“Scared Straight” and Other Juvenile Awareness Programs for Preventing Juvenile Delinquency

Anthony Petrosino, Carolyn Turpin Petrosino, John Buehler
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| **Institution** | The Campbell Collaboration |
| **Authors** | Petrosino, Anthony  
Turpin-Petrosino, Carolyn  
Buehler, John |
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**Co-registration**  
This review is co-registered within both the Cochrane and Campbell Collaborations. A version of this review can also be found in the Cochrane Library.

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Anthony Petrosino: searching for studies, screening studies, extracting data, conducting analyses, drafting report.  
Carolyn Turpin-Petrosino: screening studies, extracting data, drafting report.  
John Buehler: statistical analyses, drafting report.

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**Potential Conflicts of Interest**  
Two of the authors published an article in the journal Crime & Delinquency that indicated a harmful effect for these programs, based on preliminary analyses (Petrosino 2000b). Any potential bias toward ‘replicating’ the earlier Crime & Delinquency findings here is counterr-balanced by the explicit and transparent methods used.

**Corresponding author**  
Anthony Petrosino  
5 Northern Boulevard  
Box 1606  
Amherst, NH 03031  
USA  
E-mail: anthony_petrosino@harvard.edu or petrosan@gse.harvard.edu
The Campbell Collaboration (C2) was founded on the principle that systematic reviews on the effects of interventions will inform and help improve policy and services. C2 offers editorial and methodological support to review authors throughout the process of producing a systematic review. A number of C2's editors, librarians, methodologists and external peer-reviewers contribute.

The Campbell Collaboration
P.O. Box 7004 St. Olavs plass
0130 Oslo, Norway
www.campbellcollaboration.org
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Consumer Synopsis

Programs like 'Scared Straight' involve organized visits to prison facilities by juvenile delinquents or children at risk for becoming delinquent. The programs are designed to deter participants from future offending by providing first-hand observations of prison life and interaction with adult inmates. Results of this review indicate that not only does it fail to deter crime but it actually leads to more offending behavior. Government officials permitting this program need to adopt rigorous evaluation to ensure that they are not causing more harm to the very citizens they pledge to protect.
BACKGROUND

'Scared Straight' and other programs involve organized visits to prison by juvenile delinquents or children at risk for criminal behavior. Programs are designed to deter participants from future offending through first-hand observation of prison life and interaction with adult inmates.

OBJECTIVES

To assess the effects of programs comprising organized visits to prisons by juvenile delinquents (officially adjudicated or convicted by a juvenile court) or pre-delinquents (children in trouble but not officially adjudicated as delinquents), aimed at deterring them from criminal activity.

SEARCH STRATEGY

Searches by the first author in identifying randomized field trials 1945-1993 relevant to criminology was augmented by structured searches of 19 electronic data bases, including the Campbell SPECTR database of trials and the Cochrane CCTR. Experts in the field were consulted and relevant citations were followed up.

SELECTION CRITERIA

Studies that tested the effects of any program involving the organized visits of juvenile delinquents or children at-risk for delinquency to penal institutions were included. Studies that included overlapping samples of juvenile and young adults (e.g. ages 14-20) were also included. We only considered studies that randomly or quasi-randomly (i.e. alternation) assigned participants to conditions. Each study had to have a no-treatment control condition with at least one outcome measure of "post-visit" criminal behavior.
DATA COLLECTION AND ANALYSIS

We report narratively on the nine eligible trials. We conducted one meta-analysis of post-intervention offending rates using official data. Information from other sources (e.g. self-report) was either missing from some studies or critical information was omitted (e.g. standard deviations). We examined the immediate post-treatment effects (i.e. 'first-effects') by computing Odds Ratios (OR) for data on proportions of each group re-offending, and assumed both fixed and random effects models in our analyses.

RESULTS

The analyses show the intervention to be more harmful than doing nothing. The program effect, whether assuming a fixed or random effects model, was nearly identical and negative in direction, regardless of the meta-analytic strategy.

AUTHORS’ CONCLUSIONS

We conclude that programs like 'Scared Straight' are likely to have a harmful effect and increase delinquency relative to doing nothing at all to the same youths. Given these results, agencies we cannot recommend this program as a crime prevention strategy. Agencies that permit such programs, however, must rigorously evaluate them not only to ensure that they are doing what they purport to do (prevent crime) - but at the very least they do not cause more harm than good to the very citizens they pledge to protect.
Does taking juveniles on tours of prison deter them from future crime and delinquency?

The Policy Question
A recent Illinois law mandates the Chicago Public Schools to identify children at-risk for future criminal behavior and take them on tours of adult prison facilities. The law revisits the long history of using programs like 'Scared Straight,' which involve organized visits to prison facilities by juvenile delinquents or children at risk for becoming delinquent. The programs are designed to deter participants from future offending by providing first-hand observations of prison life and interaction with adult inmates. Do they work to reduce crime and delinquency by participants?

Results of the Campbell Collaboration Review
Results of this review indicate that not only does it fail to deter crime but it actually leads to more offending behavior. Government officials permitting this program need to adopt rigorous evaluation to ensure that they are not causing more harm to the very citizens they pledge to protect.

Methods
Review authors conducted a vigorous search for randomized [or seemingly randomized] studies evaluating the effects of Scared Straight or similar programs on subsequent offending. They located nine randomized studies, in which seven provided outcome data making it possible to include them in a quantitative procedure known as meta-analysis. It was only possible to do this for the “first post-treatment effect,” as most studies did not report measurements at subsequent time intervals. Unfortunately, little information on incidence, severity and latency measures was provided, so the meta-analysis was completed on prevalence data only (the proportion of each group that failed or succeeded).

In the graph below, the seven studies used in the meta-analysis are analyzed and plotted using a “Forrest Graph.” The study’s author(s) are provided in the left column, followed by the number of participants who were arrested (or committed a new offense) compared to their total number for treatment and control groups.
Treatment groups received Scared Straight or a similar program while control groups did not receive the intervention. The important thing in the graph is that odds ratios larger than ‘1’ favor the control group while odds ratios lower than ‘1’ favor the experimental group. In nearly all of the studies, the odds ratios favor the control groups, and the overall meta-analysis is negative for the program.

1.2 EMERGENT POLICY CONCERNS

On August 18, 2003, Illinois Governor Rod Blagojevich signed a bill into law that mandates the Chicago Public School system set up a program called "Choices" (United Press International 2003). The program would identify students at risk for committing future crime and set up a program to give them "tours of state prison" to discourage any future criminal conduct (Long and Chase, 2003). As the news article makes clear, policymakers had good reasons for passing the law. Parents of young children were desperate to find ways to deter their kids from a life of crime. With some youth (even at ages 11 and 12) getting involved early in gangs, there was mounting pressure on policymakers to intervene early in their lives to dissuade them from potentially more serious behavior. The Governor himself is quoted as saying that the law is intended to "give some kids a chance to see what happens if they don't follow the rules, follow the law, and what's ahead for them if they don't do that" (Long and Chase, 2003, p. 1).

This is only the surface of the discussion that was briskly reported in the Chicago Tribune article. There was certainly some opposition to it, and some of this criticism reflected upon prior research about similar programs. Indeed, one opponent said that the prison tours were an attempt to resurrect "Scared Straight" type programs, which had been found to be ineffective in curbing delinquency (Long and Chase, 2003, p. 1). Is this true? Or is Illinois government right on target by introducing this law?

Answering such a question requires an examination of the scientific evidence. In this Campbell update, we report the results of a systematic review of the nine randomized experiments of Scared Straight and other prison tour programs (also
referred to as juvenile awareness or prison awareness programs). Of course, prior research is no guarantee that interventions will work (or not work) in a future setting. But a reader might ask herself the following question upon reading the results of this systematic review: would I want a doctor to prescribe a treatment for my child that has the same track record of research results?
2 Background

In the 1970s, inmates serving life sentences at a New Jersey (USA) prison began a program to 'scare' or deter at-risk or delinquent children from a future life of crime. The program, known as 'Scared Straight,' featured as its main component an aggressive presentation by inmates to juveniles visiting the prison facility. The presentation depicted life in adult prisons, and often included exaggerated stories of rape and murder (Finckenauer 1982). A television documentary on the program aired in 1979 provided evidence that 16 of the 17 delinquents remained law-abiding for three months after attending 'Scared Straight' - a 94% success rate (Finckenauer 1982). Other data provided in the film indicated success rates that varied between 80% and 90% (Finckenauer 1982). The program received considerable and favorable media attention and was soon replicated in over 30 jurisdictions nationwide, resulting in special Congressional hearings on the program and the film by the United States House Committee on Education and Labor, Subcommittee on Human Resources (US House Committee on Education and Labor 1979).

The underlying theory of programs like 'Scared Straight' is deterrence. Program advocates and others believe that realistic depictions of life in prison and presentations by inmates will deter juvenile offenders (or children at risk for becoming delinquent) from further involvement with crime. Although the harsh and sometimes vulgar presentation in the earlier New Jersey version is the most famous, inmate presentations are now sometimes designed to be more educational than confrontational but with a similar crime prevention goal (Finckenauer 1999; Lundman 1993). Some of these programs featured interactive discussions between the inmates and juveniles, also referred to as 'rap sessions.' Programs featuring inmates as speakers who describe their life experiences and the current reality of prison life have a rather long history, in the United States at least (Brodsky 1970; Michigan D.O.C 1967). It is not surprising why such programs are popular: they fit with common notions by some on how to prevent or reduce crime (by 'getting tough'); they are very inexpensive (a Maryland program was estimated to cost less than $1 US per participant); and they provide one way for incarcerated offenders to contribute productively to society by preventing youngsters from following down the same path (Finckenauer 1982).

A randomized controlled trial of the New Jersey program was published in 1982, however, reported no effect on the criminal behavior of participants in comparison
with a no treatment control group (Finckenauer 1982). In fact, Finckenauer reported that participants in the experimental program were more likely to be arrested. Other randomized trials reported in the USA also questioned the effectiveness of 'Scared Straight' -type programs in reducing subsequent criminality (Greater Egypt Regional Planning & Development Commission, 1979, Lewis 1983). Consistent with these findings, reviewers of research on the effects of crime prevention programs have not found deterrence-oriented programs like 'Scared Straight' effective (Sherman et al. 1997, Lipsey 1992). In fact, the University of Maryland’s well-publicized review of over 500 crime prevention evaluations listed "Scared Straight" as one program that doesn't work (Sherman et al. 1997). The Surgeon General’s Report on Youth Violence reviewed preventive and other strategies and reached the same conclusion about "Scared Straight" (US Department of Health and Human Services 2001).

Despite the convergence of evidence from studies and reviews, 'Scared Straight' type programs remain popular and continue to be used in the United States (Finckenauer and Gavin 1999). For example, a program in Carson City, Nevada (USA) brings juvenile delinquents on a tour of an adult Nevada State Prison (Scripps 1999). One youngster claimed that the part of the tour that made the most impact on him was 'All the inmates calling us for sex and fighting for our belongings' (Scripps 1999).

The United Community Action Network has its own program called 'Wisetalk' in which at-risk youth are locked in a jail cell for over an hour with 4-5 parolees. They claim that only 10 of 300 youngsters exposed to this intervention have been re-arrested (United Community Action Network 2001). In 2001, a group of guards - apparently without the knowledge of administrators - strip-searched Washington DC students during their tours of a local jail under the guise of that they were using "a sound strategy to turn around the lives of wayward kids" - claiming the prior success of 'Scared Straight' (Blum and Woodlee 2001).

'Scared Straight' and other 'kids visit prison' programs are also used in several other nations. For example, it is called the 'day in prison' or 'day in gaol' in Australia (O’Malley et al. 1993), 'day visits' in the United Kingdom (Lloyd 1995), and the 'Ullersmo Project' in Norway (Storvoll and Hovland 1998). Hall (Hall 1999) reports positively on a program in Germany designed to scare straight young offenders with ties to Neo-Nazi and other organized hate groups. The program has been also tried in Canada (O’Malley et al 1993).

In 1999, 'Scared Straight: 20 Years Later' was shown on United States television and claimed similar results to the 1979 film (UPN 1999; 'Kids and Crooks,' 1999). In this version, the film reports that 10 of the 12 juveniles attending the program have remained offense free in the three months follow-up (Muhammed 1999). As in the 1979 television programmed, no data on a control or comparison group of young people were presented. Positive reports and descriptions of Scared Straight type programs have also been reported elsewhere (e.g. in Germany [Hall 1999], and in
Florida [Rasmussen 1996]), although it is sometimes embedded as one component in a multi-component juvenile intervention package (Trusty 1995, Rasmussen 1996).

In 2000, Petrosino and his colleagues reported on a preliminary systematic review of nine randomized field trials, drawing on the raw percentage differences in each study. They found that programs such as 'Scared Straight' generally increased crime between 1% and 28% in the experimental group when compared to a no-treatment control group. In 2002, our formal Campbell review was published (simultaneously with the Cochrane Collaboration) - updating the 2000 work and utilizing more sophisticated meta-analytic techniques. We reported similarly negative findings for Scared Straight and juvenile awareness programs. This documents updates that work via new and extended searches, additional analyses, and edits where necessary.
3 Objectives

To assess the effects of programs comprising organized visits to prisons of juvenile delinquents (officially adjudicated or convicted by a juvenile court) or pre-delinquents (children in trouble but not officially adjudicated as delinquents), aimed at deterring them from criminal activity.
4 Methodology

4.1 CRITERIA FOR CONSIDERING STUDIES FOR THIS REVIEW

4.1.1 Types of studies

Only those studies that used random or "seemingly" (i.e. quasi) random procedures (i.e. alternating every other case to one group or odd/even assignment) to assign participants were included, provided they had a no-treatment control group.

4.1.2 Types of participants

Only studies involving juveniles, i.e. children 17 years of age or younger, or overlapping samples of juveniles and young adults (e.g. "ages 13-21"), were included. There was only one such study in this review and the authors used an upper age range of 19 years (Locke 1986). Studies with delinquents and/or pre-delinquents were included.

4.1.3 Types of intervention

Only studies that featured as its main component a visit by program participants to a prison facility were included. Most of the programs included a presentation by the inmates, ranging from graphic (Finckenauer 1982) to educational (Cook 1992). Programs sometimes featured an orientation session (living as a prisoner for 8 hours, etc.) or a tour of the facility.

4.1.4 Types of outcome measures

Studies had to include at least one outcome of subsequent offending behavior, as measured by such indices as arrests, convictions, contacts with police, or self-reported offences. The interest of citizens, policy and practice decision-makers, media, and the research community is in whether 'Scared Straight' and other 'kids visit prison' programs have any effect on these measures. Although we do not analyze them, we list other 'non-crime' measures and their effects (e.g. attitudinal, educational) reported by evaluators in case subsequent reviewers in the Cochrane or
Campbell Collaborations require them to identify potentially eligible studies. Such a list can also be helpful in identifying any unintended benefits or consequences of the program.

### 4.2 SEARCH STRATEGY FOR IDENTIFICATION OF STUDIES

In order to minimize potential for publication bias (the possibility journals are more likely to publish findings that reject the null hypothesis and find programs to be more effective than unpublished literature generally does), we conducted a search strategy designed to identify published and unpublished studies. We also conducted a comprehensive search strategy to minimize potential for discipline bias, i.e. evaluations reported in criminological journals or indexed in field-specific abstracting data bases might differ from those reported in psychological, sociological, social service, public health or educational sources.

First, randomized experiments were identified from a larger review of field trials in crime reduction conducted by the first author (Petrosino 1997). Petrosino had used the following methods to find more than 300 randomized experiments: (1) hand search (i.e. visually inspecting the entire contents) of 29 leading criminology or social science journals; (2) checking the citations reported in the ‘Registry of Randomized Experiments in Criminal Sanctions’ (Weisburd 1990); (3) detailed electronic searches of Criminal Justice Abstracts, Sociological Abstracts and Social Development and Planning Abstracts (Sociofile), Education Resource Information Clearinghouse (ERIC) and Psychological Abstracts (PsycINFO); (4) searches by information specialists of 18 bibliographic databases, including the National Criminal Justice Reference Service (NCJRS); (5) an extensive mail campaign with over 200 researchers and 100 research centers; (6) published solicitations in association newsletters; (7) tracking of references in over 50 relevant systematic reviews and literature syntheses; and (8) tracking of references in relevant bibliographies, books, articles, and other documents. More detail about these search methods can be found in Petrosino (Petrosino 1995, Petrosino 1997). The citations found in Petrosino (Petrosino 1997) covered literature with a publication date between January 1, 1945 and December 31, 1993. Seven randomized trials meeting the eligibility criteria were identified from this sample.

Second, we augmented this work with searches designed to uncover experiments missed by Petrosino (Petrosino 1997) and to cover more recent literature (1994-2001). These methods included: (1) broad searches of the Campbell Collaboration Social, Psychological, Educational & Criminological Trials Register (C2-SPECTR) developed by the U.K. Cochrane Centre and now supervised by the University of Pennsylvania Graduate School of Education (Petrosino et al 2000); (2) check of citations from more recent systematic or traditional reviews to provide coverage of
more recent studies (e.g. Sherman et al. 1997; Lipsey and Wilson 1998); (3) citation checking of documents relevant to 'Scared Straight' and like programs (e.g. Finckenauer and Gavin 1999); (4) email correspondence with investigators; and (5) broad searches of the Cochrane Controlled Trials Register [CENTRAL] in the Cochrane Library (Issue 1, 2002). By broad searches, we mean that we tried to first identify studies relevant to crime or delinquency and then visually scanned the citations or abstracts to see if any were relevant to this intervention. For example, we used words like 'crime,' 'justice,' 'law,' 'offender,' 'delinquency,' and so on to identify a large potential pool of studies and then went through these to determine if any were relevant to this review.

Third, we decided to conduct a more specific search of 14 available electronic databases relevant to the topic area. Many of these include published and unpublished literature (e.g. dissertations or government reports). Searches were done online using available Harvard University resources or other databases freely searchable via the Internet. Several trips were made to the University of Massachusetts, Lowell to use Criminal Justice Abstracts and other Silver Platter data bases not accessible at Harvard University or via the Internet. The bibliographic data bases and the years searched were:

- Current Contents, 1993-2001
- Education Full Text, June 1983-October 2001
- ERIC (Education Resource Information Clearinghouse) 1966-2001
- MEDLINE 1966-2001
- National Clearinghouse on Child Abuse and Neglect (through 2001)
- NCJRS (National Criminal Justice Reference Service) - through 2001
- Political Sciences Abstracts, 1975-March 2001
- PAIS International (Public Affairs Information Service), 1972-October 2001
- PsycINFO (Psychological Abstracts) 1987-November 2001
In addition, the Cochrane Developmental, Psychosocial and Learning Disorders Group (the editorial group that handled the inaugural review and is responsible for the simultaneous Cochrane review) conducted searches of its specialized trial register. This trial register is broad, covers a wide range of bibliographic databases, and is international in scope. Details on searches used by the CDPLDG to build and maintain its register are provided in the Cochrane Library (2003, Issue 4).

We anticipated that the amount of literature on 'Scared Straight' would be of moderate size - and that our best course of action would be to identify all citations relevant to the program and screen them for potential leads to eligible studies. This removed the need to include keywords for identifying randomized trials (e.g. 'random assignment') in our searches. After several trial runs, we found that nearly all documents used phrases like 'Scared Straight' or 'juvenile awareness' in the title or abstract of the citation. Therefore, the following searches were run in each relevant database to identify relevant citations:

- 'scared straight'
- ('prison' or 'jail' or 'reformatory' or 'institution') and ('orientation' or 'visit' or 'tour')
- 'prisoner run' or 'offender run' or 'inmate run'
- 'prison awareness' or 'prison aversion' or 'juvenile awareness'
- ('rap session' or 'speak out' or 'confrontation') and ('prisoner' or 'lifer' or 'inmate' or 'offender')

4.2.1 Search Methods Update

We extended our searches for all previously mentioned databases through to November 2003. This includes recent searches of both C2SPECTR and CENTRAL. We also accessed resources provided by the Campbell Crime and Justice Group at www.aic.gov.au/campbellcj under "Searching for Studies." In addition, we took advantage of access to bibliographic databases made available since the Inaugural Review publication. We conducted new searches at the Chelmsford Public Library,
via Bridgewater State College's online access, and at the University of Massachusetts. We searched all available years in new databases. These were:

- Expanded Academic ASAP 1980-2003
- Social Service Abstracts 1980-2003
5 Methods of the Review

5.1 SELECTION OF TRIALS

The search methods (excluding the Internet searches, which generated thousands of websites) generated over 500 citations, most of which had abstracts. Anthony Petrosino (AP) initially screened these citations, determining that 30 were evaluation reports. AP and Carolyn Turpin-Petrosino (CTP) independently examined these citations and agreed that 11 were potential randomized trials. All reports were obtained. Upon inspection of the full text reports, we excluded two studies. One study was excluded because it did not include any post-program measure of offending. This was an evaluation of the 'Project Aware' program conducted in a Wisconsin prison (Dean 1982). Attempts to contact the author or retrieve these data from any other reports by the Wisconsin Department of Corrections have been unsuccessful. A second study of 'Stay Straight,' conducted in Hawaii, was also excluded due to the absence of random assignment (Chesney-Lind 1981). After the two exclusions, we were left with nine randomized trials. We did not find any ongoing trials.

5.1.1 Selection of Trials Update

Our search strategies resulted in relatively few citations to new literature; for example, some of these were to our own earlier published reviews and papers. AP scanned each citation and determined that none were to trials relevant to this review. A positive descriptive report was identified of a juvenile awareness program involving aggressive students taken to prison (O'Donnell and White 2001), but no evaluative data were reported. In the process of this update, we did learn of an evaluation of a "Scared Straight" program for truants, but this did not involve randomization (as we learned of this through a journal's peer review process, we cannot yet reveal the authors' names or citation. We have been told that this evaluation is in the journal's "revise and resubmit" stage, and once published, we will cite it as an excluded study).
5.2 ASSESSMENT OF METHODOLOGICAL QUALITY

There are many factors in which to grade the quality of studies. Complicating any assessment of methods is that review teams, by and large, must rely on written reports by investigators. In some cases, methodology sections may be briskly written (sometimes due to journal space requirements) and key features of design and analysis may be deleted or considerably condensed. We determined that four were most critical to criminological experiments and practical to extract from the experimental reports. These were:

1) Randomization integrity
Did the investigators report that randomization of participants to experimental or control conditions experience serious violation or subversion of random assignment procedures?

2) Attrition from initial sample
Did the investigators report major attrition or loss of participants from the sample initially randomized? [Our initial definition of major attrition was a loss of 25% or more from the initially randomized sample but we later dropped this classification.]

3) Blinding of outcome assessors
Did the investigators report that any steps were taken to 'blind' those responsible for collecting the outcome data to treatment assignment?

4) Fidelity of program implementation
Did the investigators report that the program was so poorly implemented that the evaluation was not an accurate assessment of the effectiveness of the intervention? Any studies that reported deficiency on one or more of these criteria would be examined for impact on the meta-analysis through sensitivity analysis. In a sensitivity analysis, we drop the study from the meta-analysis to ascertain its effect on results.

5.3 DATA MANAGEMENT AND EXTRACTION

AP extracted data from each of the nine main study reports using a specially designed instrument. The data collection instrument was adapted from Petrosino's earlier study (Petrosino 1997); some items are listed in the 'Table of Included Studies.' In cases in which outcome information was missing from the original reports, we made attempts via email and regular mail correspondence to retrieve the data for the analysis from the original investigators. Investigators were helpful but unable to locate additional data. In two cases we retrieved unpublished Masters' theses from University Libraries to see if they contained this information (Cook 1990; Locke 1984). They did not.
5.4 DATA SYNTHESIS

We ran statistical analyses using Cochrane Collaboration's MetaView statistical software, a component of Review Manager Version 4.1 (RevMan). We expressed dichotomous outcome measures of crime as Odds Ratios (OR) and continuous measures of crime as weighted mean differences (WMD). We reported the 95% Confidence Intervals (CI) for both. Both fixed and random effects models were assumed in weighting treatment effects across the randomized trials. We planned to examine these effects at follow-up intervals of 0-6 months, 7-12 months, 13-18 months, 19-24 months, and beyond 2 years. As we explain later, it was only possible to conduct meta-analysis for "first effect" only.

These were repeated, and additional analyses run, using Meta Analyst software created by Dr. Joseph Lau of the New England Cochrane Center. One of us (John Buehler) also created meta-analytic formulae in Excel to double-check three of the analyses. Results were identical.
6 Results

Collectively, the nine studies were conducted in eight different states of the USA, with Michigan the site for two studies (Yarborough 1979; Michigan D.O.C 1967). No set of researchers conducted more than one experiment. The studies span the years 1967-1992. The first five studies located were unpublished and were disseminated in government documents or dissertations; the remaining four were found in academic journal or book publications. The average age of the juvenile participants in each study ranged from 15 to 17. Only the New Jersey study included girls (Finckenauer 1982). Racial composition across the nine experiments was diverse, ranging from 36% to 84% white. Nearly 1000 (946) juveniles or young adults participated in the nine experimental studies.

Most of the studies dealt with delinquent youths already in contact with the juvenile justice system. All of the experiments were simple two-group experiments except Vreeland’s evaluation of the Texas Face-to-Face program (Vreeland 1981). Only one study used quasi-random alternation techniques to assign participants (Cook 1992); the remaining studies claimed to use randomization although not all were explicit about how such assignment was conducted. Only the Texas study (Vreeland 1981) included data from self-report measures. In two studies (Cook 1992; Locke 1986), no post-intervention offending rates were reported. Some of the studies that did include average or mean rates did not include standard deviations to make it possible to compute the weighted mean effect sizes. Also, the follow-up periods were diverse and included measurements at 3, 6, 9, 12, and 24 months.

6.1 NARRATIVE FINDINGS FROM THE REPORTS

Whether relying on the actual data reported or measures of statistical significance, the nine trials do not yield evidence for the effectiveness of 'Scared Straight' and other juvenile awareness programs on subsequent delinquency. ‘

Michigan Department of Corrections (1967)
In an internal, unpublished government document, the Michigan Department of Corrections reported a trial testing a program that involved taking adjudicated juvenile boys on a tour of a state reformatory. Unfortunately, the report is remarkably brief. Sixty juvenile delinquent boys were randomly assigned to attend
two tours of a state reformatory or to a no-treatment control group. Tours included 15 juveniles at a time. No other part of the program is described. Recidivism was measured as a petition in juvenile court for either a new offense or a violation of existing probation order. The Michigan Department of Corrections found that 43% of the experimental group re-offended, compared to only 17% of the control group. This large negative result curiously receives little attention in the original document.

**The Greater Egypt Planning and Development Commission, Illinois, USA (1979)**

This program at the Menard Correctional Facility started in 1978 and is described as a frank and realistic portrayal of adult prison life. The researchers randomly assigned 161 youths aged 13-18 to attend the program or a no-treatment control. The participants were a mix of delinquents or children at-risk of becoming delinquent. Participants were compared on their subsequent contact with police, on two personality inventories (Piers-Berne and Jesness) and surveys of parents, teachers, inmates and young people. The outcomes are also negative in direction but not statistically significant, with 17% of the experimental participants being re-contacted by police in contrast to 12% of the controls (GERP&DC 1979). The authors concluded that 'Based on all available findings one would be ill advised to recommend continuation or expansion of the juvenile prison tours. All empirical findings indicate little positive outcome, indeed, they may actually indicate negative effects' (p. 19). Researchers report no effect for the program on two attitude tests (Jesness Inventory, Piers Harris Self-Concept Scale). In contrast, interview and mail surveys of participants and their parents and teachers indicated unanimous support for the program (p.12). Researchers also note how positive and enthusiastic inmates were about their efforts.

**Michigan JOLT Study, USA (Yarborough 1979)**

In the Juvenile Offenders Learn Truth (JOLT) program, juvenile delinquents in contact with one of four Michigan county courts participated. Each juvenile spent five total hours in total in the facility. Half of this time was spent in a confrontational 'rap' session. This followed a tour of the facility, during which participants were escorted to a cell and exposed to interaction with inmates (e.g. taunting). In the evaluation, 227 youngsters were randomly assigned to JOLT or to a no-treatment control. Participants were compared on a variety of crime outcomes collected from participating courts at three and six month follow-ups. This second Michigan study reported very little difference between the intervention and control group (Yarborough 1979). The average offense rate for program participants, however, was .69 compared to .47 for the control group. Yarborough (p. 14) concluded that, "...the inescapable conclusion was that youngsters who participated in the program, undergoing the JOLT experience, did no better than their control counterparts."
Virginia Insiders Program, USA (Orchowsky and Taylor 1981)
The Insiders Program was described as an inmate-run, confrontational intervention with verbal intimidation and graphic descriptions of adult prison life. Juveniles were locked in a cell 15 at a time and told about the daily routine by a guard. They then participated in a two hour confrontational rap session with inmates. Juvenile delinquents from three court service units in Virginia participated in the study. The investigators randomly assigned 80 juveniles ages 13-20 with two or more prior adjudications for delinquency to the Insiders program or a no treatment control group. Orchowsky and Taylor report on a variety of crime outcome measures at six, nine and twelve month intervals. The only positive findings, though not statistically significant, were reported in Virginia (Orchowsky 1981). Although the difference at six months was not statistically significant (39% of controls had new court intakes versus 41% of experimental participants), they favor the experimental participants at nine and twelve months. The investigators noted, however, that the attrition rates in their experiment were dramatic. At nine months, 42% of the original sample dropped out, and at twelve months, 55% dropped out. The investigators conducted analyses that seemed to indicate that the constituted groups were still comparable on selected factors.

Texas Face-to-Face Program, USA (Vreeland 1981)
The Face-to-Face program included a 13-hour orientation session in which the juvenile lived as an inmate. Counseling followed. Participants were 15-17 years of age, on probation from Dallas County Juvenile Court; most averaged 2-3 offenses before the study. 160 boys were randomly assigned to four conditions: prison orientation and counseling, orientation only, counseling only, or a no-treatment control group. Vreeland examined official court records and self-reported delinquency at six months. This evaluation also reported little effect for the intervention (Vreeland 1981). Vreeland reported that the control participants outperformed the three treatment groups on official delinquency (28% delinquent versus 39% for the prison orientation plus counseling, 36% for the prison only, and 39% for the counseling only). This more robust measure contradicts data from the self-report measures used, which suggest that all three treatment groups did better than the no-treatment controls. None of these findings reached a level of statistical significance. Viewing all the data, Vreeland concluded that there was no evidence that Face-to-Face was an effective delinquency prevention program. He finds no effect for 'Face-to-Face' on several attitudinal measures, including the 'Attitudes Toward Obeying Law Scale.'

New Jersey "Scared Straight" Program, USA (Finckenauer 1982)
The New Jersey Lifers' Program began in 1975 and stressed confrontation with groups of juveniles ages 11-18 who participated in a rap session. Finckenauer randomly assigned 82 juveniles, some of whom were not delinquents, to the program or to a no treatment control group. He then followed them for six months in the community, using official court records to assess their behavior. Finckenauer
reported that 41% of the children and young people who attended the 'Scared Straight' program in New Jersey committed new offenses, while only 11% of controls did, a difference that was statistically significant (Finckenauer 1982). He also reported that the program participants committed more serious offenses and that the program had no impact on nine attitude measures with the exception of a measure called 'attitudes toward crime.' On this measure experimental participants did much worse than controls. We deal with Finckenauer's own concerns about randomization integrity in a sensitivity analysis, reported later.

California SQUIRES Program, USA (Lewis 1983)
This is supposedly the oldest such program in the USA, beginning in 1964. The SQUIRES program included male juvenile delinquents from two California counties between the ages of 14-18, most with multiple prior arrests. The intervention included confrontational rap sessions with rough language, guided tours of prison with personal interaction with prisoners, and a review of pictures depicting prison violence. The intervention took place one day per week over three weeks. The rap session was three hours long, and normally included 20 youngsters at a time. In the study, 108 participants were randomly assigned to treatment or to a no-treatment control group. Lewis compared participants on seven crime outcomes at twelve months. Lewis reported that 81% of the program participants were arrested compared to 67% of the controls. He also found that the program did worse with seriously delinquent youths, leading him to conclude that such children and young people could not be "turned around by short-term programs such as SQUIRES...a pattern for higher risk youth suggested that the SQUIRES program may have been detrimental" (p. 222). The only deterrent effect for the program was the average length of time it took to be re-arrested: 4.1 months for experimental participants and 3.3 months for controls. Data were reported on 8 attitudinal measures, and Lewis reported that the program favored the experimental group on all of them, again underscoring the difficulty of achieving behavioral change even when positively affecting the attitudes of juvenile delinquents.

Kansas Juvenile Education Program, USA (Locke et al 1986)
This intervention was designed to educate children about the law and the consequences of violating it. The program also tried to roughly match juveniles with inmates based on personality types. Fifty-two juvenile delinquents age 14-19 from three Kansas counties were randomly assigned while on probation to JEP or a no-treatment control. The investigators examined official (from police and court sources) and self-report crime outcomes at six months. Locke and his colleagues reported little effect of the Juvenile Education Program. Both groups improved from pretest to posttest but the investigators concluded that there were no differences between experimental and control groups on any of the crime outcomes measured. Investigators also reported no effect for the program on the Jesness and Cerkovich attitude tests.
Mississippi Project Aware, USA (Cooke and Spirrison 1992)

Project Aware was a non-confrontational, educational program comprising one five-hour session run by prisoners. The intervention was delivered to juveniles in groups numbering from 6-30. In the study, 176 juveniles (ages 12-16) under the jurisdiction of the county youth court were randomly assigned to the program or to a no-treatment control. The experimental and control groups were compared on a variety of crime outcomes retrieved from court records at 12 and 24 months. Little difference was found between experimental and control participants in the study. For example, the mean offending rate for controls at 12 months was 1.25 for control cases versus 1.32 for Project Aware participants. Both groups improved from 12 to 24 months, but the control mean offending rate was still lower than the experimental group. The investigators concluded that, "attending the treatment program had no significant effect on the frequency or severity of subsequent offenses" (p. 97). The investigators also reported on two educational measures: school attendance and drop-out. Curiously, they report an effect for the program on school dropout data, but note that "...it is not clear how the program succeeded in reducing dropout rates..." (p.97).

6.2 SHOULD WE BELIEVE THESE STUDIES? ASSESSMENT OF METHODOLOGICAL QUALITY

We examined each study to determine the quality of methods on the four criteria aforementioned. We found three studies with reported methodological problems that should be taken into account, with two having implications for our statistical analysis:

1) Randomization Integrity

a. One study reported problems with randomization, and they were dramatic (Finckenauer 1982). Only eight of the eleven participating agencies that referred troubled or delinquent boys to the program correctly assigned their cases. He did conduct additional analyses in an attempt to compensate for violation of randomization; the program still had harmful effects. We conducted sensitivity analyses, i.e. dropped this study from the meta-analysis to determine its impact on the results.

b. Note that the 'Table of Included Studies' also includes our rating of allocation concealment. Seven of the studies are rated as 'unclear' as there is no information on how randomization was performed ('B' rating). In one case, the concealment was rated as 'A' or adequate (Michigan D.O.C 1967). In another, because alternation was used, it received a 'C' because it was rated as 'inadequate' (Cook and Spirrison 1992) in accord with the Cochrane Reviewers' Handbook. This latter study was not included in the meta-analysis because it did not include data on post-intervention offending.
2) Attrition from Initial Sample

a. The Virginia Insiders study reported a major loss of participants from the initial randomization sample (Orchowsky and Taylor 1981). They reported this, however, at the second and third follow-up intervals (not the first, at six months). Because there was a paucity of data beyond the first follow-up interval across studies, we only conducted a pooled analysis using the "first-effect." Therefore a sensitivity analysis of the impact of this later attrition was not performed.

b. The Michigan JOLT study did report a large number of no-shows but they were deleted from the analysis. The problem is that we do not know how many participants were initially assigned and we have no assurances from investigators that the remaining sample was similar to the initial sample. We also dropped the JOLT study in a sensitivity analysis to determine its influence on the pooled analysis.

3) Blinding of Outcome Assessors

Blinding of outcome assessors was reported in only one study (Michigan D.O.C., 1967), but given that most outcome data were collected from state or federal criminal history data bases (and not by program designers), it would seem that this was not a threat to the results.

4) Fidelity of Program Implementation

As these programs were relatively simple, none of the evaluators reported problems with implementation of the program, i.e., the kids got what they were supposed to

6.3 META-ANALYSIS

For each study, we extracted all of the relevant crime outcome data. Our protocol included an organization of analyses by examining official reports (from government administrative records) distinct from self-reported criminality (obtained from investigator-administered survey questionnaires). Given that we expected a diverse number of measures of crime to be reported, the protocol called for us to organize it into four indexes that would be most relevant to policy and practice: These included prevalence rates (i.e. what percentage of each group re-offended or did not?), average incidence rates (i.e. what was the average number of offenses or other incidents per individual in each group?), offense severity rates (i.e. what was the average severity of offenses per individual in each group?), and latency (i.e. how long
was the average return to crime or failure delayed per individual in each group?). Unfortunately, as Table 2 shows, the full array of data showed that many of these indicators were missing.

Given the limitation of the data, we conduct one meta-analysis. We report the crime outcomes for official measures at the first-effect or first follow-up interval (and usually the only) period reported. Each analysis focused on proportion data (i.e. the proportion of each group re-offending), as the outcomes reporting means or averages is sparse and often does not include the standard deviations. Thus, because the data rely on dichotomous outcomes, both analyses report Odds Ratios (OR) for each study and their 95% Confidence Intervals (CI). Because there is some disagreement in the literature about this, we assume both random and fixed effects models for treatment effects across the studies.

**Figures 1 and 2. Immediate post-treatment effects for re-offending rates, official measures**

The analysis of the data in comparison table 1 from the seven studies reporting re-offending rates shows that intervention increases the crime or delinquency outcomes at the first follow-up period. Assuming either a fixed effect or random effects model does not change its overall negative impact. Using a fixed effect model, the OR is 1.68 (CI 1.20-2.36); the mean OR assuming a random effects model is not much different at 1.72 (CI 1.13-2.62). These are both statistically significant. The intervention increases the odds of offending by between 1.6 and 1.7 to 1.

**Fixed Effects Results**
Random Effects Model Results

*n: Number of participants re-offending; N: Number assigned to Group; OR: Odds Ratio; CI: Confidence Intervals; Weight: Amount of weight given to study in analysis

Figure 2. Sensitivity analysis, excluding Finckenauer study
We excluded the Finckenauer study, because of its randomization problems, from the analyses reported in Figure 1 and 2. Given the little difference in OR whether assuming a fixed effect or random effects model, we conducted a meta-analysis assuming a random effects model. As the Finckenauer study reported the largest negative effects for the program, it is not surprising that the OR decreases. It is, however, still negative in direction at 1.47, and statistically significant (CI 1.03-2.11).
We excluded the Yarborough study because of its deletion of no-shows, indicating a potential for large attrition from the initial study sample. We again assumed a random effects model. The deletion of this study does not alter the overall negative impact of these programs, as the OR is 1.96. This is statistically significant (CI 1.25, 3.08).

We excluded both the Finckenauer and Yarborough studies to see how this affected the overall meta-analysis. As the Figure shows, even with two studies removed for sensitivity analysis, the overall effect of the intervention in the five remaining studies shows a "criminogenic" effect, i.e., favors the control group not receiving Scared Straight.

Converging Evidence
We note that the other two trials that did not report prevalence data for the meta-analysis also reported no effect for the intervention (Cook and Spirrison 1992; Locke et al 1986). Indeed, the mean data from the Mississippi study is also negative in direction, and the Kansas investigators reported an increase in crime for juvenile participants when examining the self-report data (though they did not report the actual figures).

These findings mirror prior systematic reviews that included Scared Straight as a "subset" or partition of a broader meta-analysis. In 2000, the University of York's National Health Service Centre for Reviews and Dissemination prepared the Wider Public Health Project Report. This was a project that vigorously searched, retrieved and annotated systematic - or potentially systematic reviews relevant to the governments Wider Public Health agenda. They included reviews relevant to criminal behavior. We examined these for evidence (converging or dissenting) relevant to our review. We found two.

A meta-analysis of juvenile prevention and treatment programs by Lipsey (Lipsey 1992) indicated that the effect size for 11 'shock incarceration and "Scared Straight"
programs' was -.14. In short, experimental groups had a 7% higher recidivism rate than controls if a 50% baseline of recidivism is assumed.

Gendreau and his colleagues (1996) also reported a meta-analysis of "get tough" or "get smart" sanctions. These included interventions designed to deter future crime like "Scared Straight" as well as interventions designed to punish or control offenders at less cost such as intensive supervision while on probation or parole. The reviewers computed correlations of program participation and recidivism outcomes. Examining 15 experimental or quasi-experimental evaluations of Scared Straight type programs, they found an average correlation of .07 (the largest correlation in their analysis) with criminal recidivism. Simply put, participating in the program was associated with an increase in crime.
7 Discussion

These randomized trials, conducted over a 25-year period in eight different jurisdictions, provide evidence that 'Scared Straight' and other 'juvenile awareness' programs are not effective as a stand-alone crime prevention strategy. More importantly, they provide empirical evidence under experimental conditions - that these programs likely increase the odds that children exposed to them will commit offenses in future. Despite the variability in the type of intervention used, ranging from harsh, confrontational interactions to tours of the facility converge on the same result: an increase in criminality in the experimental group when compared to a no-treatment control. Doing nothing would have been better than exposing juveniles to the program.

Given that the seven trials used in the meta-analysis were conducted in six jurisdictions using variations of the intervention underscore the external validity of these findings. Given the strong suggestion here that these programs have a harmful effect, they raise a dilemma for policy makers. Criminological interventions, when they cause harm, are not just toxic to the participants. They result in increased misery to ordinary citizens that come from the 'extra' criminal victimization they create when compared to just doing nothing at all. Policymakers should take steps to build the kind of research infrastructure within their jurisdiction that could rigorously evaluate criminological interventions to ensure they are not harmful to the very citizens they aim to help.

7.1 THE ‘WHY’ QUESTION

One question that continues to arise about these findings is 'why' 'Scared Straight' and similar programs seem to lead to more crime rather than less in its participants. What is the critical mechanism? Understanding why something works or fails is of great interest to evaluators, program designers, and criminological theorists. Evaluators for the Oklahoma 'Speak Outs' program wondered about the criminogenic effect of these programs when they asked:

If one argued that a two hour visit cannot perform the miracle of deterring socially unacceptable behavior (see Cook & Spirrison, 1992), it can also be
argued that it was extremely simplistic to assert that a two hour visit can perform the miracle of causing socially unacceptable behavior (Holley and Brewster 1996).

Although there were many good post-hoc theories about why these programs had negative effects, the evaluations were not structured to provide the kind of mediating variables or ‘causal models’ necessary for an empirical response to this question in a systematic review (Petrosino 2000).
Jerry Lee, the President of Philadelphia's most successful radio station (B 101 FM) and a noted social philanthropist, once stated that he makes more use of research in his business than his competitors. He credited that with his great success in the radio industry. He noted an important point: "research is not an absolute...it gives you probabilities of what might happen." Based on the Scared Straight and juvenile awareness experiments already conducted, we cannot say with certainty that every such program will fail or - worse yet - lead to harmful effects on juvenile participants. But, the prior evidence indicates that there is a greater probability than not that it will be harmful. Would you permit a doctor to use a medical treatment on your child with a similar track record of results?

8.1 IMPLICATIONS FOR PRACTICE

We note the following irony: despite the gloomy findings reported here and elsewhere, 'Scared Straight' and its derivatives continue in use, although a randomized trial has not been reported since 1992. As Finckenauer and Gavin (Finckenauer 1999) noted, when the negative results from the California SQUIRES study came out, the response was to end the evaluation - not the programmed. Today the SQUIRES program continues, evaluated by the testimonials of prisoners and participants alike. Despite evidence, beliefs in the program's efficacy continue. Middleton and his colleagues report on the extension of this strategy in one UK town to scare ordinary schoolchildren by using former correctional officers to set up a prison-type atmosphere in the public school system (Middleton 2001). In 1982, Finckenauer called this the 'Panacea Phenomenon,' describing how policy-makers, practitioners, media reporters and others sometimes latch onto quick, short-term and inexpensive cures to solve difficult social problems (Finckenauer 1982). Others claim that the program by itself is of little value but could be instrumental if embedded in an overall multi-component package of interventions delivered to youths. We believe that our review places the onus on every jurisdiction to show how their current or proposed program is different than the ones studied here. Given that, they should then put in place rigorous evaluation to ensure that no harm is caused by the intervention.
Some literature indicates the program can have a positive effect on the inmate providers and that argument is sometimes used to legitimize use of the programmed. These arguments are undoubtedly used under the assumption that the program does no harm. In light of these findings, assertions that 'Scared Straight' and similar programs ought to be used because it achieves other things raises ethical questions about hurting children in order to accomplish other important, but latent, goals.

Personal repentance and redemption is a noble goal and correctional facilities are not the only institutions that encourage this. Perhaps administrators can encourage motivated offenders in penal institutions to engage in benevolent activities that do not pose harm to juveniles (or the communities they offend in). There are many charitable activities that inmates do take part in (i.e. making toys for hospitalized children), and these should be encouraged, not only for the 'good' they bring, but also for the part that contributing to such a task may have in offender rehabilitation.

Another interesting opportunity for inmates is to serve as counselors and tutors to each other. For example, Franklin (2000) described a program at a Washington state correctional facility that used more educated inmates as literacy tutors for incarcerated offenders who could not read. The ability to contribute in such a way is cited as one of the positive factors of the program, along with its low cost.

The authors have received communications from different prison facilities that are using a juvenile awareness program. One argument used to sustain such programs is that the research reported here does not apply to their particular program. Our recommendation is that correctional research units, either at the facility or at a regional or national government level, collaborate with program staff to conduct a rigorous evaluation. If such units do not exist or cannot conduct their own study, we suggest they collaborate with a local university, college, or research firm that could undertake this work to ensure that the program is working as planned and not unintentionally causing more harm than good.

Correctional administrators sometimes ask whether our results are relevant to their particular program. For example, inmates running the program may go outside the prison to speak at schools about their life experiences. Our review only looked at "kids visit prisons" programs, and as far as we know, no review has examined juvenile awareness interventions that involve offenders leaving prison grounds to speak to children at school. To date, we have not found a single controlled study testing it.

Since versions of this review began circulating on the Internet, the first author receives periodic correspondence from a concerned citizen about how to get a juvenile in trouble with the law into a Scared Straight program. They are obviously
not reading the full report but are just trying to find contact information about the program. We cannot in good conscience recommend this program. We have no data on the type of kid or constellation of personality characteristics that could possibly be helped by going through Scared Straight or a similar program. Our response to these well-meaning citizens is to refer them to national, regional or local centers that specialize in youth prevention services.

8.2 IMPLICATIONS FOR RESEARCH

In concert with Campbell and Cochrane guidelines, we plan to update this review again within 24 months to incorporate any new studies or respond to cogent criticisms. Given that we found only nine studies (and only seven used in the meta-analysis), we were cautious not to propose the use of moderating variables in subsequent analyses. We initially believed that one program factor that may have salience, however, is the degree of harshness in the inmate presentations. It may be that the more brutal and vulgar the presentation, the more that it causes a type of 'backfire' effect, producing in the juveniles the very behavior it seeks to deter. When looking at this a bit more closely, we discovered that one trial involving a tour of a reformatory with no presentation reported one of the largest negative effects (Michigan Department of Correction 1967). Until more experiments of juvenile awareness programs are reported - with adequate description of this variable - we will not pursue this particular point of inquiry.

This review has led us to consider two others, contingent on future funding. "Shock value" type interventions are tried across many fields. For example, high school students are sometimes shown horrific footage of car accidents in order to deter them from drinking and driving. In industrial arts classes, students are shown films of what occurs when safety glasses are not worn; this is often graphic and is designed to increase compliance with such regulations. There are many other examples across fields. But is there any evidence that any of these "shock value" interventions work? Or do they produce disappointing, or even toxic results, as we have reported here?

It may be true that Scared Straight and like programs do not work because they only convey a threat that juveniles do not think will be carried out. What about the evidence for deterrence when an actual official punishment is delivered? There have been a wide range of randomized trials that test for the effects of official processing in juvenile courts with some other intervention (such as diverting the kid from such processing). Is there evidence that the delivery of a threat - official system processing - deters future criminal behavior?

The type of broad search we undertook could allow for a more in-depth examination of the effects of using different evaluative designs to test criminological interventions. We now have a good collection of empirical studies on 'Scared
Straight’, and these include non-randomized studies. We have foregone our own plans to compare results across the different designs, but others may wish to take this up in the future.
9 Other Topics

9.1 WHAT’S NEW IN THIS UPDATE

In this update of a Campbell Inaugural Review, the authors:

• Included a ‘C2 Research Review Policy Brief’
• Corrected and edited the Inaugural Review Draft where necessary
• Included an ‘Emergent Policy Concern’ section
• Extended all searches through November 2003
• Conducted new searches of electronic bibliographic databases recently made accessible at available libraries or online
• Included additional meta-analytic comparisons
• Included a new section on ‘converging evidence’
• Included a new section entitled ‘answering the ‘why?’ question’
• Included more discussion in the ‘implications for practice’ and ‘implications for research’ sections
• Included ‘Conclusion’ section
• Included section listing published or forthcoming papers based on this research
• Included section on “citation and utilization”

9.2 CITATION/USES OF THIS RESEARCH

Citations
Washington Post, 2001
San Francisco Chronicle, 2001
The Economist, 2002
Prison Journal, 2001
Journal of Offender Rehabilitation, forthcoming
National Institute of Justice Journal, forthcoming
Penn GSE Research Update, 2003
Harvard Psychiatry Letter, 2003
Handbook of Practical Program Evaluation, forthcoming
Utilization
Used by researcher Sally McIntyre in testimony before the House of Lords in argument for funding randomized trials, 2001
Used by researcher John Middleton in argument to the Home Office why they should halt attempt to implement a "correctional regime" in a school to deter potential lawbreaking by ordinary school children.
Used by researcher Lawrence Sherman in presentation before National Academy of Science workshop arguing for more investment in rigorous evaluation, September 2003.
Used by researchers in training for systematic reviews, including sessions at the University of Bristol, the Cochrane Nordic Centre, and the American Society of Criminology.

Review Inaugural Publication Date: May 2002 UPDATE I Publication Date: November 2003

PRINCIPAL ADVISOR IN C2 EDITORIAL PROCESS Professor Robert F. Boruch, Graduate School of Education, University of Pennsylvania

9.3 ACKNOWLEDGEMENTS

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The update was supported in part by a Smith-Richardson Foundation grant to the Jerry Lee Center of Criminology at the University of Pennsylvania (Lawrence Sherman, Principal Investigator).

The Criminal Justice Collection at Rutgers University’s Center for Law and Justice and the Gutman Library at the Harvard Graduate School of Education facilitated interlibrary loan requests. We thank Phyllis Schultze and Carla Lillvik for their expertise, patience and assistance.
We appreciate the great work of the Cochrane Developmental, Psychosocial, and Learning Disorders Group. This includes the guidance and editorial comments of Dr. Jane Dennis, Review Group Coordinator and Professor Geraldine Macdonald, Coordinating Editor. It also includes editorial comments from Dr. Julian Higgins, Dr. Stuart Logan and other editorial members of the Developmental, Psychosocial and Learning Disorders Group. Additional searches, among other helpful tasks, were provided done by Jo Abbott and Celia Almeida.

This paper benefited greatly from comments and criticisms by Professor Robert Boruch, Sir Iain Chalmers, Dr. Phoebe Cottingham, Professor Lyn Feder, and Professor Joan McCord also helped.

Professor Boruch served as the Principal Advisor on the Campbell-version of this review. We also appreciate the criticisms by three external peer reviewers during that Campbell editorial process.

The update was greatly improved by the editorial criticism of Professor Hiroshi Tsutomi.

9.4 POTENTIAL CONFLICT OF INTEREST

Two of the authors published an article in the journal Crime & Delinquency that indicated a harmful effect for these programs, based on preliminary analyses (Petrosino 2000b). We believe the potential for bias toward ‘replicating’ the earlier Crime & Delinquency findings here is reduced by the explicit and transparent review methods used.

9.5 SOURCES OF SUPPORT

External sources of support

- Smith-Richardson Foundation grant (to University of Pennsylvania Graduate School of Education) USA, Robert Boruch, Principal Investigator

- Mellon Foundation grant (to the American Academy of Arts & Sciences, Center for Evaluation), USA, Frederick Mosteller (Principal Investigator)

- Home Office, Research & Statistics Directorate (to Cambridge University Institute of Criminology), UK, David Farrington, Principal Investigator

- Smith-Richardson Foundation grant (to University of Pennsylvania Jerry Lee Center of Criminology) USA, Lawrence Sherman, Principal Investigator
**Internal sources of support**

- American Academy of Arts and Sciences USA (1999-2002)
- Harvard Graduate School of Education USA (1999-2002)

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**9.6 PUBLISHED [OR FORTHCOMING] PAPERS BASED ON THIS RESEARCH**


Synopsis: January 2003, Diane Mueller, Evidence-based Nursing


## 10 Appendix

### 10.1 CHARACTERISTICS OF INCLUDED STUDIES

#### Study: Cook 1992

<table>
<thead>
<tr>
<th>Methods</th>
<th>Quasi-random assignment – researchers numbered court files and assigned all odd numbered ones to intervention group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>176 juvenile delinquents ages 12-16 under jurisdiction of one Mississippi county youth court, 36% white, 100% male</td>
</tr>
<tr>
<td>Interventions</td>
<td>Educational, prisoner-run 5-hour session, designed to be non-confrontational</td>
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<tr>
<td>Outcomes</td>
<td>12- and 24-month follow-ups of official court record data, average offending rates and severity of offense.</td>
</tr>
<tr>
<td></td>
<td>School attendance and school drop-out</td>
</tr>
<tr>
<td>Notes</td>
<td>No standard deviations reported with any mean data, no group percentages, attempts to retrieve these data from author and other primary documents failed.</td>
</tr>
</tbody>
</table>

| Allocation concealment | C (Inadequate) |

#### Study: Finckenauer 1982

<table>
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<tbody>
<tr>
<td>Participants</td>
<td>81 delinquent or children ages 11-18 at risk for delinquency, 50% had prior record of offending, 40% were white, 80% male</td>
</tr>
<tr>
<td>Interventions</td>
<td>One visit, a confrontational rap session lasting approximately 3 hours with inmates serving life sentence</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Six-month follow-up of official complaints, arrests or adjudications. Severity of offense. Attitudes: toward criminals, toward crime, toward law, toward justice, toward police, toward prison, toward punishment, self image</td>
</tr>
</tbody>
</table>

| Allocation concealment | B (Unknown) |
### Study: GERP&DC 1979

<table>
<thead>
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</tr>
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<tbody>
<tr>
<td>Participants</td>
<td>161 delinquent or children at risk for delinquency, 100% male, 84% white, ages 13-18</td>
</tr>
<tr>
<td>Interventions</td>
<td>Confrontational rap session with inmates</td>
</tr>
<tr>
<td>Outcomes</td>
<td>5-15 months follow-up of contacts with police</td>
</tr>
<tr>
<td></td>
<td>Piers Harris Children's Self-Concept Scale</td>
</tr>
<tr>
<td></td>
<td>Jesness Inventory</td>
</tr>
<tr>
<td>Notes</td>
<td>Allocation concealment B (Unknown)</td>
</tr>
</tbody>
</table>

### Study: Lewis 1983

<table>
<thead>
<tr>
<th>Methods</th>
<th>Random assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>108 juvenile delinquents from two California counties, most with extensive prior record, ages 14-18, 100% male, mostly non-white</td>
</tr>
<tr>
<td>Interventions</td>
<td>Three total visits (one per week) including confrontational rap sessions, guided tours of prison and interaction with prisoners, review of pictures of prison violence</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Twelve-month follow-up of percentage arrested, average number of arrests, percentage charged, average number of charges by type of offense, offense severity, time to first arrest</td>
</tr>
<tr>
<td></td>
<td>Attitudes: toward police, toward school, toward crime, toward prison, toward work camp</td>
</tr>
<tr>
<td></td>
<td>Semantic Differential Test</td>
</tr>
<tr>
<td>Notes</td>
<td>Over 100 moderating analyses performed on the data</td>
</tr>
<tr>
<td>Allocation concealment</td>
<td>B (Unknown)</td>
</tr>
</tbody>
</table>

### Study: Locke 1986

<table>
<thead>
<tr>
<th>Methods</th>
<th>Random assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>53 juvenile delinquents ages 14-19 on probation from three Kansas counties, 65% white, 100% male</td>
</tr>
<tr>
<td>Interventions</td>
<td>Non-confrontational, educational interaction, tried to match juvenile with inmate</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Minimum six-month follow-up of self-reported crime and juvenile court and police records of official offending</td>
</tr>
<tr>
<td>Notes</td>
<td>No standard deviations reported with any mean data, no group percentages, attempts to retrieve these data from author and other primary documents failed</td>
</tr>
</tbody>
</table>
### Study: Michigan D.O.C. 1967

**Methods**
Assignment using random numbers table, data collectors were blind to assignment

**Participants**
60 juvenile delinquents from one Michigan county

**Interventions**
Two tours of a Michigan reformatory

**Outcomes**
Six-month follow-up of official petition for delinquency or probation violation

**Notes**
Brief internal report that does not fully describe nature of intervention

### Study: Orchowsky 1981

**Methods**
Random assignment

**Participants**
80 juvenile delinquents (with minimum two offenses), ages 13-20, 100% male

**Interventions**
Confrontational, inmate-run program, locked in cell, introduction by guard, two-hour session with inmates

**Outcomes**
Six, nine and twelve-month follow-ups of official measures of offending including new court intakes, average number of court intakes, severity of offense

### Study: Vreeland 1981

**Methods**
Randomly assigned to four groups

**Participants**
160 juvenile delinquents given probation by Dallas County Court, 100% male, 40% white, ages 15-17, averaged 2-3 prior offenses

**Interventions**
One-day orientation lasting 13 hours, including haircut and physical labor

**Outcomes**
Six-month follow-up of official (using court records) and self-reported data to establish offending

- Attitude toward Law
- Friend Survey
- Deterrence questionnaire
- Self-image
- Jesness Checklist
Notes | To remain consistent with other interventions in this review, we took the orientation group comparison with the no-treatment control group. The orientation plus counseling group, however, was almost identical to the orientation only group in final results.
---|---
Allocation concealment | B (Unknown)

**Study: Yarborough 1979**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Researchers randomly assigned participants according to random numbers table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>227 juvenile delinquents under jurisdiction of courts in four Michigan counties</td>
</tr>
<tr>
<td>Interventions</td>
<td>Tour of facility, separated and take to cell for interaction with inmates, confrontational session with inmates, one visit five-hours long</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Three and six-month follow-ups of official juvenile crime as measured by subsequent court petitions, new offenses, average offense rate, weeks to new offense, type of offense charged, average days in detention</td>
</tr>
<tr>
<td>Notes</td>
<td>Extensive moderating analyses done</td>
</tr>
</tbody>
</table>

### 10.2 CHARACTERISTICS OF EXCLUDED STUDIES

<table>
<thead>
<tr>
<th>Study</th>
<th>Reason for Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aims Multimedia 1999</td>
<td>Used post-test data without a control group</td>
</tr>
<tr>
<td>Ashcraft 1970</td>
<td>Used a pre-post test without a control group</td>
</tr>
<tr>
<td>Berry 1985</td>
<td>Used a matched comparison group without randomization</td>
</tr>
<tr>
<td>Brodsky 1970</td>
<td>Used a pre-post design without a control group</td>
</tr>
<tr>
<td>Buckner 1983a</td>
<td>Used a matched comparison group without randomization</td>
</tr>
<tr>
<td>Chesney-Lind 1981</td>
<td>Used a non-equivalent comparison group design without randomization</td>
</tr>
<tr>
<td>Dean 1982</td>
<td>Used randomization but did not include any measures of criminal behavior</td>
</tr>
<tr>
<td>Gilman 1977</td>
<td>Used archival data from three sources for post-test only follow-ups without a control group</td>
</tr>
<tr>
<td>Langer 1980</td>
<td>Used a matched comparison group without randomization</td>
</tr>
<tr>
<td>Lloyd 1995</td>
<td>Case studies of three-day visit programs in the UK. No control group is included.</td>
</tr>
<tr>
<td>Mitchell 1986</td>
<td>Used pre-post data without a control group</td>
</tr>
<tr>
<td>NSW BoS 1980</td>
<td>Used post-test only data without a control group</td>
</tr>
</tbody>
</table>
Nelson 1991  Used post-test only data without a control group

Nygard 1980  Report on process and implementation data only. No follow-up or control group reported.

O’Malley 1993  Process and implementation data on Australia’s Victoria prison programmed. No control group.

Portnoy 1986  This study randomly assigned juveniles from high school to watch the Scared Straight video or a more neutral film. It did not involve the actual program. No follow-up data on criminal offenses were reported.

Rasmussen 1996  Used multivariate regression on county crime rates to estimate prevention impact of program, no control group or randomization employed.

Shapiro 1978  Used post-test only data without a control group

Storvoll 1998  Scared Straight programmed. No follow-up or control group included.

Trotti 1980  Used post-test data of reactions of participants, without a control group.

### 10.3 FULL ARRAY OF CRIME OUTCOME DATA REPORTED IN ORIGINAL STUDIES

<table>
<thead>
<tr>
<th>Study Reference</th>
<th>At 3 Months</th>
<th>At 6 Months</th>
<th>At 9 Months</th>
<th>At 12 Months</th>
<th>Beyond 12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI DOC 1967</td>
<td></td>
<td>Percentage with new offense or new violation of probation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GERP&amp;DC 1979</td>
<td>Percentage subsequently contacted by police</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Reference</td>
<td>At 3 Months</td>
<td>At 6 Months</td>
<td>At 9 Months</td>
<td>At 12 Months</td>
<td>Beyond 12 Months</td>
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<td>--------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Yarborough 1979</td>
<td>Percentage with new offenses, percentage with new petitions, average offense rate and standard deviations, number of days in detention and standard deviations</td>
<td>Percentage with new offenses, type of offenses, percentage with new petitions, average offense rate and standard deviations, average days in detention and standard deviations</td>
<td>Percentage with new offenses, type of offenses, percentage with new petitions, average offense rate and standard deviations, average days in detention and standard deviations</td>
<td>Percentage with new offenses, type of offenses, percentage with new petitions, average offense rate and standard deviations, average days in detention and standard deviations</td>
<td>Percentage with new offenses, type of offenses, percentage with new petitions, average offense rate and standard deviations, average days in detention and standard deviations</td>
</tr>
<tr>
<td>Study Reference</td>
<td>At 3 Months</td>
<td>At 6 Months</td>
<td>At 9 Months</td>
<td>At 12 Months</td>
<td>Beyond 12 Months</td>
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<td>-----------------</td>
</tr>
<tr>
<td>Taylor and Orchowsky 1981</td>
<td>Percentage with new intakes (no standard deviations but test statistic), average severity score (no standard deviations but test statistic)</td>
<td>Percentage with new intakes, average intakes (with no standard deviations but test statistic), average severity score (no standard deviations but test statistic)</td>
<td>Percentage with new intakes, average intakes (no standard deviations but test statistic), average severity score (no standard deviations but test statistic)</td>
<td>Percentage with new intakes, average intakes (no standard deviations but test statistic), average severity score (no standard deviations but test statistic)</td>
<td>Percentage with new intakes, average intakes (no standard deviations but test statistic), average severity score (no standard deviations but test statistic)</td>
</tr>
<tr>
<td>Vreeland 1981</td>
<td>Percentage with new offenses (official measures), percentage with new offenses (self-reported data)</td>
<td>Percentage with new offenses (official measures), percentage with new offenses (self-reported data)</td>
<td>Percentage with new offenses (official measures), percentage with new offenses (self-reported data)</td>
<td>Percentage with new offenses (official measures), percentage with new offenses (self-reported data)</td>
<td>Percentage with new offenses (official measures), percentage with new offenses (self-reported data)</td>
</tr>
<tr>
<td>Study Reference</td>
<td>At 3 Months</td>
<td>At 6 Months</td>
<td>At 9 Months</td>
<td>At 12 Months</td>
<td>Beyond 12 Months</td>
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<td>-----------------</td>
</tr>
<tr>
<td>Finckenauer 1982</td>
<td>Percentage new complaints, contacts or court appearances, average severity score (no standard deviation, but test statistic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis 1983</td>
<td>Percentage arrested, percentage charged, average arrests (no standard deviation), average time to first arrest (no standard deviation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locke et al 1986</td>
<td>Only test statistic reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook and Spirrison 1992</td>
<td>Average offenses (no standard deviations), average severity score (no standard deviations)</td>
<td>Average offenses (no standard deviations), average severity score (no standard deviations)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 10.4 SUMMARY OF CRITERIA OF METHODOLOGICAL ADEQUACY FOR INCLUDED STUDIES

<table>
<thead>
<tr>
<th>Study (total N)</th>
<th>Randomization</th>
<th>Attrition</th>
<th>Outcome bias</th>
<th>Implementation</th>
<th>Methodology (sum.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan</td>
<td>Random numbers tables used to allocate, no test for equivalence reported</td>
<td>Only two participants lost</td>
<td>Juvenile home records used in follow-up; data investigators were blind to group allocation</td>
<td>No problems reported</td>
<td>The one troubling aspect is the failure to conduct a test for equivalence, particularly with only 60 total persons assigned. Nonetheless, there is nothing else to question the observed findings.</td>
</tr>
<tr>
<td>Department of Corrections 1967 (60)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEP&amp;DC</td>
<td>Random assignment, no further information</td>
<td>None reported</td>
<td>Subsequent police reports, no problems reported</td>
<td>No problems reported</td>
<td>Nothing in the report seems to indicate that the findings should be questioned.</td>
</tr>
<tr>
<td>1979 (161)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study (total N)</td>
<td>Randomization</td>
<td>Attrition</td>
<td>Outcome bias</td>
<td>Implementation</td>
<td>Methodology (sum.)</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------</td>
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<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Yarborough 1979 (227)</td>
<td>Research unit handled random assignment, good protocol in place, test for equivalence satisfactory</td>
<td>The study has many no-shows whom are dropped from analysis</td>
<td>Researchers collected data from court files but unknown if blind to conditions. Government agency still reported a negative result for its own program.</td>
<td>No problems reported</td>
<td>The no-shows and lack of attention in the report trouble us. Again, nothing in the report suggests anything other than a null or slightly negative effect for JOLT.</td>
</tr>
<tr>
<td>Orchowsky &amp; Taylor 1981 (80)</td>
<td>Random assignment used, test for equivalence satisfactory</td>
<td>The study drops 41% at 9 months and 55% at 12 months, PIs report tests for equivalence at 9 and 12 months are satisfactory</td>
<td>Juvenile court intake data is the primary source but no description on how collected</td>
<td>No problems reported</td>
<td>The massive attrition at 9 and 12 months also corresponds with positive results reported for the program after negative impact at 6 months. The tests for equivalence, however, do seem to indicate the groups were still comparable.</td>
</tr>
<tr>
<td>Study (total N)</td>
<td>Randomization</td>
<td>Attrition</td>
<td>Outcome bias</td>
<td>Implementation</td>
<td>Methodology (sum.)</td>
</tr>
<tr>
<td>----------------</td>
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<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Vreeland 1981 (79)</td>
<td>Random assignment used, test for equivalence satisfactory</td>
<td>No attrition for the two groups (of the four in the experiment) reported</td>
<td>Used court data and self-report, no other information provided</td>
<td>No problems reported</td>
<td>There is nothing in the report to lead us to question the findings</td>
</tr>
<tr>
<td>Finckenauer 1982 (81)</td>
<td>Randomization broke down, 6 of the 11 referral agencies violated assignment protocol, test for equivalence showed 50% of E had a prior record, only 40% of C</td>
<td>None reported</td>
<td>Researchers collected the data from court files, not from program staff</td>
<td>No problems reported</td>
<td>Randomization breakdown is cause for concern. PI does report additional analyses for agencies that followed protocol: 31% of E recidivated compared to 17% of C.</td>
</tr>
<tr>
<td>Lewis 1983 (108)</td>
<td>Test for equivalence is satisfactory but age slightly favors experimental group</td>
<td>Only one participant lost during follow-up</td>
<td>Although the CA Youth Authority ran the program and the study and collected the data, they report negative effects for the program.</td>
<td>No problems reported</td>
<td>There is nothing in the study report to support any lack of confidence in the observed findings</td>
</tr>
<tr>
<td>Study (total N)</td>
<td>Randomization</td>
<td>Attrition</td>
<td>Outcome bias</td>
<td>Implementation</td>
<td>Methodology (sum.)</td>
</tr>
<tr>
<td>----------------</td>
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</tr>
<tr>
<td>Locke et al. 1986 (53)</td>
<td>Randomization used, test for equivalence satisfactory (though not stated if done after attrition)</td>
<td>40% of an already small sample lost in follow-up, leaving 32 in the study</td>
<td>Two researchers collected court data</td>
<td>No problems reported</td>
<td>The study appears to have severe attrition, limiting our confidence. The PIs report no effect for treatment but do not provide enough data for computation of odds rations or weighted means differences.</td>
</tr>
<tr>
<td>Study (total N)</td>
<td>Randomization</td>
<td>Attrition</td>
<td>Outcome bias</td>
<td>Implementation</td>
<td>Methodology (sum.)</td>
</tr>
<tr>
<td>----------------</td>
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</tr>
<tr>
<td>Cook &amp; Spirrison 1992 (176)</td>
<td>Quasi-random allocation using odd-even assignment of case files (with initial numbering quasi-random – all cases numbered consecutively). Some breakdown is reported but actual percentage is unknown; cases were dropped. No test for equivalence reported before or after attrition.</td>
<td>24% lost in follow-up, no analysis to ensure groups still equivalent</td>
<td>Data retrieved from court system. No other information provided.</td>
<td>No problems reported</td>
<td>The attrition gives us cause for concern, particularly with no tests for equivalence. But the major problem with the study is the failure of the investigators to report the necessary standard deviations for the meta-analysis. All available data seem to indicate a slightly negative impact for the program on crime measures.</td>
</tr>
</tbody>
</table>
10.5 REFERENCES

10.5.1 References to studies included in this review


10.5.2 References to studies excluded from this review


Berry RL. *Shape up: the effects of a prison aversion program on recidivism and family dynamics*. PhD dissertation, Department of Psychology, University of Northern Colorado. 1985.


Dean DG. The impact of a juvenile awareness program on select personality traits of male clients. *Journal of Offender Counseling, Services and Rehabilitation* 1982;6(3):73-85.


Nygard CH. *Synopsis of the findings, conclusions and recommendations from the evaluational study of the Department’s Youth Assistance Programs*. New York State Department of Correctional Services, Division of Program Planning, Research and Evaluation. 1980.


Portnoy RN. Ego defenses as a predictor of deterrence. Ph.D. dissertation, Department of Psychology, University of Nebraska. 1986.

Rasmussen DW, Yu Y. *An evaluation of juvenile justice innovations in Duval County, Florida*. Tallahassee, FL: Florida State University. 1996.


Trotti TC. *Save the Children Program -An Analysis of Client Reaction*. Columbia, SC: South Carolina Department of Youth Services, Research and Evaluation Unit. 1980.

10.5.3 **Additional references**


Muhammed L. 1999. Kids and crooks revisited: Some were ’Scared Straight!’.* USA Today*. (April 12): 4D.


