover, if labeling theory applies, the same comparison of juvenile court processing and release presents the best test of that theory.

### 3.5.4 Participants in the Trial Data

These items solicited detail about the type of participants in the trials, including information on race, gender, prior record, and current offense.

### 3.5.5 Outcome Data

Because our project objective is focused on the effects of juvenile system processing on subsequent delinquency, we extracted information from each eligible study on crime and delinquency outcomes. (Our protocol indicated that we would extract data on non-crime outcomes, but very few studies reported educational, psychological or other data). Crime outcomes were organized into five main groups:

- Prevalence: What percentage of each group failed or succeeded?
- Incidence: What was the average number of offenses or other incidents per group?
- Severity: What was the average severity of offenses committed by each group? Or what percentage of persons in each group later committed crimes against the person?
- Time to Event, Time to Failure or Latency: How long was return to crime or failure delayed for each group?
- Self-report: Although our protocol did not indicate this, we thought it would be valuable to determine if analyses examining self-reported offenses differed from officially recorded offenses. This would indicate whether self-reported offenses by processed youth are similar to those of diverted youth, even if officially recorded offenses were different.

We also recorded any subgroup effects reported in the original studies, whether any economic or cost-benefit data were provided, and described any qualitative or process/implementation research that shed light on the results.

Appendix 8.6 provides additional detail on each of the 29 studies included in the review, including the type of processing and comparison condition, the total number of participants randomly assigned to conditions, their mean age, the percentage of male participants in the study, the percentage of white participants in the study, level of prior offending, and the type of instant or current offenses committed by study participants. (Note that the later figures displaying the meta-analytic results provide detailed information on the effect size, confidence intervals and whether the outcome comparison used in the meta-analysis representing that study was statistically significant.)

## 3.6 HANDLING MULTIPLE REPORTS ON THE SAME EXPERIMENT

Note that investigators may publish several articles on the same study. Our unit of analysis was the individual experiment and not the individual research article, and we extracted information from all documents to complete the coding instrument for one experiment. Most studies in our sample issued just one report.

## 3.7 CRITERIA FOR DETERMINATION OF INDEPENDENT FINDINGS

Each study is represented in the analyses by a single effect size to prevent the analysis from being compromised by non-independence (multiple effect sizes from one study). Our protocol indicated that we would partition the data by four types of crime outcome (prevalence, incidence, severity and latency). Appendix 8.7 provides the outcome data from the 29 included experiments, organized by prevalence, incidence, severity and latency. Self-report data is included within these categories, but we ended up separating it out to provide another analysis. Only one study reported one latency measure, and so no meta-analysis of those data was conducted. Our protocol also indicated that we would partition the data according to different follow-up periods (e.g., 0-3 months, 4-6 months, 6-9 months, etc.). Because the follow-up intervals were disparate, with some studies reporting just one follow-up and a few studies reporting multiple follow-ups over many years, we decided to conduct the following analyses for each of the four crime outcomes[2]:

**First follow-up effect:** the earliest post-intervention follow-up outcome reported in the study

**Longest follow-up effect:** the post-intervention follow-up outcome that had the longest time interval

**Strongest follow-up effect:** The post-intervention follow-up that reported the strongest effect for juvenile system processing.

If a study reported only one measure of prevalence at one time interval (i.e., having only one effect size), it was used in all three meta-analyses (first, longest, and strongest). Because of this, the mean effect size from the first, longest and shortest meta-analyses of prevalence are not completely independent from each other. The

[2] We also conducted analyses with a "standardized one year follow-up," i.e., the outcome closest to 12 months. However, we found the difference in effect sizes between the one-year and longest follow-up for the prevalence data to be negligible. For incidence, severity and self-report data, so few follow-up periods were included so that first effect, longest effect and strongest effect meta-analyses yielded very similar estimates.

individual meta-analysis, however, remains independent (i.e., comprised of one effect size per study).

There is still the issue, however, that multiple types of prevalence or incidence data might be reported at the same follow-up period (e.g., police data, petitions). When that occurred, we selected the outcome that represented the earliest point of contact in the juvenile justice system (i.e., usually police contact).

## 3.8 STATISTICAL PROCEDURES AND CONVENTIONS

The data were first entered into a MS Access database, using a specially designed data entry screen. From MS Access, we streamlined the file (e.g., recoding freestyle codes into more specific variables) into an Excel spreadsheet. Although our protocol indicated we would use the Cochrane Collaboration's specialized free review manager software (RevMan) for analysis, we decided to utilize a special meta-analysis program called *Comprehensive Meta-Analysis* (version 2) for the study.

Although our initial plan was to use odds ratios (because we initially believed that only prevalence data would be available for the quantitative meta-analysis), we decided to use standardized mean differences (Cohen's d) so that we reported the same effect size metric across prevalence, incidence, severity, and self-report outcomes. Cohen's d provides the flexibility in that many types of outcome data can be used to estimate the standardized mean difference (e.g., the test statistic or probability level and sample size). We used the transformation formulae provided in Comprehensive Meta-Analysis or in Lipsey and Wilson (2001) to make these conversions.

The protocol indicated we would assume random effects models. Given the variability of the sample (as evidenced by Q statistics described later), random effects models are considered more conservative and more appropriate for such analyses than those assuming fixed effects models. We did run analyses assuming both models, and as expected, random effects models provided far more conservative estimates. Therefore, only effect sizes assuming random effects models are reported in this review.

Our protocol indicated that we did not expect to find a large number of experimental studies, and therefore did not anticipate conducting moderator analyses. This is because a small number of total studies could lead us to reject a potentially important moderator because of insufficient statistical power. We anticipated doing a qualitative examination of whether the results vary depending on the type of control condition (in this review, the nature and quality of the non-system alternative, such as diversion program or outright release). With 29 total studies in the meta-analysis, we were able to do a quantitative analysis to determine if

variables such as the type of control condition have any impact on the meta-analytic results.

Another important moderator is the length of follow-up period. Meta-analyses generally show, across different fields, that treatment effects decay over time. There is also the possibility, however, that some of the processes in juvenile system processing, such as labeling, may occur after some time period has passed. By examining the first and longest treatment effect in our overall analyses, we were able to shed light on this, but did no formal moderating analysis of the length of follow-up variable.

Finally, we report on other moderators in our database in exploratory fashion. This is done to shed light on the role of other factors, but must be viewed with caution for two reasons. First, as moderator analysis is done, the number of studies remaining in the cells can drop precipitously. The analyses are based on very small numbers of studies in many instances. Second, as the number of analyses increases, the likelihood of a chance finding that a variable is moderating the result increases.

Forest plots are used to display the results of the meta-analyses. Figures 1-11 should be interpreted as follows: all effects to the left of zero are negative in direction and mean that processing increased crime. All effects to the right of zero are positive in direction and mean that processing reduced crime. Labels at the bottom of each figure have been added to help make that distinction more clear.

## 3.9 TREATMENT OF QUALITATIVE RESEARCH

We had planned to include the qualitative data in describing the individual studies. But with 29 included experiments, it would lengthen the report considerably to include narrative description and findings in the text. In addition, few of the included experimental reports contained any mention of qualitative data collection and analysis.

# 4 Results

## 4.1 DESCRIPTIVE ANALYSES

The studies included in the review were published between 1973 and 2008. Approximately three in four studies were published or reported before 1990, likely reflecting the early and major interest in diversion as an alternative to the juvenile justice system process during the 1970s-1980s, and the amount of funding available for testing diversionary innovations. The studies included 7,304 juveniles across 29 experiments reported over a 35-year period. Also of note is that the time intervals for follow-up of outcomes ranged from 2-108 months. Studies reported between one and seven different types of crime outcomes (e.g., police contacts, arrests, bookings, convictions, petitions, etc.).

Table 1 provides a summary of some descriptive data on the included experiments. Most studies were reported before 1990 (76%). Highlighting the importance of systematic and comprehensive search efforts is that only 33% were published in peer review journals or books. Only two studies were conducted outside of the United States (Australia). In fact, nearly four in ten were conducted in the Midwest, largely because Michigan State University researchers reported them.

Most of the studies had two or three study groups (79%). The intervention or treatment in this review was described as "processing" in nearly two-thirds (65.5%) of the experiments; other descriptions of the included treatments were "petition," "adjudication," or "appear before magistrate." The type of control condition was nearly evenly split across the review sample. Fifteen studies (51.7%) assigned juveniles to diversion with services, including such conditions as family counseling, restorative justice conferencing, or an education program. Fourteen studies (48.3%) assigned juveniles to diversion alone, such as counsel and release or outright release.

**Table 1. Characteristics of included studies**

| | | | |
|---|---|---|---|
| **Where were the studies conducted?** | Midwest (USA) | 11 | 37.9% |
| | West (USA) | 7 | 24.1% |
| | South (USA) | | 13.8% |
| | East (USA) | | 10.3% |
| | Unknown (USA) | | 6.9% |
| | Outside USA | | 6.9% |
| **Who did the studies?** | Michigan State University | 12 | 41.4% |
| | Others | 17 | 58.6% |
| **When were the studies conducted?** | Before January, 1990 | 22 | 76.0% |
| | After January, 1990 | 7 | 24.0% |
| **Where were studies reported?** | Journals/Books | 11 | 37.9% |
| | Unpublished | 18 | 62.1% |
| **How many study groups were included?** | Two groups | 10 | 34.5% |
| | Three groups | 13 | 44.8% |
| | Four or more groups | 6 | 20.7% |
| **What was the processing condition?** | Traditional processing | 19 | 65.5% |
| | Other | 10 | 34.5% |
| **What was the control condition?** | Diversion with services | 15 | 51.7% |
| | Diversion | 14 | 48.3% |
| **Was the assignment random or quasi-random?** | Specific random assignment | 17 | 85.0% |
| | Specific quasi-random assignment | 3 | 15.0% |
| | No specific information | 9 | |
| **At what stage in the process did randomization occur?** | Following police contact | 9 | 37.5% |
| | After referral to program | 8 | 33.3% |
| | Other | 7 | 29.2% |
| | Missing | 5 | |
| **What was the combined sample size of treatment and control groups?** | 1-100 | 6 | 21.4% |
| | 101-200 | 9 | 32.1% |
| | 201-300 | 6 | 21.4% |
| | 301-400 | 3 | 10.7% |
| | 401-500 | 1 | 3.6% |
| | 501+ | 3 | 10.7% |
| | Missing | 1 | |
| **What was the mean age of juveniles?** | 14.73 (7 cases missing) | | |
| **What was the average percentage of whites?** | 61.0% (10 cases missing) | | |
| **What was the average percentage of males?** | 74.2% (7 cases missing) | | |
| **What was the level of prior offending?** | High | 8 | 34.8% |
| | Moderate | 3 | 13.0% |
| | Low | 9 | 39.1% |
| | None | 3 | 13.0% |
| | Missing | 6 | |
| **Did the study include specific or general offending types?** | Specific | 5 | 17.8% |
| | General | 23 | 82.2% |
| | Missing | 1 | |

The randomization procedures were not often described explicitly enough to determine how they were done. In the 20 experiments in which enough detail was provided, only 15% used quasi-random allocation procedures such as alternation. Nine experiments used general language such as "assigned randomly" or "used randomization" but did not detail how it was implemented. Randomization most often occurred following police contact or arrest (37.5%) or after referral to a diversion program (33%)[3]. Most studies included 300 or fewer juvenile participants in the treatment and control condition (74.9%)[4].

The average age of participants across these 29 experiments was 14-15 years. Although studies were published from 1973-2008, the average percentage of males and whites in experimental samples were similar to the 2005 U.S. juvenile court intake averages (61% white and 74% male in the studies; 64% white and 78% male in the 2005 juvenile court intake data)[5]. Surprisingly, although most studies included juveniles with prior offending records rated as "low" (9 studies, 39.1%), there were eight studies (34.8%) that included juveniles with prior offending records rated as "high." Only five studies (17.8%) targeted specific offending types (for the current or instant offense) such as shoplifters; the majority included juvenile offenders of all types.

[3] In these trials, assignment was then made to processing or to stay in the diversion program.
[4] This represents the total number of the juveniles in the processing condition and the control condition we used in the meta-analysis. This would not reflect the total study sample if multiple comparison groups were involved that were not collapsed into a single comparison group, for example.
[5] Note that white juveniles comprised only 35% of residential placements in 2006, compared to 40% African-American and 20% Hispanic (Office of Juvenile Justice and Delinquency Prevention, 2009).

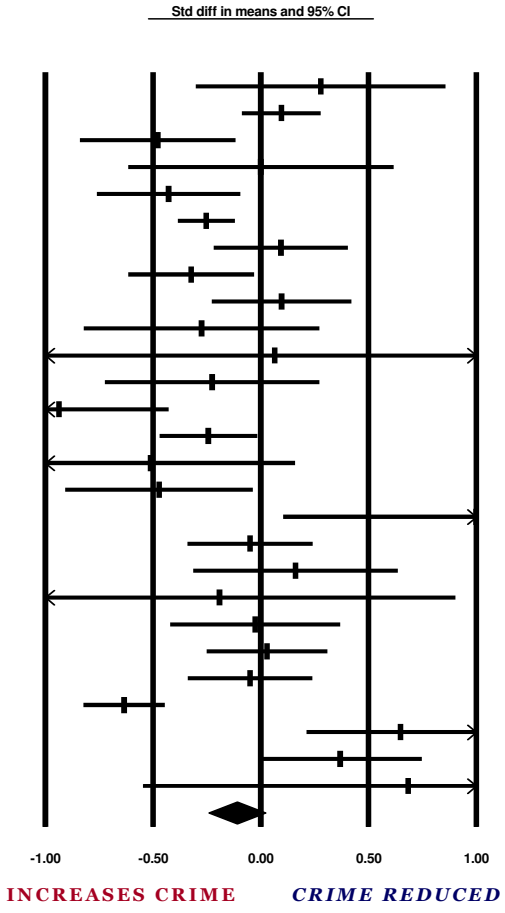
## 4.2 META-ANALYSIS

### 4.2.1 Prevalence

## Figure 1. Processing Effects on Prevalence: First Effects

| Study name | Outcome | Std diff in means | Lower limit | Upper limit | p-Value |
|---|---|---|---|---|---|
| Patrick & Marsh (2005) | First Effect-P | 0.278 | -0.298 | 0.854 | 0.344 |
| Severy & Whitaker (1982) | First Effect-P | 0.095 | -0.084 | 0.274 | 0.299 |
| Klein (1986) | First Effect-P | -0.479 | -0.837 | -0.120 | 0.009 |
| Smith, et al. (1979) | First Effect-P | 0.000 | -0.612 | 0.612 | 1.000 |
| Baron & Feeney (1976) 602 | First Effect-P | -0.428 | -0.757 | -0.098 | 0.011 |
| Baron & Feeney (1976) 601 | First Effect-P | -0.253 | -0.382 | -0.124 | 0.000 |
| Dunford, et al. (1982) KC | First Effect-P | 0.093 | -0.215 | 0.401 | 0.553 |
| Dunford, et al. (1982) NY | First Effect-P | -0.323 | -0.612 | -0.034 | 0.028 |
| Dunford, et al. (1982) FL | First Effect-P | 0.097 | -0.224 | 0.417 | 0.555 |
| Koch (1985) | First Effect-P | -0.275 | -0.818 | 0.268 | 0.322 |
| Blakely (1981) | First Effect-P | 0.065 | -1.031 | 1.160 | 0.908 |
| Davidson II, et al. (1987) | First Effect-P | -0.226 | -0.720 | 0.268 | 0.370 |
| Davidson II, et al. (1990) | First Effect-P | -0.936 | -1.442 | -0.431 | 0.000 |
| Quay & Love (1977) | First Effect-P | -0.244 | -0.466 | -0.021 | 0.032 |
| Bauer et al. (1980) | First Effect-P | -0.512 | -1.179 | 0.155 | 0.132 |
| Quincy (1981) | First Effect-P | -0.472 | -0.904 | -0.040 | 0.032 |
| Hintzen, et al. (1979) | First Effect-P | 0.999 | 0.107 | 1.890 | 0.028 |
| Smith, et al. (2004) | First Effect-P | -0.050 | -0.336 | 0.236 | 0.733 |
| Povitsky Stickle, et al. (2008) | First Effect-P | 0.161 | -0.310 | 0.632 | 0.503 |
| University Associates (1986) OTSEGO | First Effect-P | -0.192 | -1.283 | 0.899 | 0.730 |
| University Associates (1986) BAY | First Effect-P | -0.027 | -0.418 | 0.365 | 0.894 |
| University Associates (1986) KALAMAZOO | First Effect-P | 0.029 | -0.248 | 0.306 | 0.837 |
| University Associates (1986) DETROIT | First Effect-P | -0.050 | -0.336 | 0.236 | 0.732 |
| Curran, et al. (1977) | First Effect-P | -0.635 | -0.820 | -0.450 | 0.000 |
| Sherman, et al. (2000) JPP | First Effect-P | 0.649 | 0.216 | 1.081 | 0.003 |
| McCold & Wachtel (1998) | First Effect-P | 0.368 | -0.007 | 0.743 | 0.055 |
| True (1973) | First Effect-P | 0.684 | -0.543 | 1.911 | 0.275 |
| | | -0.109 | -0.240 | 0.022 | 0.103 |

Statistics for each study



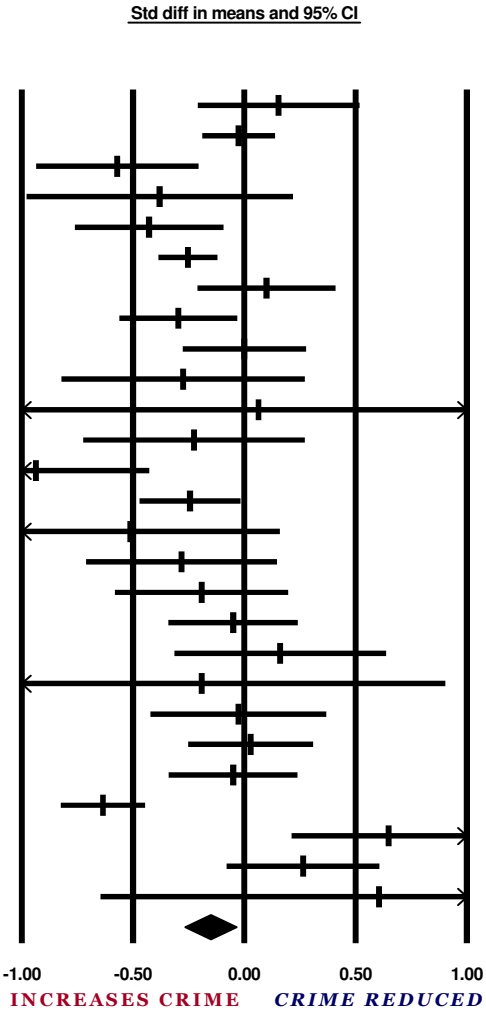

Twenty-seven of the 29 included studies reported prevalence data that could be used in meta-analysis. Figure 1 presents the results (in a forest plot) for first post-treatment effect. Note that the average length of the first follow-up reported across these 27 studies was 10-11 months, ranging from two to 24 months. It should also be pointed out that prevalence data were all based on official records (e.g., police contact, arrest, bookings, petitions, court contacts, etc.).

As indicated in Figure 1, processing does not have a statistically significant crime control effect on prevalence. In fact, the overall effect size across the studies is negative in direction (d= -.109, CI -.24 to .02, p= .103). The tests for heterogeneity indicate variability across the effect sizes (Q=97.007, p= .000).

Figure 2 presents the effect sizes (in a forest plot) across the 27 studies for the longest time interval reported in the study. The mean of the longest follow-up across the 27 studies is 12-13 months, which is not dramatically different than the average first follow-up (10-11 months). This is because most studies either reported just one follow-up interval or two follow-up intervals that were not very far apart (e.g., 6 months and 12 months). The range of the longest time interval follow-up across these 27 studies was 4-36 months.

## Figure 2. Processing Effects on Prevalence: Longest Effects

| Study name | Outcome | Statistics for each study | | | |
|---|---|---|---|---|---|
| | | Std diff in means | Lower limit | Upper limit | p-Value |
| Patrick & Marsh (2005) | Longest Effect-P | 0.155 | -0.205 | 0.514 | 0.399 |
| Severy & Whitaker (1982) | Longest Effect-P | -0.025 | -0.184 | 0.134 | 0.757 |
| Klein (1986) | Longest Effect-P | -0.571 | -0.931 | -0.210 | 0.002 |
| Smith, et al. (1979) | Longest Effect-P | -0.381 | -0.975 | 0.214 | 0.210 |
| Baron & Feeney (1976) 602 | Longest Effect-P | -0.428 | -0.757 | -0.098 | 0.011 |
| Baron & Feeney (1976) 601 | Longest Effect-P | -0.253 | -0.382 | -0.124 | 0.000 |
| Dunford, et al. (1982) KC | Longest Effect-P | 0.100 | -0.206 | 0.407 | 0.521 |
| Dunford, et al. (1982) NY | Longest Effect-P | -0.296 | -0.557 | -0.035 | 0.026 |
| Dunford, et al. (1982) FL | Longest Effect-P | 0.000 | -0.273 | 0.273 | 1.000 |
| Koch (1985) | Longest Effect-P | -0.275 | -0.818 | 0.268 | 0.322 |
| Blakely (1981) | Longest Effect-P | 0.065 | -1.031 | 1.160 | 0.908 |
| Davidson II, et al. (1987) | Longest Effect-P | -0.226 | -0.720 | 0.268 | 0.370 |
| Davidson II, et al. (1990) | Longest Effect-P | -0.936 | -1.442 | -0.431 | 0.000 |
| Quay & Love (1977) | Longest Effect-P | -0.244 | -0.466 | -0.021 | 0.032 |
| Bauer et al. (1980) | Longest Effect-P | -0.512 | -1.179 | 0.155 | 0.132 |
| Quincy (1981) | Longest Effect-P | -0.282 | -0.707 | 0.142 | 0.192 |
| Hintzen, et al. (1979) | Longest Effect-P | -0.192 | -0.577 | 0.193 | 0.328 |
| Smith, et al. (2004) | Longest Effect-P | -0.050 | -0.336 | 0.236 | 0.733 |
| Povitsky Stickle, et al. (2008) | Longest Effect-P | 0.161 | -0.310 | 0.632 | 0.503 |
| University Associates (1986) OTSEGO | Longest Effect-P | -0.192 | -1.283 | 0.899 | 0.730 |
| University Associates (1986) BAY | Longest Effect-P | -0.027 | -0.418 | 0.365 | 0.894 |
| University Associates (1986) KALAMAZOO | Longest Effect-P | 0.029 | -0.248 | 0.306 | 0.837 |
| University Associates (1986) DETROIT | Longest Effect-P | -0.050 | -0.336 | 0.236 | 0.732 |
| Curran, et al. (1977) | Longest Effect-P | -0.635 | -0.820 | -0.450 | 0.000 |
| Sherman, et al. (2000) JPP | Longest Effect-P | 0.649 | 0.216 | 1.081 | 0.003 |
| McCold & Wachtel (1998) | Longest Effect-P | 0.264 | -0.074 | 0.603 | 0.126 |
| True (1973) | Longest Effect-P | 0.606 | -0.642 | 1.853 | 0.341 |
| | | -0.150 | -0.265 | -0.035 | 0.011 |



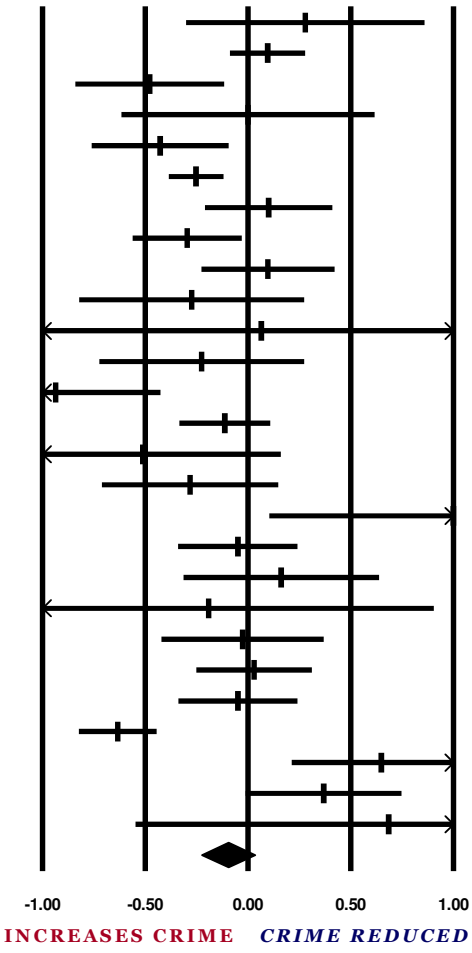

The standardized mean difference has increased to -.15 (CI -.265 to -.035, p= .01) and is now statistically significant. This increase is likely due to the three studies that initially reported a positive impact for juvenile system processing at first follow-up and reported a negative impact at the longest follow-up interval. A test for heterogeneity indicates variability across the effect sizes (Q=832.80, p= .000).

Our final analysis with the prevalence data was a "proof of concept" analysis. To make sure that our analyses did not miss an important crime control effect (for example, if the strongest effect was from an effect size between first and longest), we computed the strongest effect, i.e., the effect size with the largest reported positive

effect for juvenile system processing. As Figure 3 shows, the overall effect size was very similar to those reported for the first post treatment effect in Figure 2, remaining negative in direction (d= -.095, CI -.224 to .034, p= .149). Again, a test for heterogeneity indicates variability across the effect sizes (Q= 94.933, p = .000).

## Figure 3. Processing Effects on Prevalence: Strongest Effects

| Study name | Outcome | Std diff in means | Lower limit | Upper limit | p-Value |
|---|---|---|---|---|---|
| Patrick & Marsh (2005) | Strongest Effect-P | 0.278 | -0.298 | 0.854 | 0.344 |
| Severy & Whitaker (1982) | Strongest Effect-P | 0.095 | -0.084 | 0.274 | 0.299 |
| Klein (1986) | Strongest Effect-P | -0.479 | -0.837 | -0.120 | 0.009 |
| Smith, et al. (1979) | Strongest Effect-P | 0.000 | -0.612 | 0.612 | 1.000 |
| Baron & Feeney (1976) 602 | Strongest Effect-P | -0.428 | -0.757 | -0.098 | 0.011 |
| Baron & Feeney (1976) 601 | Strongest Effect-P | -0.253 | -0.382 | -0.124 | 0.000 |
| Dunford, et al. (1982) KC | Strongest Effect-P | 0.100 | -0.206 | 0.407 | 0.521 |
| Dunford, et al. (1982) NY | Strongest Effect-P | -0.296 | -0.557 | -0.035 | 0.026 |
| Dunford, et al. (1982) FL | Strongest Effect-P | 0.097 | -0.224 | 0.417 | 0.555 |
| Koch (1985) | Strongest Effect-P | -0.275 | -0.818 | 0.268 | 0.322 |
| Blakely (1981) | Strongest Effect-P | 0.065 | -1.031 | 1.160 | 0.908 |
| Davidson II, et al. (1987) | Strongest Effect-P | -0.226 | -0.720 | 0.268 | 0.370 |
| Davidson II, et al. (1990) | Strongest Effect-P | -0.936 | -1.442 | -0.431 | 0.000 |
| Quay & Love (1977) | Strongest Effect-P | -0.113 | -0.329 | 0.104 | 0.307 |
| Bauer et al. (1980) | Strongest Effect-P | -0.512 | -1.179 | 0.155 | 0.132 |
| Quincy (1981) | Strongest Effect-P | -0.282 | -0.707 | 0.142 | 0.192 |
| Hintzen, et al. (1979) | Strongest Effect-P | 0.999 | 0.107 | 1.890 | 0.028 |
| Smith, et al. (2004) | Strongest Effect-P | -0.050 | -0.336 | 0.236 | 0.733 |
| Povitsky Stickle, et al. (2008) | Strongest Effect-P | 0.161 | -0.310 | 0.632 | 0.503 |
| University Associates (1986) OTSEGO | Strongest Effect-P | -0.192 | -1.283 | 0.899 | 0.730 |
| University Associates (1986) BAY | Strongest Effect-P | -0.027 | -0.418 | 0.365 | 0.894 |
| University Associates (1986) KALAMAZOO | Strongest Effect-P | 0.029 | -0.248 | 0.306 | 0.837 |
| University Associates (1986) DETROIT | Strongest Effect-P | -0.050 | -0.336 | 0.236 | 0.732 |
| Curran, et al. (1977) | Strongest Effect-P | -0.635 | -0.820 | -0.450 | 0.000 |
| Sherman, et al. (2000) JPP | Strongest Effect-P | 0.649 | 0.216 | 1.081 | 0.003 |
| McCold & Wachtel (1998) | Strongest Effect-P | 0.368 | -0.007 | 0.743 | 0.055 |
| True (1973) | Strongest Effect-P | 0.684 | -0.543 | 1.911 | 0.275 |
| | | -0.095 | -0.224 | 0.034 | 0.149 |




### 4.2.2 Incidence

Prevalence data captures how many or the percentage of each treatment group that fails or succeeds according to the outcome of interest. Another important question to policymakers is whether juvenile system processing reduces the total number of offenses by the group, i.e., the mean number of offenses per person in the group. This is especially important in understanding whether intervention impacted high-rate offenders, i.e., juveniles who go on to commit more than one offense after being exposed to processing.

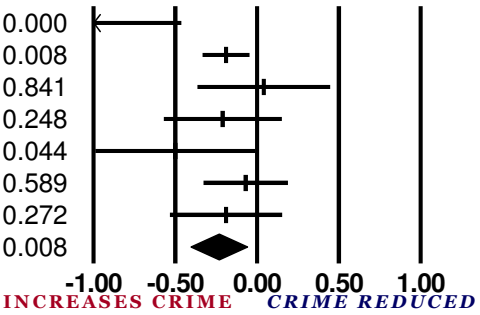
Unfortunately, only seven experiments reported data that we could use to compute effect sizes for incidence measures. Because five of these seven studies only report

incidence measures at one time interval, the outcomes for first effect, longest effect and strongest effect are very similar. Figure 4 presents the results for the first effect for juvenile system processing. It should be pointed out that these incidence data were all generated from official data from police or courts. The average follow-up period to measure the incidence data for these seven studies was 9-10 months.

As indicated in Figure 4, processing does not have a crime control effect on incidence measures. In fact, despite the small number of studies, the effect is negative and statistically significant (d= -.23, CI = -.405 to -.059, p=. 008). The Q test for heterogeneity is not statistically significant at the .05 probability level (Q=12.219, p= .057).

## Figure 4. Processing Effects on Incidence: First Effects

| Study name | Outcome | Std diff in means | Lower limit | Upper limit | p-Value |
|---|---|---|---|---|---|
| Klein (1986) | First Effect-I | -1.031 | -1.594 | -0.467 | 0.000 |
| Baron & Feeney (1976) 601 | First Effect-I | -0.190 | -0.330 | -0.051 | 0.008 |
| Dunford, et al. (1982) KC | First Effect-I | 0.041 | -0.361 | 0.443 | 0.841 |
| Dunford, et al. (1982) NY | First Effect-I | -0.210 | -0.567 | 0.147 | 0.248 |
| Emshoff & Blakely (1983) | First Effect-I | -0.500 | -0.986 | -0.014 | 0.044 |
| Sherman, et al. (2000) JPP | First Effect-I | -0.070 | -0.324 | 0.184 | 0.589 |
| Sherman, et al. (2000) JPS | First Effect-I | -0.190 | -0.529 | 0.149 | 0.272 |
| | | -0.232 | -0.405 | -0.059 | 0.008 |




### 4.2.3 Severity

Another important question for policymakers is whether or not a system intervention like juvenile system processing reduces the seriousness of offending. That is, an intervention may neither impact the number of offenders who commit new offenses (prevalence) nor the number of offenses committed by each person (incidence), but could be considered effective if it reduced the severity or harm caused by those new offenses. Severity was measured in the individual studies by a mean severity score (using an instrument that rated the seriousness of the offense committed by the juvenile) or by such indices as “percentage with felony offense” or “percentage with violent offense.”

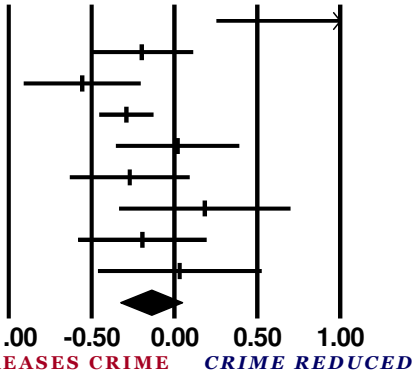
Unfortunately, only nine experiments reported such severity data. As with incidence data, very few experiments reported more than one follow-up of a severity outcome measure, so that the effect sizes for the first effect, longest effect and strongest effect were very similar. Figure 6 presents the first effect for the nine experiments that reported severity data that could be used in a meta-analysis. Again, these data were

generated from official crime measures such as police contact or arrest. The average length of follow-up across these nine studies was 24 months. This average is skewed upward because one study reported its only severity measure at 108 months follow-up.

As Figure 5 indicates, processing does not have a statistically significant crime control effect on severity. In fact, the overall effect size is again negative in direction (d= -.139, 95% CI -.325 to .047, p= .148). There is heterogeneity or variation among the studies (Q=18.852, p= .006).

## Figure 5. System Processing Effects on Severity: First Effects

| Study name | Outcome | Std diff in means | Lower limit | Upper limit | p-Value |
|---|---|---|---|---|---|
| Severy & Whitaker (1982) | First Effect-S | 1.090 | 0.256 | 1.924 | 0.010 |
| Klein (1986) | First Effect-S | -0.198 | -0.506 | 0.110 | 0.208 |
| Baron & Feeney (1976) 602 | First Effect-S | -0.557 | -0.907 | -0.207 | 0.002 |
| Baron & Feeney (1976) 601 | First Effect-S | -0.290 | -0.452 | -0.129 | 0.000 |
| Dunford, et al. (1982) KC | First Effect-S | 0.020 | -0.349 | 0.389 | 0.917 |
| Dunford, et al. (1982) NY | First Effect-S | -0.270 | -0.628 | 0.087 | 0.139 |
| Dunford, et al. (1982) FL | First Effect-S | 0.184 | -0.330 | 0.697 | 0.483 |
| Quay & Love (1977) | First Effect-S | -0.194 | -0.578 | 0.190 | 0.323 |
| Hintzen, et al. (1979) | First Effect-S | 0.032 | -0.458 | 0.522 | 0.898 |
| | | -0.139 | -0.325 | 0.047 | 0.144 |

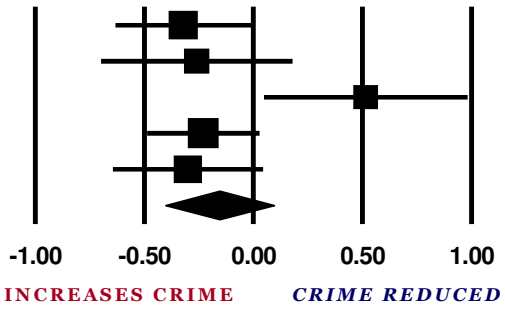



### 4.2.4 Self-Report Data

Because only one study reported a latency or "time to failure" outcome, our final analyses of crime data come from self-report data. It is possible that the official offending data as captured by prevalence, incidence and severity measures only reflect official police and system responses and not actual "real" offending behavior. Self-report data provides a comparison that does not rely on official measures of crime. Only five experiments, however, captured self-report data that could be used in the meta-analysis. The average length of follow-up for these five studies is 11 months. Again, these limited data do not support a crime control effect for processing on self-report measures. In fact, as Figure 6 indicates, the data are negative in direction (d= -.154, CI= -.40 to .095, p= .225). Again, there is significant variability or heterogeneity across these five effect sizes (Q=10.71, p= .038).

## Figure 6. Processing Effects on Self-Report Data: First Effects

| Study name | Outcome | Statistics for each study | | | |
|---|---|---|---|---|---|
| | | Std diff in means | Lower limit | Upper limit | p-Value |
| Klein (1986) | SELF-REPORT | -0.321 | -0.630 | -0.012 | 0.042 |
| Quincy (1981) | SELF-REPORT | -0.260 | -0.696 | 0.176 | 0.243 |
| Povitsky Stickle, et al. (2008) | SELF-REPORT | 0.515 | 0.051 | 0.978 | 0.029 |
| Sherman, et al. (2000) JPP | SELF-REPORT | -0.230 | -0.485 | 0.025 | 0.077 |
| Sherman, et al. (2000) JPS | SELF-REPORT | -0.300 | -0.640 | 0.040 | 0.084 |
| | | -0.154 | -0.402 | 0.095 | 0.225 |




### 4.2.5 Sensitivity Analysis

Although our review sample is comprised of experiments that randomly (or in three studies, quasi-randomly) assigned participants, there are many things can go wrong in evaluation research, including experiments. The two most common methodological factors that can comprise the findings in the types of experiments reported here are randomization failure and attrition. Although a small number of experiments reported randomization or attrition problems, only two studies were determined to have significant methodological problems because of breakdowns that would potentially undermine the reported findings.

In the Stickle et al (2008) study, youths were randomly assigned to traditional processing or to a diversion program featuring a "teen court." Randomization was done before juvenile participants (and their parents) agreed to participate. Therefore, a large number of juveniles were dropped from the initial randomization sample. In the Bethlehem, Pennsylvania restorative justice experiment, youths were randomly assigned to traditional processing or a diversionary program featuring victim conferencing (McCold and Wachtel, 1998). However, over half of youths assigned to the diversionary program refused to participate and were officially processed. The latter experiment was excluded because of these methodological issues from the Sherman and Strang (2006) systematic review of restorative justice.

Sensitivity analyses are one method that can be used by reviewers to determine the impact of studies that report methodological compromises on the overall meta-analysis findings. In which these studies were dropped to determine what impact it made on the findings. Using prevalence data at first, longest and strongest effects (for the 27 studies that reported such data), we dropped the McCold and Wachtel (1998) and Stickle et al (2008) studies to determine how that impacted effect size.

Table 2 presents the results for this analysis, comparing the effect for all 27 studies versus the remaining 25 studies (after the two aforementioned studies were dropped from the meta-analysis). As Table 2 indicates, the effect sizes remain negative and increase about -.02 to -.03 in magnitude when the two studies are dropped. In addition, all results are now negative and statistically significant; for example, for the analysis at first effect, d= -.141, CI -.275 to -.008, p= .037).

**TABLE 2. SENSITIVITY ANALYSIS DROPPING TWO STUDIES**

| *Type of Analysis processing* | *First Effect* | *Longest Effect* | *Strongest effect for system* |
|---|---|---|---|
| **All 27 Studies** | **-.11** | **-.15** | **-.10** |
| **Dropping two studies** | **-.14** | **-.18** | **-.13** |

### 4.2.6 Moderator Analyses

Juvenile system processing, at least according to the experimental evidence presented here, does not demonstrate crime control effects, but instead, seems to have consistently negative effects on crime measures of prevalence, incidence, and severity, as well as that measured by self-report. These negative effects become larger when the two studies with the significant methodological problems are dropped from the analysis.

However, the tests for heterogeneity (as evidenced by the Q statistics), across all analyses, indicate variation across the effect sizes. In other words, the average effect size for the analysis does not represent all the effects very well. In fact, some experiments do report positive impact for system processing. In addition, the size of the effect varies across the studies. In such cases, moderator analyses (examining how the effect varies across dimensions of the studies) can be helpful in illuminating these differences. It is important, as aforementioned, that such moderator analyses be interpreted cautiously as they are often based on very small numbers. In addition, when a large number of moderator analyses are done, a single large effect could be due to the play of chance. Because prevalence data were reported in such a way that it could be used in meta-analysis by 27 of the 29 included studies, we rely on prevalence data reported at the first follow-up time interval for these moderating analyses. We have also limited our initial set of moderating analyses to five distinct variables. We should also again note that the average follow-up time interval for first prevalence outcome measurement is between 10 and 11 months.

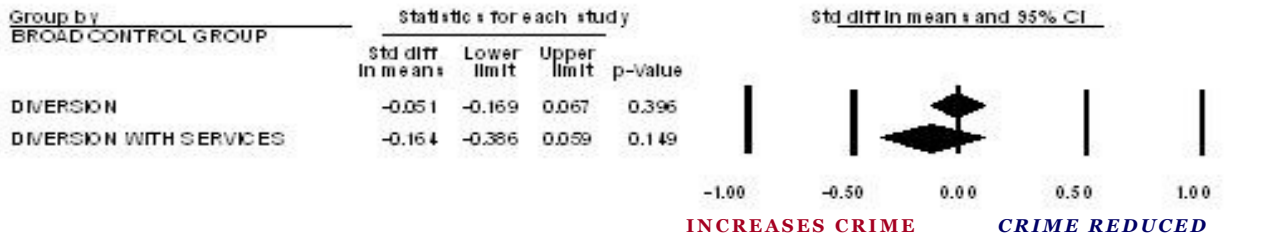
*A Tale of Two Comparisons?*

As we outlined in the protocol, an important moderator we planned to examine is the type of comparison group that juvenile system processing is being compared to.

There are two basic alternative groups in these experiments: (1) groups in which juveniles are diverted from the system to receive "services" ("diversion with services"); and (2) groups in which juveniles are diverted from the system and are simply released to receive no services (e.g., "counsel and release").

Figure 7 presents a moderator analysis comparing these two types of alternatives. There are 14 experiments that compare juvenile system processing with diversion and 13 experiments that have a diversion with services alternative group. As Figure 7 shows, juvenile system processing seems to have no crime control effect whether compared to diversion ("doing nothing") or to diversion with services ("doing something"). In fact, the effect sizes are both negative in direction. When processing is compared to diversion, the effect size is slightly negative (d= -.04, CI -.169 to .067, p= .396). When system processing is compared to diversion with services, the effect size is more negative (d= -.16, CI -.386 to .059, p= .149).

## Figure 7. Processing Effects by Type of Comparison

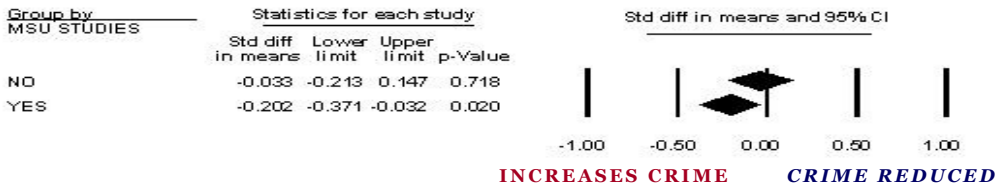



*Michigan State University effect?*

Researchers and Ph.D. students from Michigan State University, generally under the supervision of Professor William Davidson, conducted 12 of the experiments in the review sample. Davidson was part of a team that developed a particular approach to juvenile diversion that included behavioral contracting and child advocacy (the Adolescent Diversion Program). Given the long program of research that he and others established at MSU, a number of the randomized trials in this review sample were generated by them (over 40%). To explore the influence of MSU studies on the sample, we compared effect size for the 12 MSU experiments with the 15 non-MSU studies that comprised the remaining 27 reports using data on prevalence (first-effects).

Figure 8 indicates that, like the control group moderator analysis, all of the effects are negative in direction. However, the effect size for juvenile system processing in non-MSU studies is negligible (-.03, CI -.213 to .147, p= .718). System processing in the 12 studies reported by William Davidson and his colleagues at MSU had a larger and much more negative effect of -.20 (CI -.371 to -.032, p= .02).

## Figure 8. Processing Effects by Whether MSU Conducted

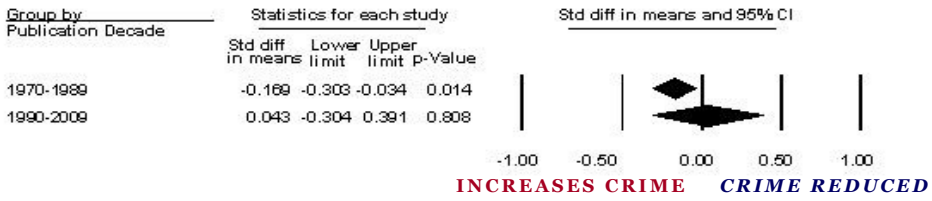



*More recent versus older studies?*

Because this systematic review did not have eligibility criteria to limit it to more recent studies, experiments that were conducted and reported from 1973 through 2008 were included. This exploratory moderating analysis examines the effect for juvenile system processing in studies reported before January 1, 1990 and those reported after January 1, 1990. Although this is a very subjective selection of the "cut-point," it permits a comparison of effect sizes for studies published during the first two decades (1970s-1980s) versus those published during the last two decades (1990s-2000s). We should note that only seven experiments were reported in 1990 or later; 20 of the 27 studies reporting prevalence data that could be used in meta-analysis were conducted before 1990.

As Figure 9 indicates, the effect size varies according to this analysis by period of publication. For those studies reported before 1990, the effect size is -.17 (CI -.303 to -.034, p= .01). However, for the six studies reported in 1990 or beyond, the effect size for juvenile system processing is positive in direction (d= .04, CI -.304 to .391, p= .808). It should be noted, however, that the two studies that experienced the greatest threats to the experimental design were more recent studies (Stickle et al, 2008; McCold and Wachtel, 1998), and both reported large and positive effects for juvenile system processing. When these two studies are removed from the analysis, leaving just four post-1990 studies, the effect is slightly negative for processing (d= -.05, CI -.532 to .426, p= .829).

## Figure 9. Processing Effects by Period of Publication



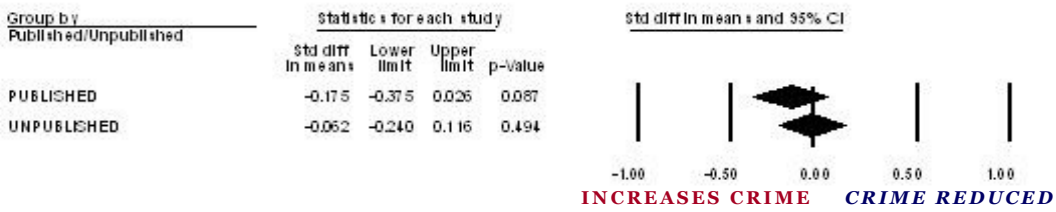

*Publication effect?*

This systematic review included searches for reports published in peer-reviewed journals and books as well as reports located in the grey or fugitive literature (e.g.,

dissertations, conference papers, government reports, technical reports, etc.). This provides an opportunity to explore the difference in effect size between published and unpublished reports. It should be noted that 11 studies in this analysis were published in peer-reviewed journals or books and 16 were reported in the fugitive literature.

As Figure 10 indicates, the overall effect sizes for juvenile system processing as reported in both published and unpublished studies are negative in direction. However, the magnitude of that negative effect is larger for published findings than for unpublished reports. For published findings, the effect size is -.18 (CI -.375 to .026, p= .09) and for unpublished studies, the effect is -.06 (CI -.24 to .116, p= 494).

**Figure 10.Processing Effects by Whether Published or Not**



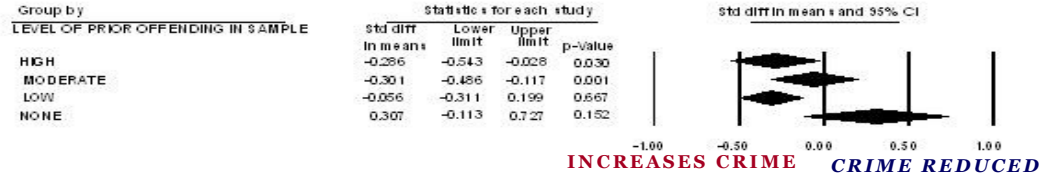

*Does the extent of the study sample's prior record matter?*

Although the reports did not have an extensive amount of information on prior record, some studies did permit us to rate the extent of the sample's prior record of offending into four categories: none, low, moderate or high. The distinctions between the categories are that if the one-third or less of the study sample has a prior offense (in addition to the current offense), we rated that as "low." If the report indicated that between one-third and two-thirds of the study sample had a prior record, we rated that as "moderate." If the report indicated that over two-thirds of the study sample had a prior record, we rated that as "high." Obviously, these are subjective criteria but they provide one method to ascertain the influence of the how extensive the prior record of study participants was and how that might influence the magnitude of the effect size for juvenile system processing. For example, it might be that juvenile system processing is more effective with more serious juveniles (who have a prior record) than those who have not been in trouble before. Or perhaps the reverse is the case.

Figure 11 presents the effect sizes for the four categories of the extensiveness of the individual study sample's prior record. It should be noted that 22 studies reported enough data to allow us to rate the extensiveness of prior record in the studies, with eight rated as "high," two as "moderate," nine as "low," and three as "none." As Figure 11 indicates, the effect sizes for juvenile system processing are larger and negative in direction when the extensiveness of prior offending in the study sample

is rated as “high” or “moderate.” For example, when the sample is rated as having a “high” amount of prior offending, the effect size is -.29 (CI -.543 to -.028, p= .03). For the two “moderate” rated studies, the effect size is exactly -.30 (-.486 to -.117, p= .001). Although the effect size for the nine “low” rated studies is still negative in direction, it reduces in size to -.06 (CI -.311 to .199, p= .667). Finally, in the three studies that included first-time offenders only (no prior offending record), juvenile system processing has positive and much larger effects (.31, CI -.113 to .727, p= .152). The two studies dropped in the sensitivity analysis involved samples rated as having “low” degree of prior offending. When they are dropped here, the effect size for those studies rated as having “low” prior offending becomes more negative (d= -.15, CI -.429 to .137, p= .312).

**Figure 11. Processing Effects by Level of Prior Offending in Sample**



# 5 Conclusion

This review, examining the results of 29 randomized controlled trials, finds no evidence that juvenile system processing has a crime control effect. In fact, most analyses showed that processing increased delinquency. This was consistent across measures of prevalence, incidence, severity, and self-report, and consistent when looking at the first or longest time interval that the crime measure was reported. In fact, even when giving juvenile system processing the benefit of the doubt and looking only at the strongest positive effect for processing, a negative impact across all crime outcomes was reported. These results are more negative and become statistically significant when the two studies experiencing substantial methodological problems are dropped from the analyses.

Moderating analyses indicated that effect sizes were more negative for processing in studies that compared it to a diversion program or provision of services than in those trials that compared processing to simple release ("doing nothing). Effect sizes were also larger and more negative in direction for older studies (before 1990), those conducted by Michigan State University researchers, and those reported in unpublished documents such as dissertations and technical reports. An interesting moderating variable was the extent of prior record offending in the study sample. When the study sample was rated as having a low, moderate or high amount of prior offending, system processing had consistently negative effects. However, for the three studies that were rated as having no prior record because they were comprised of first-time offenders, system processing has a positive crime-reduction effect.

## 5.1 RESEARCH IMPLICATIONS

One common question in response to a review that reports an overall negative impact for a policy or practice intervention is "why?" What is the mechanism responsible for negative or crime enhancing effects for juvenile system processing? It is possible that labeling is the key ingredient, i.e., that juveniles following official processing are more likely to identify themselves (and be identified by others) as a "delinquent." Some have argued that processing leads to labeling of the juvenile as a delinquent by police and others, leading to changes on the part of police and other

social control institutions. These institutions see the processed juvenile as a "delinquent" and scrutinize their behavior more closely. Such close scrutiny results in more identified delinquent behavior. However, our examination of five studies indicated that processed youths self-reported more criminality than comparison group youths. This would seem to support the notion that the processing group committed more offenses, not just that it led police and others to scrutinize processed youths more.

Although moderating variable analyses can shed light on this, there were insufficient data reported in the studies that would allow researchers to unpack the key ingredients that would help explain why system processing had consistently negative impacts on juveniles.

Because the investigators conducting experiments that were collected for this review were more interested in the effects of the diversion program (diversion was the "treatment" group), scant information is reported on the juvenile system processing condition. In fact, many of the trials simply labeled the condition as "official processing" or "traditional processing" with no further details. Better descriptions of the control conditions in randomized trials are needed in such experiments to permit a better assessment of exactly what the treatment is being compared to. In our review, in which we were ultimately concerned with the juvenile system processing condition (it became our "treatment" group), data on the eventual outcomes in the process would have been helpful. For example, how many of the juvenile cases that were officially processed ended up being dismissed? It is possible that system processing is not effective because most cases eventually end up being dismissed or assigned to a weak or informal probation condition. The diversion program (diversion with services or "doing something") may actually end up being a more effective condition because juveniles may view the condition as being more onerous or intrusive (i.e., thereby acting as a deterrent), or that the diversion program links the juvenile to more effective services (i.e., thereby providing a rehabilitative effect).

The moderating analysis pointed to a finding that requires more study. When looking at the prior record of the experimental samples of studies in the review, there were three experiments that were rated as having samples with no prior offending record. This was because the eligibility criteria for participants were that they be first-time offenders. These three studies reported a positive impact for system processing. Is it possible that system processing has a positive impact on first-time offenders? This could be the foundation for a future randomized controlled trial to test, particularly with an appropriate offense category that would warrant official processing consideration, such as serious property or drug offending. On the flip side, processing seemed to backfire most with the juveniles who would seem to warrant a formal system response (those rated as having a "high" prior record).

This review is only relevant to the specific crime control effects of formal system processing on the juveniles assigned to it or some alternative. It does include evidence about general crime control effects (general deterrence), i.e., whether reduced processing rates in a jurisdiction might increase or decrease the general juvenile crime rate[6]. Although we are not aware of studies that have tested for such effects, a systematic review of such studies might be a good companion piece to this report.

## 5.2 IMPLICATIONS FOR POLICY

Given the overall negative results for juvenile system processing across these studies and outcome measures, jurisdictions should review their own policies regarding the handling of juvenile coming to the attention of legal authorities. First, although the results are not uniform across the 29 experiments, the main effect shows that system processing results in more subsequent delinquency. Rather than providing a public safety benefit, processing a juvenile through the system appears to have a negative or backfire effect. This was especially true in those studies that compared system processing with a diversion program or services. Even if the diversion program were more expensive than system processing, which may not be likely, the crime reduction benefit associated with the diversion program would likely persuade any cost-benefit analysis to favor the implementation of diversion programs.

But, as the moderating analysis indicated, even those studies that compared juvenile system processing with "doing nothing" averaged a slightly negative impact. Even if the impact were zero, given that the evidence indicates that there is no public safety benefit to system processing, and its greater costs when compared to release, even the most conservative cost-benefit analyses would favor release over system processing. One could argue that interventions achieve other important goals, but other than crime reduction, we are not sure what other potential benefits of system processing should be measured. The studies included here all too infrequently examined the impacts of system processing on education and other measures.

None of the findings here provide guidance on what the juvenile system should do with an individual juvenile offender. This review captured aggregate data from 29 experimental studies. It is most appropriate for guiding larger local, state and national policies regarding juveniles. Given that most jurisdictions are diverting a large number of juveniles in any event (40% at the juvenile court intake stage according to the 2005 data), jurisdictions might be best served by reviewing their own policies to determine if a larger percentage of juvenile cases can be dismissed or

[6] We are grateful to Professor Martin Killias, University of Lausanne (Switzerland), for raising this point at an American Society of Criminology conference panel, November 4, 2009.

diverted. Such policies should be evaluated to determine if these variations did reduce costs and result in no greater risk to public safety.

It should be noted that these experiments compared system processing with a diversion program or simple release. Thus, the data from these studies do not support a policy of establishing diversion programs for juveniles that normally would not have been officially processed (i.e., also called “net-widening”).

# 6 Other Topics

## 6.1 ACKNOWLEDGEMENTS

We appreciate the comments and guidance of David Wilson, Charlotte Gill, and anonymous peer reviewers on the C2 protocol and C2 final review draft in helping to shape this final draft review. We also thank Michael Borenstein, creator of Comprehensive Meta-Analysis, for his helpful responses to our questions about the use of the software, and Arild Bjorndal, Norwegian Knowledge Centre for the Health Sciences, for assisting us with funding.

## 6.2 PLANS FOR UPDATING THE REVIEW

We will update the review, in accordance with Campbell principles, within three years.

## 6.3 STATEMENT REGARDING CONFLICT OF INTEREST

The authors have no monetary interest in the results of the review. None of the authors has conducted or published studies that would lead them to slant the evidence on juvenile system processing in a particular direction.

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# 8 Appendix

## 8.1 RESULTS OF SEARCHES FOR BIBLIOGRAPHIC DATABASES/SEARCH ENGINES

| Database/Search Engine | Number of Citations Retrieved | Number of "Hits" |
|---|---|---|
| Academic Search Premiere | 302 | 0 |
| Bibliography of Nordic Criminology/Criminal Justice in Denmark | 351 | 0 |
| British Humanities Index | 1 | 0 |
| British Public Library Journal Search | 245 | 0 |
| C2-SPECTR | 135 | 2 |
| Child Welfare Information Gateway Library | 1350 | 2 |
| Cochrane Library | 927 | 0 |
| Criminal Justice Abstracts | 530 | 47 |
| Criminology Sage Full Text | 35 | 0 |
| Dissertation Abstracts | 280 | 0 |
| EBSCO Mega-File | 322 | 0 |
| Econlit | 81 | 0 |
| Education Resources Information Center (ERIC) | 18 | 0 |
| Expanded Academic ASAP Plus | 180 | 1 |
| Family and Society Studies | 103 | 2 |

| Database/Search Engine | Number of Citations Retrieved | Number of "Hits" |
|---|---|---|
| Google | 0 | 0 |
| Google Scholar | 996 | 3 |
| HUD USER | 63 | 0 |
| Index to Current Urban Documents | 345 | 0 |
| Index to Foreign Legal Periodicals and Social Work Abstracts | 140 | 2 |
| International Bibliography of the Social Sciences | 1 | 0 |
| ISI Citation Index | 115 | 0 |
| JSTOR | 448 | 0 |
| Masterfile Premiere | 286 | 0 |
| Medline | 125 | 0 |
| Journals at Ovid | 56 | 0 |
| NCJRS | 508 | 36 |
| NCJRS Full Text | 318 | 5 |
| PAIS Archive | 7 | 0 |
| PAIS International | 281 | 0 |
| Periodical Index Online | 254 | 0 |
| Policy File | 228 | 0 |
| Psychological and Behavioral Sciences Collection | 120 | 0 |
| Psychological Abstracts (PsycInfo) | 269 | 6 |
| Recent References Related to the Social Sciences | 0 | 0 |
| Sage Management and Organizational Studies Full-Text | 13 | 0 |

| Database/Search Engine | Number of Citations Retrieved | Number of "Hits" |
|---|---|---|
| Sage Sociology and Political Science Full-Text | 71 | 0 |
| Sage Urban Studies Full-Text | 82 | 9 |
| Social Science Research Network | 51 | 0 |
| Social Service Abstracts | 49 | 4 |
| Sociological Abstracts (Sociofile) | 85 | 0 |
| UNESCO/UNESBIB | 171 | 0 |
| World Bank Documents | 129 | 0 |
| Worldwide Political Abstracts | 6 | 0 |
| | **10077** | **119** |

## 8.2 LIST OF BIBLIOGRAPHIC DATABASES SEARCHED AND SEARCH STRATEGIES USED

RETRIEVED=Number of citations/abstracts the search retrieved

HITS=Study appears to be potentially eligible and full-text should be retrieved.

*=Wildcard operator that will retrieve the keyword and derivatives (e.g., diver* will retrieve divert, diverted, diversion)

### 8.2.1 ACADEMIC SEARCH PREMIERE

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=1936-1975

YIELD: 5 RETRIEVED, 0 HITS

Search 2: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=1976-1985

YIELD: 17 RETRIEVED, 0 HITS

Search 3: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=1986-1995

YIELD: 27 RETRIEVED, 0 HITS

Search 4: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=1996-2000

YIELD: 57 RETRIEVED, 0 HITS

Search 5: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=2000-2001

YIELD: 35 RETRIEVED, 0 HITS

Search 6: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=2002-2003

YIELD: 132 RETRIEVED, 0 HITS

Search 7: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=2004-2005

YIELD: 16 RETRIEVED, 0 HITS

Search 8: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Year=2006-2008

YIELD: 13 RETRIEVED, 0 HITS

### 8.2.2 BIBLIOGRAPHY OF NORDIC CRIMINOLOGY/CRIMINAL JUSTICE IN DENMARK

Search 1: (experiment OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize OR randomly OR "quasi-random"):

YIELD: 86 RETRIEVED, 0 HITS

Search 2: (juvenile or delinquen) AND (court or adjudicat or petition or waive or diver or processing or sentence or disposition or intake or release)

YIELD: 265 RETRIEVED, 0 HITS

### 8.2.3 BRITISH HUMANITIES INDEX

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 1 RETRIEVED, 0 HITS

### 8.2.4 BRITISH PUBLIC LIBRARY JOURNAL SEARCH

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 245 RETRIEVED; 0 HITS

### 8.2.5 CAMPBELL COLLABORATION SOCIAL, PSYCHOLOGICAL, CRIMINOLOGICAL AND EDUCATIONAL TRIALS REGISTER (C2-SPECTR)

Search 1: Juvenil* or delinq*

YIELD: 108 RETRIEVED, 2 HITS

Search 2: (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 27 RETRIEVED, 0 HITS

### 8.2.6 CHILD WELFARE INFORMATION GATEWAY LIBRARY

Note: This used to be the National Clearinghouse on Child Abuse and Neglect (NCCAN)

Search 1: evaluat* and delinquent*

YIELD: 20 RETRIEVED, 1 HIT

Search 2: evaluat* and juvenile

YIELD: 118 RETRIEVED, 0 HITS

Search 3: Delinquen* and effect*

YIELD: 30 RETRIEVED, 0 HITS

Search 4: TITLE=Delinquen*

YIELD: 180 RETRIEVED, 0 HITS

Search 5: TITLE=Diversion

YIELD: 154 RETRIEVED; 1 HIT

Search 6: KEYWORD=diversion

YIELD=97 RETRIEVED; 0 HITS

Search 7: TITLE=Experiment*

YIELD: 76 RETRIEVED, 0 POSSIBLE

Search 8: TITLE=Impact and KEYWORD=delinquent*

YIELD: 20 RETRIEVED; 0 HITS

Search 9: TITLE="Juvenile court"

YIELD: 122 RETRIEVED, 0 HITS

Search 10: TITLE=processing

YIELD: 37 RETRIEVED, 0 HITS

Search 11: KEYWORD=randomiz*

YIELD: 191 RETRIEVED, 0 HITS

Search 12: KEYWORD=”randomly assigned”

YIELD: 178 RETRIEVED; 0 HITS

Search 13: TITLE=”juvenile offender”

YIELD: 22 RETRIEVED, 0 HITS

Search 14: KEYWORD=placebo

YIELD: 12 RETRIEVED, 0 HITS

Search 15: KEYWORD=”Treatment Group”

YIELD: 91 RETRIEVED; 0 HITS

### 8.2.7 COCHRANE LIBRARY

Note: the Cochrane Library includes, the Cochrane Controlled Trials Register (CCTR), the Health Technology Assessment (HTA) Register, Methods Studies (MS), and Economic Evaluations (EE)

Search 1: Juvenile* or Delinquen* in all text

YIELD: 886 RETRIEVED in CCTR, O HITS
18 RETRIEVED in HTA, 0 HITS
2 RETRIEVED in MS, 0 HITS
21 RETRIEVED in EE, 0 HITS

### 8.2.8 CRIMINAL JUSTICE ABSTRACTS

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 530 RETRIEVED, 46 HITS

### 8.2.9 CRIMINOLOGY SAGE FULL TEXT

Search 1: ABSTRACT=(experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 35 RETRIEVED, 0 HITS

### 8.2.10 DISSERTATION ABSTRACTS

Search 1: Subject=Criminology AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random" OR evaluat*) AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 280 RETRIEVED, 0 HITS

### 8.2.11 EBSCO MEGA-FILE

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) NOT SUBJECT=animal NOT fish NOT stress NOT pest NOT lake NOT diet NOT invert* NOT genet* NOT DNA NOT Ecolog* NOT Biolog* NOT aqua NOT Oxy* NOT Nutrit* NOT food NOT Neuro* NOT pharma* NOT plant NOT Botan* NOT body NOT blood

YIELD: 322 RETRIEVED, 0 HITS

### 8.2.12 ECONLIT

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 81 RETRIEVED, 0 HITS

### 8.2.13 ERIC (EDUCATION RESOURCES INFORMATION CENTER)

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 18 RETRIEVED, 0 HITS

### 8.2.14 EXPANDED ACADEMIC ASAP PLUS

Search 1: SUBJECT=”Juvenile and offenders,” “delinquency,” “corrections” or “justice” AND
ABSTRACT=(experiment* OR controlled or "control group" or randomly or randomize* or "treatment group")

YIELD: 112 RETRIEVED, 0 HITS

Search 2: SUBJECT=”Juvenile and offenders,” “delinquency,” “corrections” or “justice” AND
ABSTRACT=(quasi-random OR placebo OR evaluat*)

YIELD: 69 RETRIEVED, 1 HIT

### 8.2.15 FAMILY AND SOCIETY STUDIES

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* and delinquent*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 103 RETRIEVED, 2 HITS

### 8.2.16 GOOGLE

Note: could not reduce number of hits to less than one million. Terminated Google search.

### 8.2.17 GOOGLE SCHOLAR

Search 1: (experiment* OR controlled OR "control group" OR randomize* OR randomly OR quasi-random OR evaluat* OR "treatment group") AND (Juvenile* OR delinquen*) AND (divert* OR diversion OR court* OR sanction* OR adjud* OR dispos* OR sentenc* OR process* OR petitio* OR waiver*) AND restricted by “social science and humanities field AND restricted by years 1960-2008

YIELD: 2,210 RETRIEVED, 3 HITS (note that Google Scholar only permitted the first 996 records to be reviewed)

### 8.2.18 HUD USER (HOUSING AND URBAN DEVELOPMENT)

Search 1: "Delinquency and juvenile"

YIELD: 5 RETRIEVED, 0 HITS

Search 2: "Juvenile court"

YIELD: 10 RETRIEVED, 0 HITS

Search 3: "Diversion"

YIELD: 30 RETRIEVED, 0 HITS

Search 4: "Juvenile justice"

YIELD: 18 RETRIEVED, 0 HITS

### 8.2.19 INDEX TO CURRENT URBAN DOCUMENTS

Search 1: "Juvenile Court"

YIELD: 22 RETRIEVED, O HITS

Search 2: "Juvenile Delinquency"

YIELD: 35 RETRIEVED, 0 HITS

Search 3: "Administration of Justice"

YIELD: 20 RETRIEVED, 0 HITS

Search 4: "Crime Prevention"

YIELD: 50 RETRIEVED, 0 HITS

Search 5: "Crime Research

YIELD: 28 RETRIEVED, 0 HITS

Search 6: "Program Evaluation"

YIELD: 190 RETRIEVED, 0 HITS

### 8.2.20 INDEX TO FOREIGN LEGAL PERIODICALS & SOCIAL WORK ABSTRACTS

Note: We were able to search these two bibliographic databases together

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* or delinq*)

YIELD: 140 RETRIEVED, 2 HITS

### 8.2.21 IBSS: INTERNATIONAL BIBLIOGRAPHY OF THE SOCIAL SCIENCES

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 1 RETRIEVED, 0 HITS

### 8.2.22 ISI (INSTITUTE OF SCIENTIFIC INFORMATION) CITATION INDEX

Note that ISI does not provide capability to search abstracts (only titles and authors)

Search 1: selected “criminology/penology” citations AND TITLE= (experiment* or outcome* or effect* or impact* or evaluat* or study or assess* or controlled or randomly or randomized or RCT or trial or invest* or treatment or intervention)

YIELD: 115 RETRIEVED, 0 HITS

### 8.2.23 JSTOR

Search 1: FIELD= sociology, psychology, political science, law, African-American studies, economics, education, health policy, health sciences, population policy, public policy and administration AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*)

YIELD: 32 RETRIEVED, 0 HITS

Search 2: TITLE= = (experiment* or outcome* or effect* or impact* or evaluat* or study or assess* or controlled or randomly or randomized or RCT or trial or invest*

or treatment or intervention) AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 416 RETRIEVED, 0 HITS

### 8.2.24 MASTERFILE PREMIERE

Search 1: TITLE=(experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND SUBJECT=juvenile or delinquent*

YIELD: 56 RETRIEVED, 0 HITS

Search 2: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND SUBJECT=evaluat* AND YEAR=1900-1969

YIELD: 7 RETRIEVED, 0 HITS

Search 3: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND SUBJECT=evaluat* AND YEAR=1970-1979

YIELD: 8 RETRIEVED, 0 HITS

Search 4: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND SUBJECT=evaluat* AND YEAR=1980-1989

YIELD: 4 RETRIEVED, 0 HITS

Search 5: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND SUBJECT=evaluat* AND YEAR=1990-1999

YIELD: 26 RETRIEVED, 0 HITS

Search 6: TITLE=(experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND SUBJECT=evaluat* AND YEAR=2000-2008

YIELD: 185 RETRIEVED, 0 HITS

### 8.2.25 MEDLINE

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 125 RETRIEVED, 0 HITS

### 8.2.26 JOURNALS AT OVID

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND ABSTRACT=(Juvenile or delinq*) AND ABSTRACT=(diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND FIELD=social and behavioral science

YIELD: 56 RETRIEVED, 0 HITS

### 8.2.27 NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE

Note: NCJRS presented many search anomalies, e.g., searches would result in 498 retrieved, but limiting further (e.g., by year of publication) would increase rather than decrease the number

Search 1: SUBJECT=STUDIES OR EVALUATION AND YEAR=1900-1959

YIELD: 4 RETRIEVED, 0 HITS

Search 2: SUBJECT=juvenile or delinquent* AND (experiment* or controlled or "control group" or randomize* or randomly or quasi-random or evaluat*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1960-1969

YIELD: 43 RETRIEVED, 0 HITS

Search 3: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1970-1975

YIELD: 68 RETRIEVED, 9 HITS

Search 4: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1976-1980

YIELD: 161 RETRIEVED, 12 HITS

Search 5: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1981-1985

YIELD: 49 RETRIEVED, 4 HITS

Search 6: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1986-1990

YIELD:  31 RETRIEVED, 4 HITS

Search 7: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1991-1995

YIELD: 49 RETRIEVED, 4 HITS

Search 8: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR

"juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=1996-2000

YIELD: 61 RETRIEVED, 1 HIT

Search 9: SUBJECT=STUDIES OR EVALUATION AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND YEAR=2001-2008

YIELD: 42 RETRIEVED, 2 HITS

### 8.2.28 NCJRS FULL TEXT DOCUMENT SEARCH

Search 1: Experiment* and (juvenile or delinq*)

YIELD: 92 RETRIEVED, 3 HITS

Search 2: “Control group” and (juvenile or delinq*)

YIELD: 39 RETRIEVED, 1 HIT

Search 3: (randomly or randomi*) AND (juveni* or delinquen*)

YIELD: 64 RETRIEVED, 1 HIT

Search 4: placebo and (juvenile or delinq*)

YIELD: 1 RETRIEVED, 0 HITS

Search 5: “treatment group” and (juvenile or delinq*)

YIELD: 16 RETRIEVED, 0 HITS

Search 6: quasi and random and (juvenile or delinq*)

YIELD: 0 RETRIEVED, 0 HITS

Search 7: controlled and (juvenile or delinq*)

YIELD: 106 RETRIEVED, 0 HITS

### 8.2.29 PAIS ARCHIVE (PUBLIC AFFAIRS INFORMATION SERVICE)

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 7 RETRIEVED, 0 HITS

### 8.2.30 PAIS INTERNATIONAL (PUBLIC AFFAIRS INFORMATION SERVICE)

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 281 RETRIEVED, 0 HITS

### 8.2.31 PERIODICAL INDEX ONLINE

Search 1: FIELD=”Black Studies,”” Economics,” “Education,” “Law,” “Political Science,” “Psychology,” “Public Administration,” “Social Affairs,” Social Sciences,”” Sociology” AND (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*)

YIELD: 254 RETRIEVED; 0 HITS

### 8.2.32 POLICY FILE

Search 1: ORGANIZATION TYPE=”Societal,” “US Domestic,” and “Foreign and International” AND SUBJECTS="Children, Youth and Families" OR "Conflict Resolution" OR "Crime-Criminal Justice System" OR "Crisis Management" OR "Drugs" OR "Government Systems" OR "Law Enforcement" OR "Urban Politics" OR "Welfare" AND (juvenile or delinquent)

YIELD: 228 RETRIEVED, 0 HITS

### 8.2.33 PSYCHOLOGY AND BEHAVIORAL SCIENCES COLLECTION

Search 1: SUBJECT=juvenile* or delinquen* AND ABSTRACT=(experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR

randomize* OR randomly OR "quasi-random") AND ABSTRACT=(diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 120 RETRIEVED; 0 HITS

### 8.2.34 PSYCINFO (PSYCHOLOGICAL ABSTRACTS)

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 269 RETRIEVED, 6 HITS

### 8.2.35 RECENT REFERENCES RELATED TO THE SOCIAL SCIENCES

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: Note that we misplaced results data for this search

### 8.2.36 SAGE JOURNALS FULL TEXT MANAGEMENT AND ORGANIZATIONAL STUDIES FULL-TEXT

Search 1: Juvenile* OR delinquent

YIELD: 13 RETRIEVED, 0 HITS

### 8.2.37 SAGE SOCIOLOGY FULL TEXT & SAGE POLITICAL SCIENCE FULL TEXT

Note: We searched these two bibliographic databases simultaneously

Search 1: ABSTRACT=(experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND FULL-TEXT=(juvenile* OR delinquen*) AND FULL-TEXT=(diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD=71 RETRIEVED, 0 HITS

### 8.2.38 SAGE URBAN STUDIES FULL-TEXT

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*) AND Subject classification=criminology

YIELD: 82 RETRIEVED, 9 HITS

### 8.2.39 SOCIAL SCIENCE RESEARCH NETWORK

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random")

YIELD: 51 RETRIEVED, 0 HITS

### 8.2.40 SOCIAL SERVICE ABSTRACTS

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 49 RETRIEVED, 4 HITS

### 8.2.41 SOCIOFILE

Search 1: ABSTRACT=(experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 85 RETRIEVED, 0 HITS

### 8.2.42 UNESCO/UNESBIB (UNITED NATIONS ECONOMIC, SOCIAL AND CULTURAL ORGANIZATION)

Search 1: “Juvenile or delinquency” in keyword

YIELD: 171 RETRIEVED, 0 HITS

### 8.2.43 WORLD BANK

Search 1: field=”urban development,” “social development,” “poverty reduction,” “law and development,” “health-nutrition and population,” “education,” “conflict and development,” “communities and settlement”) AND document type=”Impact Evaluation” or “Program or Thematic Evaluation”

YIELD: 103 RETRIEVED, 0 HITS

Search 2: “Juvenile” and “Court”

YIELD: 26 RETRIEVED, 0 HITS

### 8.2.44WORLDWIDE POLITICAL ABSTRACTS

Search 1: (experiment* OR controlled OR controls OR "treatment group" OR placebo OR "control group" OR randomize* OR randomly OR "quasi-random") AND (juvenile* OR delinquen*) AND (diver* OR "juvenile court" OR adjud* OR processing OR petition* OR intake OR release*)

YIELD: 6 RETRIEVED, 0 HITS

## 8.3 LISTING OF STUDIES EXCLUDED AT FINAL SCREENING AND REASONS FOR EXCLUDING

| Study Citation | Reason for Exclusion |
|---|---|
| **Beal and Duckro (1977)** | This is a quasi-experimental evaluation of a diversion program. |
| **Beck et al (2006)** | This is an evaluation of a diversion program in the U.S. It is not a randomized experiment. |
| **Berg et al (1978)** | Randomly assigns truants to different alternatives. In the U.K. system, this is considered a post-adjudicatory or post-sentencing disposition. |
| **Berg et al (1983)** | This experiment randomly assigns truants to different adjournment procedures before a magistrate. Similar to Berg et al. 1978, it takes place at a post-adjudicatory or post-sentencing stage. |
| **Berger et al (1975)** | This experiment randomly assigned youths on probation to be supervised by volunteers or court staff. |
| **Binder and Palmer (1978)** | This experiment randomly assigns youths to a diversion with services condition or to a release condition. No system processing condition is involved. |

| Study Citation | Reason for Exclusion |
|---|---|
| **Burke et al (2003)** | This study was a randomized experiment but it included a mix of pre-adjudicated and post-adjudicated juveniles. It compared an intervention program designed for juvenile delinquent females to juvenile probation. |
| **Byles and Maurice (1979)** | This RCT compares crisis-oriented family therapy after Youth Services Bureau investigation. The control group in the RCT is the investigation alone. Both groups, therefore, intentionally receive the "traditional processing condition," but the crisis-oriented family therapy group also receives treatment. |
| **Carney and Buttell (2003)** | This RCT included a mix of pre-adjudicated and post-adjudicated offenders. Also, the comparison is between wraparound services versus conventional court services, not a system processing condition. |
| **Davidson et al (1977)** | This report describes two RCTs, but both compare diversion with services to a counsel and release condition. |
| **Feis (1990)** | This dissertation study involved random assignment of youth to traditional processing or to perform community services. However, the sample was mixed, including youth who received post-adjudication probation. Also, processing condition was essentially "dismissal of charges" for pre-adjudicatory youth. |
| **Ferwerda et al (2006)** | This Dutch experiment compared a diversion program with release. No system processing condition was included. |
| **Kelley et al (1976)** | This was a quasi-experimental study of a diversion program. |
| **Knott (1974)** | This report does not adequately describe the control group and whether it was a system processing condition. |
| **Litzelfelner (2001)** | This study involved post-adjudicated offenders. |
| **McGarrell and Hipple (2007)** | This study compared two different diversionary alternatives with family group conferencing (another diversion program). No system processing condition was included. |
| **Mitchell et al (1980)** | This randomized experiment examined the impact of a diversion program on the attitudes of the volunteers. |
| **Petersen (1973)** | This study was excluded because it involved a mixed sample of youths and adults (ages 17-23), it did not include an adequate description of the control group (whether it was a processing condition or not), and it did not adequately describe the nature of the assignment and confirm that randomization was used. |
| **Poythress et al (2006)** | This is a randomized experimental evaluation of two diversion programs, and does not include a justice system processing condition. |

| Study Citation | Reason for Exclusion |
|---|---|
| **Rose and Hamilton (1970)** | This is a randomized experiment that assigned juveniles in contact with police to counsel and release or to be supervised by a police juvenile liaison officer. This study was conceptually different than the 29 studies in the sample, all of which compared further system processing in juvenile court to a diversion with service or release condition. Also note that study only reports on boys (although 100 girls were also randomly assigned). No description of the "supervision" condition, which sounds more benevolent than punitive. |
| **Schneider (1981)** | This study randomly assigned status offenders to deinstitutionalizing or to a crisis intervention condition. These were post-adjudication offenders. |
| **Scott et al (2002)** | This study involved post-adjudicatory juveniles. |
| **Shapland (2008)** | One study conducted in Northumbria (UK) randomly assigned youths who received a "final warning" to victim conferencing or to a "stern warning." Both conditions are considered "diversionary" from the normal juvenile court process in the UK system. |
| **Sherman and Strang (2000)** | The violent offenders experiment that randomly assigned persons to restorative justice conference or regular system processing involved persons under age 30 and not just juvenile offenders (under age 18). |
| **Stewart et al (1986)** | This was a quasi-experimental evaluation of a diversion program. |
| **Stratton (1975)** | Compares "crisis-oriented" intervention handling of juveniles booked by police with traditional mode. Excluded because both conditions could result in further system processing. |

# C2 Review: Juvenile Justice System Processing CODING INSTRUMENT

**Coder:**

- ❑ Sarah Guckenburg
- ❑ Carolyn Turpin-Petrosino
- ❑ Anthony Petrosino
- ❑ Other _____

**Citation for Primary Document**:

_____

_____

_____

_____

_____

## I. RESEARCHER AND STUDY CHARACTERISTICS

**What year was the document was published?**_____

**What was the type of document?**

- o Book
- o Book Chapter
- o Government Report
- o Journal (peer reviewed)
- o Dissertation
- o Unpublished (tech report, conference paper)

**In what state or country did the experiment take place?**

_____

**What was the setting for the experiment?**

_____

## II. STUDY METHODS AND METHODOLOGICAL QUALITY

**Were any substantive differences in pretests of group equivalence noted?** (Yes/No)

*If yes, please detail those differences below:*

**How was randomization performed?**

**Were there any randomization problems noted?** (Yes/No)

*If yes, please detail those problems below:*

**Were there any attrition problems noted?** (Yes/No)

*If yes, please detail those problems below:*

At what point in the juvenile justice system were the youths randomized?

**III. TREATMENT AND CONTROL CONDITIONS**

Please describe the juvenile system processing condition below:

_____
_____
_____
_____
_____
_____
_____

Provide any information on what disposition the juveniles received in this condition, if available:

_____
_____
_____

How many participants were randomized to juvenile system group? _____

**Please describe all other alternative groups below:**

1.

2.

3.

4.

5.

**If there is more than one alternative, which group is the least intrusive or harshest?**

_____
_____

*How many participants were randomized to this group?* _____

**IV. PARTICIPANTS IN THE TRIAL**

**Percentage of participants that were white** _____

**Percentage of participants that were male** _____

**Average age of participants** _____

**Prior record of participants**

_____
_____
_____
_____

**Current offenses of participants:**

_____
_____
_____
_____

**Any other data on the participants:**

_____
_____
_____
_____

**V. OUTCOMES**

*For each outcome, please record the following:*

**Length of follow-up (in months)**_____

**Type of Outcome (crime or non-crime)**_____

**Where did data come from** _____

**Juvenile court (N) vs. Control (N) Result**_____

**Direction of Effect** _____

**Statistical test used/Test Value**_____

**Statistically significant/Probability level**_____

**Please detail all subgroup effects below:**

_____
_____
_____
_____
_____
_____

**Please detail all cost/economic information below:**

_____
_____
_____
_____
_____
_____

**ANY OTHER COMMENTS ON THE EXPERIMENT**

## 8.5 FINAL ANALYSIS DATABASE VARIABLES

| |
|---|
| **Study ID** |
| **Coder** |
| **Citation** |
| **Whether Study Conducted by Michigan State University** |
| **Year of Publication** |
| **Published/Unpublished** |
| **Type of region where study conducted (e.g., urban, suburban, rural)** |
| **Were pretests done?** |
| **Were pretest differences reported?** |
| **Did study involve random or quasi-random allocation?** |
| **Was randomization method explicit?** |
| **Were there randomization problems?** |
| **Were there attrition problems?** |
| **At what point in juvenile system did randomization occur?** |
| **Juvenile System Processing N** |
| **Description of System Processing Condition** |
| **Total number of study groups** |
| **Description of Control Group** |
| **Diversion or Diversion with Services?** |
| **Control N** |
| **Percentage White** |
| **Percentage Male** |
| **Mean Age** |
| **Level of prior offending in sample (e.g., high, moderate, low, none)** |
| **Was a specific type of offense targeted (e.g., shoplifting)?** |
| **Current or instant offense type** |
| **Was any economic data provided?** |
| **Total Crime Outcomes** |
| **Outcomes List** |

| |
|---|
| **Total Number of Follow-ups** |
| **Follow-ups List** |
| **Total Prevalence** |
| **Total Incidence** |
| **Total Severity** |
| **Total Latency** |

## 8.6 DESCRIPTIVE DATA ON INCLUDED STUDIES

| Citation | System Processing Treatment | Treatment Group N | Control Group | Control N | Mean Age | % Males | % White | Level of Prior Offending | Current Offense Type |
|---|---|---|---|---|---|---|---|---|---|
| Patrick & Marsh (2005) | Magistrate court | 83 | Education group | 68 | 15 | 55 | 91 | None | Mostly drug |
| Severy & Whitaker (1982) | Processing | | Release | 475 | 15 | 88 | 33 | Low | Mostly property |
| Klein (1986) | Processing | 81 | Counsel and release | 82 | -- | -- | -- | High | Mixed |
| Smith, et al. (1979) | Petition | 26 | Counsel and release | 29 | 15 | 93 | 65 | High | Mixed |
| Baron & Feeney (1976) 602 | Processing | 105 | Family counseling | 111 | -- | -- | -- | Moderate | Mixed |
| Baron & Feeney (1976) 601 | Processing | 612 | Family counseling | 977 | -- | -- | -- | Unknown | Mostly status |
| Dunford, et al. (1982) KC | Processing | 111 | Release | 100 | -- | -- | -- | High | Mixed |
| Dunford, et al. (1982) NY | Processing | 158 | Release | 194 | -- | -- | -- | High | Mixed |

| Citation | System Processing Treatment | Treatment Group N | Control Group | Control N | Mean Age | % Males | % White | Level of Prior Offending | Current Offense Type |
|---|---|---|---|---|---|---|---|---|---|
| Dunford, et al. (1982) FL | Processing | 222 | Release | 220 | -- | -- | -- | None | Mixed |
| Koch (1985) | Processing | 78 | Release | 86 | 15 | 57 | 74 | Low | Mixed |
| Blakely (1981) | Intake | 15 | Diversion program (university staff) | 11 | 14 | 85 | 70 | Unknown | Mixed |
| Davidson II, et al. (1987) | Processing | 60 | Placebo | 300 | 14 | 83 | 74 | High | Mixed |
| Davidson II, et al. (1990) | Processing | 27 | Three diversion programs | 102 | 14 | 84 | 70 | High | Mixed |
| Quay & Love (1977) | Processing | 132 | Diversion program (university staff) | 436 | 16 | 73 | 71 | Moderate | Mostly status |
| Bauer et al. (1980) | Intake | 33 | Diversion program | 99 | 14 | 83 | 74 | High | Mixed |
| Emshoff & Blakely (1983) | Processing | 26 | Two diversion programs | 47 | 15 | 66 | 66 | Unknown | Mixed |

| Citation | System Processing Treatment | Treatment Group N | Control Group | Control N | Mean Age | % Males | % White | Level of Prior Offending | Current Offense Type |
|---|---|---|---|---|---|---|---|---|---|
| Quincy (1981) | Processing | 31 | Diversion program | 59 | -- | -- | -- | Unknown | -- |
| Hintzen, et al. (1979) | Hearing | 65 | Release | 62 | 15 | 90 | 19 | None | Mostly property |
| Smith, et al. (2004) | Processing | 124 | Counsel and release | 134 | 14 | 84 | 9 | Unknown | Mostly property |
| Stickle, et al. (2008) | Processing | 85 | Teen court | 83 | 15 | 71 | 64 | Low | Mixed |
| University Associates (1986) OTSEGO | Processing | 15 | Release | 13 | 15 | 76 | 100 | Low | Mostly property |
| University Associates (1986) BAY | Processing | 71 | Release | 76 | 14 | 86 | 87 | Low | Mostly property |
| University Associates (1986) KALAMAZOO | Processing | 149 | Release | 174 | 14 | 59 | 75 | Low | Mostly property |

| Citation | System Processing Treatment | Treatment Group N | Control Group | Control N | Mean Age | % Males | % White | Level of Prior Offending | Current Offense Type |
|---|---|---|---|---|---|---|---|---|---|
| University Associates (1986) DETROIT | Processing | 124 | Release | 135 | 14 | 34 | 10 | Low | Mostly property |
| Curran, et al. (1977) | Intake | 288 | Diversion program | 306 | 15 | 58 | 72 | Low | Mostly status |
| Sherman, et al. (2000) JPP | Court | 62 | Restorative justice | 73 | 16 | 56 | -- | Unknown | Mostly property |
| Sherman, et al. (2000) JPS | Court | 114 | Restorative justice | 124 | 16 | 84 | -- | Moderate | Mostly property |
| McCold & Wachtel (1998) | Adjudication | 103 | Restorative justice | 189 | 15 | 69 | 35 | Low | Mixed |
| True (1973) | Cite to probation | 6 | Two diversion programs | 8 | 14 | 100 | -- | High | Mostly property |

## 8.7 STUDY OUTCOMES FOR INCLUDED EXPERIMENTS

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Marsh & Patrick (2005)[7] | Recidivism:<br>12m 8% E (7/83) v 13%C (9/68)<br>36m 43%E (34/79) v 50%C (34/68) | None | None | None |
| Severy & Whitaker (1982)[8] | Referrals to Court:<br>6m 21%E (377) v 24%C (475)<br>12m 33%E (377) v 32%C (475) | Mean referrals to court:[9]<br>6m .29E (377) v .54C (475,no SD)<br>12m .35E (377) v .61C (475, no SD) | Escalation from Minor to Serious:<br>6m: E.05% (377) v C3.7% (475)<br>12m: E1.3% (377) v C5.1%(475) | Mean days to referral<br>6m E161 (377) v C158 (475, No SD)<br>12m E294 (377) v C289 (475, No SD) |
| Klein (1986) | Re-arrests:<br>6m 48%E (39/81) v 28%C (23/82)<br>15m 63%E (51/81) v 37%C (30/82)<br>27m 73%E (59/81) v 49%C (40/82)<br><br>Self-report Delinquency:<br>6m 35%E (81) v 35%C (82)<br>12m 62%E (81) v 45%C (82) | % w/2 or more arrests<br>6m E29% (5/81) v 6%C (24/82)<br>15m E41% (13/81) v 16%C (34/82)<br><br>Self-reported delinquency<br>9m: E29.96 (SD17.82, N=81) v. C24.53 (SD 16.00, N=82) | Self-reported severity<br>9m: E5.23 (sd.43, N=81) v C5.13 (SD= .57, N=82) | None |

[7] Other recidivism data were reported but not broken down for treatment versus comparison groups.

[8] Note that this study was also included in Duford et al.'s (1982) National Evaluation of Diversion projects, but the results are slightly different in that cross-site study.

[9] Three-way F tests are reported for these data: at 6m, F=.7 and at 12m, F=.48 (2, 128 df). There is no F for the ITT analyses for latency.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Smith et al (1979) | Re-arrests:<br>6m E35% (N=26) v C35%(N=29)<br>12m E62% (N=26) v 45%C (N=29) | None | None | None |
| Baron & Feeney (1976)<br>602study[10] | Rebookings:<br>7m E38% (105) v C22%(111) | | Criminal rebookings only:<br>7m:E36% (105) v C17% (111)<br><br>Drug/felony rebooking:<br>7m: E25%(105) v C12%(111) | None |
| Baron & Feeney (1976)<br>601 study[11] | Rebookings for status or criminal:<br>12m E46% (526) v C35% (674) | Multiple recidivism (2+ offenses):<br>12m E 32% (526) v C25% (674) | 602 (criminal only) rebookings:<br>12m E23% (526) v C15% (674) | None |
| Dunford et al (1982)[12]<br>Kansas City | All Arrests:<br>6m E41% (44/107) v C45% (43/95)<br>12m E52% (56/107) v C57% (54/95)<br><br>Misd/Felony arrests only:<br>6m E37% (40/107) v C36% (34/95)<br>12m E36% (49/107) v C47% (45/95) | % w/2+arrests (all):[13]<br>6m E17% (18/107) v C18% (17/95)<br>12m E27 (29/107) v C28% (27/95) | %w/felony arrests<br>6m E22% (23/107) v C22% (21/95)<br>12m E22% (28/107) v C24% (23/95) | None |

[10] Data are provided that combine outcomes at referral arrest (that gets youth into program) and any subsequent arrest.

[11] Data presented on number of bookings for new offenses within 12m per 100 cases handled; and net reduction from year 1 to year 2, and combined referral offense and subsequent offense data.

[12] Time x self-reported delinquency interactions reported for all sites but only statistically significant findings on the 10 subscale items reported.

[13] Multiple arrests also reported for felony only, and for misdemeanor-felony only.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Dunford et al (1982)<br>New York | All Arrests:<br>6m E26% (40/152) v C17% (32/193)<br>12m E34% (52/152) v C23% (45/193)<br><br>Misd/Felony Arrests only:<br><br>6m: E26% (40/152) v C17% (32/193)<br>12m: E34% (52/152) v C23% (45/193) | Multiple Arrests (all):<br>6m E14% (22/152) v C10% (20/193)<br>12m E24% (37/152) v C17% (33/193) | Felony Arrests:<br>6m E15% (23/152) v C10% (19/193)<br>12m E21% (32/152) v C16%(30/193) | None |
| Dunford et al (1982)<br>Orange county | Arrests:<br>6m E11% (24/216) v C13% (28/216)<br>12m E18% (38/216) v C18% (38/216)<br><br>Misd/Felony arrests only:<br>6m E11% (23/216) v C12% (27/216)<br>12m E17% (36/316) v C17% (37/216) | None | Felony Arrests:<br>6m E4% (8/216) v C5% (11/216)<br>12m E8% (17/216) v C7%(16/216) | None |
| Koch (1985) | Offenses:<br>4m E14% (78) v C9% (86) | Mean Offending Rate:[14]<br>4m E .14 (78, No SD) v C.12 (86, No SD) | None | None |

[14] F test for self-reported delinquency across three groups is .62 (2, 232). Koch also reported an ITT and TOT analysis and found no difference.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Blakely (1981)[15] | Police Contacts/Court Appearances:<br>6m E18% (2/11) v C20% (3/15) | Mean Police Contacts:<br>6m E.68 (11, no SD) v C.23 (15, no SD)<br><br>Mean Petitions:<br>6m E1.04 (11, no SD) v C.23 (15, no SD) | Mean Severity Police Contacts:<br>6m E.49 (11, no SD) v C.36 (15, no SD)<br><br>Most Severe Police Disposition:<br>6m E.40 (11, no SD) v C.18 (15, no SD)<br><br>Mean Severity Petitions:<br>6m E.02 (11, no SD) v C.01 (15, no SD)<br><br>Most severe court disposition:<br>6m E1.87 (11, no SD) v. C.18 (15, no SD) | None |
| Davidson et al (1987)[16] | Petitions:<br>24m E62% (60) v C52% (29) | None | None | None |
| Davidson et al (1990)[17] | Petitions:<br>24m E68% (27) v C28% (102) | None | None | None |

[15] Blakely also conducted adjusted analyses for time at risk, but three group F tests run. Also presented self-reported delinquency, but three-group F used.

[16] Davidson et al did state they performed a 6x4 F test on self-reported delinquency with no significant condition or interaction effects.

[17] Davidson et al (1990) conducted similar analysis with self-reported delinquency as in 1987 and reported no significant finding.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Quay & Love (1977)[18] | Arrests:<br>Variable E45% (173/436) v C40% (59/132)<br><br>All Arrests<br><br>To 300 days: E30% (436) v C40% (132)<br><br>Post-Program Only:<br>Variable E45% (136/436) v C32% (59/132, z=3.78) | Mean Arrests:<br>Variable E1.00 (436, no SD) v C.86 (132, no SD) | Against the Person Arrests:<br>Variable E11% (436) v C8% (132) | None |
| Bauer et al. (1980) | Recidivism:<br>24m E16% (33) v C7% (99) | None | None | None |
| Emshoff & Blakely (1983) | None | Mean police contacts:<br>6m E.98 (I26, No SD) v C.96 (47, No SD)<br><br>F test for incarceration favors C (F=3.83)[19] | None | None |

[18] Quay & Love (1977) also report TOT analysis that shows significant impact for treatment completers. They also conduct F test that combines referral type by mean offenses.

[19] Emshoff & Blakely (1983) reported a two-group F for incarceration by combining the two treatment conditions.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Quincy (1981)[20] | Offenses:<br>3m Chi=4.75 (E=59, C=31, Favors C)<br>6m Chi=1.76 (E=59, C=31, Favors C)<br><br>Petitions:<br>3m Chi= .94 (E=59, C=31, Favors C)<br>6m Chi= .41 (E=59, C=31, favors C) | Self-reported delinquency:<br>6m: F=test for composite (E=59, C=31; F=1.40) | None | None |
| Hintzen et al (1979) | Recidivism (referrals):<br>6m E6% (2/36) v C27% (9/34)<br>12m E25% (8/32) v C31% (11/35)<br>24m E42% (27/65) v C29% (18/61)<br>36m E54% (35/65) v C46% (28/62)[21]<br><br>Arrests as Adults Only:<br>108m E15% v (28/65) C14% (26/62)<br><br>Misdemeanors Only:<br>108m E14% (26/65) v C13% (25/62)<br><br>Burglary Arrests (Juvenile arrests only):<br>36m E14% (9/65) v C13% (8/62)<br><br>Burglary Arrests (Adult):<br>108m E3% (6/65) v C4% (7/62) | | Felony arrests:<br>108m E6% (12/65) v C6% (12/62) | |
| Smith et al. (2004)[22] | Recidivism:<br>12m E34% (124) v C32% (134) | None | None | None |

[20] Quincy (1981) did report three month to six-month comparisons for both groups.

[21] There is one conflicting number in the report (with one table showing C with 42% rather than 46% recidivism).

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Stickle et al. (2008) | Recidivism:<br>18m E26% (51) v C32% (52) | Mean Arrests:<br>18m E.53 (52, No SD) v C.75 (51, No SD)<br><br>Mean Self-Reported Del<br>18m E 1.16 (33, SD.25) v C1.31 (42, SD .32) | None | None |
| University Associates (1986) OTSEGO, CRAWFORD, CHEBOYGAN | Petitions:<br>12m E20% (15) v C15% (13) | Self-Reported Delinquency:<br><br>4m E17.85 (13, no SD) v C8.92 (12, No SD)<br>12m E36.38 (13, no SD) v C21.17 (12, No SD) | None | None |
| University Associates (1986) BAY COUNTY | Petitions:<br>12m E30% (71) v C29% (76) | Self-Reported Delinquency:<br><br>4m E24.47 (60, no SD) v C21.97 (65, no SD)<br>12m E31.23 (60, no SD) v C19.92 (65, no SD) | None | None |

[22] Smith et al (2004) also report a non-significant F test for interaction for condition by time.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| University Associates (1986) KALAMAZOO | Petitions:<br>12m E25% (149) v C26% (174) | Self-Reported Delinquency:<br><br>4m: E15.90 (131, no SD) v C14.25 (146, no SD)<br>12m E20.52 (131, no SD) v C16.82 (146, no SD) | None | None |
| University Associates (1986) DETROIT | Petitions:<br>12m E34% (124) v C32% (135) | Self-reported Delinquency:[23]<br><br>4m E15.87 (115, no SD) v C19.42 (128, no SD)<br>12m E19.50 (115, no SD) v C16.27 (128, no SD) | None | None |
| Curran et al. (1977)[24] | Petition/New offense:<br>12m E63% (288) v C35% (306) | None | None | None |
| Sherman et al. (2000) Juvenile Property Offenders | Offending:<br>12m: E78% (115) v C92% (124) | Offending Rate:<br>12m: E.068 v C.067 (t= .573, d= .07)<br><br>Mean reconvictions<br>12m: E.69 (114, SD 2.1) v C1.02 (124, SD2.68), d= .14<br><br>Self-reported property crime:<br>12m E21 (115) v C38 (124), t=1.318, d= .23 | Self-reported violent crime:<br>12m E14 (115) v C20 (124), (t= .662, d= .16) | None |

[23] University Associates (1986) reported a non-significant three-way F test for self-report data.

[24] Curran et al (1977) reported many other analyses, but they did not include breakdown for experimental versus control groups.

| Study (Year) | PREVALENCE | INCIDENCE | SEVERITY | LATENCY |
|---|---|---|---|---|
| Sherman et al. (2000)<br>Juvenile Shoplifters | Change in Monthly Offending:<br>12m E81% (62) v C120% (73) | Monthly offending rate:<br>12m E.065 (62) v C.046 (73), t=1.095, d= .19<br><br>Mean reconvictions:<br>12m E.82 (62, SD 1.52) v C.57 (73, SD 1.71), d= .15<br><br>Self-reported property:<br>12m: E26 (62) v C67 (73), t=1.361, d= .30 | Self-reported violent:<br>12m: E3 (62) v C16 (73)<br>t=1.528, d= .51 | None |
| McCold & Wachtel (1998)[25] | Recidivism:<br>6m: E12% (107) v C21%(188)<br>12m: E25% (79) v C35% (143) | None | None | None |
| True (1973) | Re-offending:<br>2m: E33% (6) v C63% (8)<br>4m: E50% (6) v C75% (8) | None | None | None |

[25] We combined the violent and property offender analyses that had been reported separately by McCold and Wachtel (1998).