

A Systematic Review of the Juvenile Justice Intervention Literature: What It Can (and Cannot) Tell Us About What Works With Delinquent Youth

Crime & Delinquency
2014, Vol. 60(3) 451–470
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DOI: 10.1177/001128712466931
cad.sagepub.com



Michelle Evans-Chase¹ and Huiquan Zhou²

Abstract

A pool of 141 juvenile justice intervention studies conducted in the United States, utilizing a control group, reporting quantitative outcomes and spanning the years 1996 to 2009 were identified via electronic searches. Study inclusion into the summary of best practices was based on the demonstrated equivalence of study groups (treatment and control) at the start of the study, the equivalence of the study groups at posttest, and the degree to which fidelity to treatment procedures was demonstrated. Of the 141 studies, 120 failed quality review, mostly due to fidelity issues. Of the 21 articles that passed, 76% used a therapeutic approach (vs. behavioral control) to behavioral change, with the treatment group outperforming the control group in 88% of the therapeutic intervention studies.

Keywords

juvenile, delinquency, intervention, program, adjudicated

¹University of Pennsylvania, Philadelphia, USA

²The Chinese University of Hong Kong, Shatin, NT, Hong Kong

Corresponding Author:

Michelle Evans-Chase, University of Pennsylvania, 3815 Walnut St., Philadelphia, PA 19104, USA.

Email: meva@sp2.upenn.edu

Introduction

The most recent data released by The Office of Juvenile Justice and Delinquency Prevention (OJJDP) estimated the number of juvenile court cases heard in a given year in the United States to be approximately 1.7 million, with almost 600,000 of those cases ultimately adjudicated delinquent (Knoll & Sickmund, 2010; Puzzanchera, Adams, & Sickmund, 2010). On adjudication, the majority of youth (56%) are sentenced to community supervision via probation, with a smaller percentage sentenced either to residential placement, that is, treatment centers, training centers, drug treatment, group homes, or boot camps (25%), or to community-based sanctions such as victim restitution or community service (19%). Despite such interventions by the juvenile justice system, 6 out of 10 (56%) adjudicated youth will return to court prior to their 18th birthday, with an even greater percentage (85%) of those sentenced to residential placements experiencing multiple contacts with the juvenile justice system (Snyder & Sickmund, 2006).

One way to reduce recidivism, an event defined by OJJDP as “the repetition of criminal behavior” (Snyder & Sickmund, 2006, p. 234), is through the provision of evidenced-based practices, that is, practices shown to reduce measurable indicators of recidivism such as arrest, court referral, readjudication, reincarceration, or self-reported delinquency. As recently as 2008, the need for evidence-based programming in the juvenile justice system was addressed by the Office of Justice Programs’ (OJP) OJJDP in a press release highlighting, among other things, the need for a “concerted effort to address the lack of evidence-based programs in the juvenile justice field” (OJP, 2008).

To provide the juvenile justice system with evidence-based programming, that is, to identify those programs and interventions that have the highest likelihood of reducing the recidivism of juvenile-justice-involved youth, it is necessary to find, evaluate, and summarize the evidence of existing juvenile justice evaluation research using a systematic, nonbiased process. One method appropriate to achieving such an endeavor is a systematic review of the literature using a research protocol that guides the search and selection of literature, both published and unpublished, to minimize the bias inherent in the publication, peer-review, and dissemination processes. The following report describes the process and outcomes of a systematic review of the juvenile justice intervention and programming literature.

The objectives guiding this review were to (a) evaluate the evidence supporting model programs and interventions in the juvenile justice system, community and residential, shown to reduce at least one indicator of recidivism and (b) provide summaries of the programs and interventions

most commonly used in each of the juvenile justice locations, model program characteristics, populations served, program content, program duration, performance and outcome indicators, and evidence of program effectiveness.

Method

To create a comprehensive list of articles for inclusion into the review, electronic database searches were performed for studies published between January 1996 and December 2009.¹ Thirty-two databases were searched, including National Criminal Justice Reference Services, PsycInfo, Social Services Abstracts (SSA), Sociological Abstracts, Worldwide Political Science Abstracts, Criminal Justice Abstracts (CJA); U.S. Political Science Documents—Educational Resources Information Center (ERIC), Science Direct, Wiley InterScience, EBSCO Megafire, Justice Research & Statistics Association, Juvenile Justice Clearinghouse, National Criminal Justice Reference Service, and National Reentry Resource Center Library (for a complete list, please see appendix).

Because the purpose of this study is to explore the effectiveness of programs and interventions for preadjudicated and adjudicated juveniles in the United States, three basic search terms were applied to the electronic searches. The first included population terms delimiting the demographic focus on youth and adolescents. It should be noted that we did not provide an age limit for the search due to the interest in programming evaluations across U.S. juvenile justice programs and the differential ages used by states to define the point at which youth are no longer considered juveniles and thus age out of the juvenile justice system. Therefore, the population was defined by location in the juvenile justice system (i.e., juvenile vs. correctional) and not by chronological age. The second included law enforcement terms specifying the range of legal institutions and infractions of interest to the study. The third included program intervention terms specifying the range of program content of interest to the study (see appendix for a complete list of terms).

In addition, the following literature reviews, systematic reviews, and meta-analyses were reviewed for studies not identified in the database searches: Henggeler (2003); Littell, Corcoran, and Pillai (2008); Maschi, Hatcher, Schwalbe, and Rosato (2008); Nee and Ellis (2005); Petrosino, Turpin-Petrosino, and Buehler (2003); Shand (1996); Shaw and Robinson (1999); Zahn, Day, Mihalic, and Tichavsky (2009).

Articles identified through this process were then manually screened using a predetermined protocol to assess whether they fit the purpose of this review. Five inclusion criteria were applied to the articles. The first criteria limited inclusion to those studies located in the United States. The decision was made based on the premise that programs in other countries may be responding to very different social circumstances in the lives of youth involved in crime/delinquency as compared with those in the United States, hence, the application of international intervention strategies may not translate to programs in the United States and therefore evidence supporting those strategies would not be relevant. The second criteria limited inclusion to those studies reporting program/intervention effectiveness, that is, the studies providing information on the legal and/or behavioral outcome of the juveniles going through the program/intervention. Studies purely focusing on topics such as cost reduction or staff training within the juvenile justice system were excluded. The third criteria limited inclusion to those studies reporting quantitative findings. Studies reporting qualitative findings only were excluded. The fourth criteria limited inclusion to those studies reporting at least one recidivism outcome measure. Although using recidivism as a measure of individual-level change is problematic given the institutional and structural factors also associated with arrest, court referral, adjudication, and incarceration (R. Martinson, 1979; Pope, Lovell, & Hsia, 2002), it was used here as the primary outcome of interest so that the review findings could be placed within the context of previous reviews and meta-analysis. Finally, only studies using a comparison group were included. Studies were included if they used an experimental (randomized controlled trial) or quasiexperimental design. To be able to draw causal conclusions about program effects, studies were required to have a second group not exposed to the intervention that was measured on the same outcome variables and compared with the treatment group on those variables upon intervention conclusion. Studies with only one group were excluded.

Several articles were counted as multiple studies based on the following criteria: (a) the article used more than one treatment group and each had a group to which it was compared, although the comparison group could be used for both treatments; (b) the article used more than one control group for the same treatment group; and (c) the article evaluated a program that consisted of different components, and the evaluation methods (e.g., group assignment procedure, comparison group used) differed from one component to another. As a result, some articles were divided into two to three substudies.

A total of 141 articles were identified through this process. They made up the pool of content-relevant studies, which went through further equivalency and quality screening.

Selection of Qualified Studies

Each content-relevant study was assessed a second time for inclusion in the review based on the equivalence of the groups (treatment and control) and the quality of the research. The standards used here and described below were adapted from R. Boruch (personal communication, April 8, 2010); Lipsey (1994); and Lipsey, Howell, Kelly, Chapman, and Carver (2010), and those used by the What Works Clearinghouse (2008).²

Equivalence. Each study was evaluated on the degree to which the treatment and control groups were equivalent on characteristics important to the research question(s). The following information regarding equivalence was documented for each study: whether the authors compared the two groups on characteristics important to the research question or not, the degree to which the two groups were equivalent on those characteristics, whether significant differences existed between the treatment and control groups on those characteristics, whether the authors controlled for those differences during the analysis phase of the study, and the list of characteristics that were found to be significantly different between groups. Because group equivalence is directly related to the likelihood that differences in outcomes between the two groups are based on intervention effects rather than preexisting differences between the groups, if the groups differed significantly on characteristics important to the research question and those differences were not addressed during the analysis phase of the research, the study was excluded from further inclusion in the review.

Quality. The overall quality of the research design and execution was documented and assessed for each study using the following criteria: (a) overall attrition as well as the attrition percentage in each group (treatment and control) in relation to the other, (b) provision of evidence for the validity and reliability of the instruments used to measure study outcomes, and (c) provision of information that the intervention or program was implemented as intended (fidelity).

Because high overall attrition as well as unequal attrition between groups threatens group equivalence as it is assessed in the original subject pool, studies with high attrition (i.e., more than 40% or a 20% difference between treatment and control groups) were excluded from further analysis. Similarly, those studies lacking evidence for the validity and reliability of measures were deemed to be of low quality and as such were excluded from further analysis.

Attention to intervention delivery is a crucial aspect in identifying what works in juvenile justice programming (Lipsey et al., 2010; Solomon, Cavanaugh, & Draine, 2009). If the design of a research study evaluating an intervention does not include a measure of the degree to which the intervention is

delivered as planned, for instance, that participants received the number of therapy sessions intended, were taught the communication skills described in the protocol, or were all led through the restitution process in the same manner, it is difficult to identify with confidence the source of any behavioral change on the part of the participants.

Problems of fidelity in the execution of interventions and the need for more systematic analysis of the process of intervention delivery are not challenges new to the field of juvenile justice intervention research. For instance, reviews of juvenile justice intervention research have addressed issues of program integrity and its implication for identifying what works with juvenile justice populations since the early 1970s (Lipton, Martinson, & Wilks, 1975; R. Martinson, 1974). In the current review, only 39 content-relevant studies (28%) provided enough information to establish that the intervention delivered was moderately or highly similar to program intention. Of the remainder, 13 studies (9%) provided enough information to establish that the intervention was delivered with low fidelity, and 88 studies (63%) provided no information regarding fidelity to program design. Although conclusions of effectiveness (or lack thereof) were drawn in all studies, the majority (72%) did not convincingly establish that the outcomes measured were in response to the intervention described. This calls into question any conclusions regarding the effectiveness or lack of effectiveness of those interventions. Therefore, studies providing no information on fidelity, or reporting information indicating low fidelity were excluded from analysis.

These qualifications (i.e., low attrition, valid and reliable measures, and fidelity to treatment implementation) are deemed vital in establishing confidence in the outcomes of intervention studies (Lipsey, 1994; Lipsey et al., 2010; Solomon et al., 2009). Without such qualifications, it is not clear whether the differences found (or not found) between groups is a reflection of the intervention/treatment, preexisting differences between groups, poorly measured outcomes, or the treatment/intervention as experienced by the participants rather than that which was intended.

Figure 1 provides a summary of the selection process. Overall, the vast majority of studies passing the content inclusion criteria did not provide enough evidence of equivalence, low attrition, and/or fidelity to be included in the review summary.

Guarantee of Interrater Reliability

All inclusion and evidence screening, data extraction, and coding were completed by the authors. Coding for inclusion was split between the two authors such that each author assessed approximately 70 articles for content-relevant

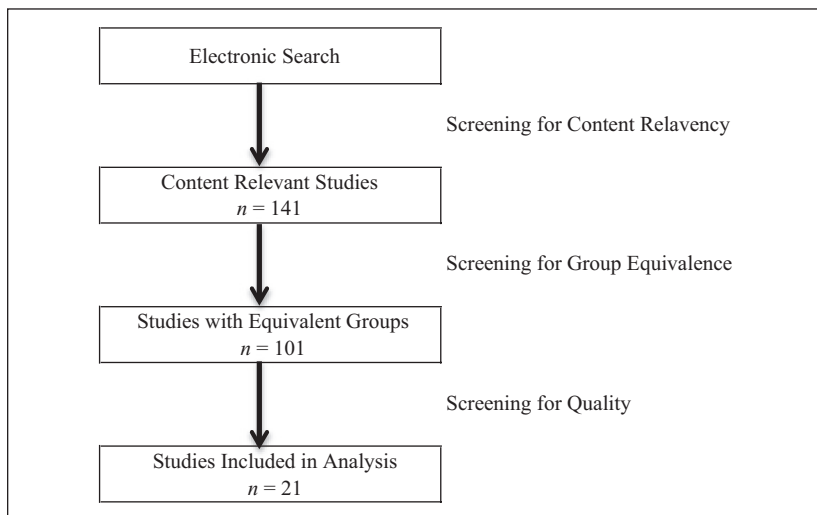


Figure 1. Selection process.

inclusion criteria. To insure interrater reliability regarding inclusion, a systematic random sample of 11 studies was drawn from the list of 141 initial studies for double-coding, the results of which were compared for discrepancies, with differences reconciled using a third-coding process.

The final 21 studies identified as having high equivalence and quality were coded on 16 additional variables: location (community, facility), publication type (peer reviewed, non-peer-reviewed, dissertation), intervention description, primary outcome measured, intervention type (using categories defined by Lipsey et al., 2010), intervention subtype (using categories defined by Lipsey et al., 2010), sample size, the use of age grouping for analysis, average age, age range, duration of intervention (in weeks), frequency of treatment, total hours of treatment, direction of outcome (treatment group did better, control group did better, they were equal), significance, and description of intervention effect. All 21 studies were double-coded, with interrater reliability computed to be 90% across the 21 final studies. Differences were reconciled using a third-coding process.

Results

The majority of the studies that were content relevant were peer reviewed (i.e., journal articles, books, totaling 88 studies or 62.4%), the rest were non-peer-reviewed reports (22, or 15.6%), and dissertations (31, or 22%). Among

Table 1. Disposition of Studies by Location of Intervention: Frequency and Percentage.

	Community n (%)	Facility n (%)	Facility + community n (%)	Boot camp n (%)	Total
All content-relevant studies	96 (68.1)	36 (25.5)	6 (4.3)	3 (2.1)	141
Equivalency screening					
Studies passing equivalency screening	73 (72.3)	21 (20.8)	4 (4.0)	3 (3.0)	101
% passing the screening	76	58	66.7	100	71.6
Quality screening (fidelity, validity and reliability of measures, attrition)					
Included in final analysis	16 (76.2)	4 (19.9)	1 (4.8)	0 (0)	21
% passing the screening	21.9	19.9	25	0	20.8

all content-relevant studies, 68.1% were conducted in community programs, and 25.5% were conducted in facilities. A relatively high percentage of studies passed equivalency screening (76% of community studies and 58% of facility studies). However, the majority of the studies suffered from low quality. Only about 1 in 5 studies passing equivalency screening also passed quality screening. None of the boot-camp studies passed both screening (Table 1).

What the Juvenile Justice Intervention Literature Can Tell Us

A total of 21 of the 141 content-relevant studies were deemed of high quality. More than three quarters of them (76.2%) were peer reviewed, 2 were doctoral dissertations, and 3 were non-peer-reviewed reports from state, local, and institutional assessments. The majority of these studies used a sample size below 200. Fifteen of the studies (71%) used randomized group assignment, whereas the rest utilized quasiexperimental design. "Treatment as usual" was the most common type of control condition (52.4%). The majority (16 out of 21 or 76%) of the programs evaluated in these high-quality studies used a therapeutic approach (vs. a control approach) to behavior change. Both counseling and multiple serves were by far the most commonly

Table 2. Types of Programs Evaluated.

	Therapeutic (<i>n</i> = 16)	Control (<i>n</i> = 2)	Both (<i>n</i> = 3)
Lipsey subtypes	Counseling = 8 Restorative = 1 Multiple services = 7	Surveillance = 1 Deterrence = 1	Multiple services + surveillance = 3

Table 3. Types of Programs Evaluated.

Lipsey intervention types	Outcome favored		Significant difference between groups
	Treatment	Control	
Therapy (<i>n</i> = 16)			
Counseling	8/8	0/8	7/8
Restorative	0/1	0/1	0/1
Multiple services	7/7	0/7	7/7
Behavior Control (<i>n</i> = 2)			
Surveillance	0/1	1/1	1/1
Deterrence	1/1	0/1	1/1
Therapy + control (<i>n</i> = 3)			
Multiple services + surveillance	2/3	0/3	2/3

used (Table 2) while few (10%) used a control approach or some combination of the two approaches (14%). As demonstrated in Table 3, interventions using the therapeutic approach to reducing recidivism, particularly counseling and multiple services, were consistently found to have significant outcomes, with the treatment group outperforming the control group in 14 out of 16 (88%) of the therapeutic intervention studies.

Discussion

Juvenile justice system involvement provides jurisdictions with the opportunity to intervene in the lives of youth involved in delinquent and criminal behavior. Although there are certainly societal and community-level factors that interact with familial, developmental, and individual-level factors to increase the likelihood of delinquency, taking advantage of opportunities to effectively address familial, developmental, and individual-level factors with

effective juvenile justice programming is one operative approach available to reduce these unwanted behaviors until those societal and community-level factors (i.e., poverty, discrimination) can also be addressed.

The systematic review conducted here found that the majority of studies assessing the effectiveness of juvenile justice interventions did not provide enough evidence to confidently interpret outcomes of reduced (or increased) recidivism for participating youth. This lack of confidence is due to an absence of vital information that allows for causal statements to be made about intervention outcomes (i.e., that the intervention caused the change in delinquent behavior): equivalence between comparison groups (to make sure differences in outcomes are not based on preexisting differences between treatment and control groups) and fidelity to intervention plans (to make sure that any changes in outcomes were in response to the intervention described in the study and not some other factor that would not necessarily be reproduced by implementing the intervention again). Findings from intervention studies that did not establish equivalency between groups or fidelity to intervention plans are thus not included in the following summary of best practices in an attempt to avoid the implied recommendation that the same intervention outcomes would likely be replicated in other facilities or communities using those interventions. The section that follows discusses the results of the 21 studies identified in this review that established equivalency and fidelity as well as low attrition and valid measures, and places those results in the context of previous findings from meta-analysis of juvenile justice programming.

Best Practices

The 21 high-quality studies included in the review were overwhelmingly conducted on interventions with a therapeutic approach to reducing recidivism and overwhelmingly found that variations of this approach, particularly the use of counseling and the provision of multiple services, worked as intended to reduce recidivism in the treatment group. By recategorizing those studies using Lipsey et al.'s (2010) taxonomy of intervention types and subtypes, it is possible to place the results of the studies reviewed here within the context of previous reviews and see that the outcomes of these 21 studies, more than 70% of which were conducted since Lipsey's (2009) meta-analysis, were consistent with those earlier findings. For instance, similar to Lipsey's findings, almost all of the quality studies using a therapeutic perspective significantly reduced the recidivism of treated youth, including studies of interventions using counseling, particularly those involving the youth and his

or her family (Henggeler et al., 2006; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Hinton, 2004; Letourneau et al., 2009; Stein et al., 2006; Timmons-Mitchell, Bender, Kishna, & Mitchell, 2006), and those providing multiple services to juvenile-justice-involved youth living in the community, with (King, Holmes, Henderson, & Latessa, 2001; Mallett & Julian, 2008; Pullmann et al., 2006) and without (Chamberlain & Reid, 1998; Leve & Chamberlain, 2007; Leve, Chamberlain, & Reid, 2005) their families.

Also consistent with Lipsey et al.'s (2010) conclusions that the use of behavioral control approaches are less effective than treatment approaches were the mixed results for interventions that combined a therapeutic and control approach. For instance, whereas two interventions using both approaches had significant, positive effects on recidivism (Bouffard & Bergseth, 2008; Lattimore, Krebs, Graham, & Cowell, 2004), one study found no differences posttreatment between the treatment and control groups (Wiebush, Wagner, McNulty, Wang, & Le, 2005).

Finally, many of the studies that passed quality and equivalence criteria were evaluations of model programs, including multiple studies of Multisystemic Therapy (MST) and Multidimensional Treatment Foster Care (MTFC). The findings of these studies, both those that were conducted before and after the last comprehensive meta-analysis of MST (Littell, Popa, & Forsythe, 2005) and MTFC (MacDonald & Turner, 2007), were consistent with previous findings.

Therapeutic approaches. Lipsey et al. (2010) identified programs as having a therapeutic approach or perspective when they address personal development through counseling services, multiple coordinated services (e.g., family counseling, individual counseling, educational advocacy, etc.), or skill-building activities. Five of the 21 high-quality studies provided solid evidence for the effectiveness of therapeutic approaches that include a youth empowerment and/or a strengths-based perspective (Hinton, 2004; Mallett & Julian, 2008; Pullmann et al., 2006), the provision of multiple services (Hinton, 2004; Mallett & Julian, 2008; Pullmann et al., 2006), and/or a focus on increasing skills or knowledge in multiple contexts of the youths' lives (Hinton, 2004; King et al., 2001; Quinn & VanDyke, 2004).

The findings of these studies provide evidence for the effective reduction of recidivism in first-time offenders (Hinton, 2004; Quinn & VanDyke, 2004), felony offenders (Mallett & Julian, 2008), juvenile-justice-involved youth with mental health problems (Pullmann et al., 2006) as well as in the general population of juvenile-justice-involved youth (King et al., 2001). In addition, these interventions were found to be more effective in reducing recidivism in comparison with usual court services (Hinton, 2004; Mallett &

Julian, 2008), probation (King et al., 2001; Quinn & VanDyke, 2004), and traditional mental health services (Pullman, 2006). Finally, these therapeutic interventions were found to reduce recidivism as measured by rearrest rates (Hinton, 2004), misdemeanor offenses and violations prior to participants' 18th birthday (King et al., 2001), readmissions to detention (Mallett & Julian, 2008), days spent in detention or state correctional facilities (Mallett & Julian, 2008; Pullmann et al., 2006), and subsequent offenses as measured in court documents (Pullmann et al., 2006; Quinn & VanDyke, 2004).

MST. It is an intervention that approaches the treatment of juvenile-justice-involved youth from a systems perspective and provides counseling on issues in as many of the youth's contexts as possible, including family, school, peer relationships, and so on. The studies evaluating MST were primarily studies conducted by the program designers (Henggeler et al., 1997; Henggeler et al., 2006; Letourneau et al., 2009), all of which found positive effects on recidivism, as did the only study conducted by an independent research team (Timmons-Mitchell et al., 2006). Although Littell et al. (2005) concluded in a previous review that the evidence supporting the use of this practice was unclear, three of the four studies in the current review add new evidence since that conclusion was drawn and all three found MST to reduce recidivism in a variety of juvenile justice populations and in comparison with different control conditions.

Four of the 21 quality studies assessed the use of MST and found it to be effective in reducing recidivism with juvenile sex offenders (Letourneau et al., 2009), violent and chronic juvenile offenders (Henggeler et al., 1997), juvenile-justice-involved youth with substance abuse or dependence (Henggeler et al., 2006), and general population juvenile-justice-involved youth (Timmons-Mitchell et al., 2006). In addition, these interventions were found to be more effective in reducing recidivism in comparison with specialized probation (Letourneau et al., 2009), regular probation (Henggeler et al., 1997; Timmons-Mitchell et al., 2006), and traditional family court community services (Henggeler et al., 2006). Finally, these interventions using the MST approach were found to reduce recidivism as measured by sexual behavior problems (Letourneau et al., 2009); self-reported delinquency (Henggeler et al., 2006; Letourneau et al., 2009), particularly as fidelity to the MST model increased (Henggeler et al., 1997); rearrest rates (Timmons-Mitchell et al., 2006), particularly as fidelity to the MST model increased (Henggeler et al., 1997); and incarceration rates (Henggeler et al., 1997). Effectiveness in reducing other measures of recidivism were more mixed, including self-reported substance abuse, which was found with some studies (Henggeler et al., 2006; Letourneau et al., 2009) but not others (Timmons-Mitchell et al., 2006), and out of home

placement, which was also found in one study (Letourneau et al., 2009) but not another (Henggeler et al., 2006).

MTFC. It is an intervention that provides foster placement in a home with highly trained foster parents along with the provision of multiple services as needed by each individual youth. Four of the 21 quality studies assessed MTFC with juvenile-justice-involved youth and found positive effects on recidivism, similar to previous work, although, similar to earlier criticisms (MacDonald & Turner, 2007), all of the studies were conducted by researchers associated with the design of the program (Chamberlain & Reid, 1998; Leve & Chamberlain, 2007; Leve et al., 2005).

With this criticism in mind, the findings of these studies do provide evidence for the use of MTFC to effectively reduce recidivism and recidivism-related outcomes in chronic and serious offenders (Chamberlain & Reid, 1998), as well as with general population juvenile-justice-involved youth (Leve & Chamberlain, 2005, 2007; Leve et al., 2005) compared with usual group home care (Chamberlain & Reid, 1998; Leve & Chamberlain, 2005, 2007; Leve et al., 2005). These studies found that MTFC reduced recidivism as measured by self-reported criminal behavior and criminal referrals (Chamberlain & Reid, 1998); educational engagement, which mediated the relationship between MTFC participation and lowered incarceration rates (Leve & Chamberlain, 2007); incarceration rates (Leve et al., 2005); and association with delinquent peers, a risk factor for delinquent behavior (Leve & Chamberlain, 2005).

Deterrence through sensitization. Among the 21 quality studies, there was only 1 study whose results, given the intervention type, were not consistent with those of previous meta-analysis. The intervention in question, studied by Weinrott, Riggan, and Frothingham (1997) used a deterrence method to control future behavior through the threat of punishment, in contrast to the use of positive reinforcement or supportive therapeutic relationships, generally found to be more effective (Lipsey, 2009; Lipton et al., 1975). This intervention targeted sexual offenders using a method of sensitization whereby previously sexually arousing stimuli that included sexualizing children, was reassociated with negative outcomes, including visualizations of getting caught with the stimuli (e.g., pictures) by nonsexually criminal peers. Whereas using an approach that attempts to control or deter behavior through the threat of discovery and punished has been found in previous meta-analysis to be generally ineffective (Lipsey et al., 2010), this study found it to have a significant effect on recidivism in the treatment group as compared with the control group. One of the unique factors that may explain why this intervention was effective was the use of the peer group in reshaping behavior considered deviant by that peer group.

Peer orientation has been termed a central factor in the lives of adolescents (Nelson & Nelson, 2010), explained through neurodevelopmental changes occurring at puberty that drive adolescent social behavior away from the family and toward peers with whom they could conceivably reproduce (Steinberg, 2008). Therefore, it may have been the use of the peer group as a source of punishment that made the intervention threat more effective than the use of an adult or other authority (such as the courts), as is the case in many ineffective interventions that use a control approach to behavior change.

Study Limitation

One limitation of the current project is that only studies available either on the Internet, in publicly available reports, or in peer-reviewed journals were included. It has been discussed elsewhere (Dickersin, 1990; B. C. Martinson, Anderson, & De Vries, 2005; Scargle, 2000) that a tendency exists for investigators, reviewers, and editors to submit or accept manuscripts for publication based on the direction or strength of the study findings. This effect, known as the “file-drawer effect” creates holes in any attempt, including the one described here, to summarize the juvenile justice programming universe. Time constraints precluded the search for such documents through, for instance, direct contact with leaders in the field of juvenile justice research; therefore it is possible that the studies included here represent only a small percentage of evaluation studies conducted in intervention programs, leading to results that may be highly skewed toward positive and significant outcome.

A second limitation that affects the completeness of this study is the lack of information regarding facility staffing size, expertise, and training—variables that are important characteristics in describing the overall milieu within which model programs and interventions are practiced and assessed. Although several studies did provide information regarding the expertise and training of those providing the intervention, no information was provided by any study regarding the staff with whom the youth interact during the remaining hours of every day. This omission is particularly problematic in those studies using a quasiexperimental design and those studies comparing participants in different facilities.

Conclusion

Assessing the impact of juvenile justice interventions is an important part of ensuring the efficient use of program participants’ time and the resources, public or private, that are expended in program provision. The systematic review conducted here was done in an attempt to add to the knowledge base

of effective juvenile justice interventions in a way that both extended previous findings and offered new perspectives in the approach to juvenile justice intervention.

The clearest evidence provided by the highest quality studies reviewed here is that therapeutic approaches, particularly counseling in multiple dimensions and services to meet multiple needs, work over attempts to control behavior through threats of punishment to reduce recidivism. From a cost perspective, the model programs providing such multiple-approach therapeutic interventions can be among the most expensive to deliver, although this need not be a deterrent from their use. Reserving the most expensive, intensive interventions such as these makes sense with the most serious offenders (Lipsey et al., 2010) who have the most to gain (and can be among the most expensive to *not* treat, when that means repeated institutionalization).

It is important to note that many of the interventions in the studies that did not meet the quality and equivalence criteria may in fact be effective programs for reducing recidivism. Noninclusion here does not mean that those studies were definitively not effective; it means that the information provided in the study report or published article did not provide enough information for confidence in the outcomes found as a result of intervention participation. Future intervention assessment in the juvenile justice system must utilize higher quality studies so that the time and resources available for addressing delinquent behavior will be used efficiently to the benefit of society and its troubled youth.

Appendix

Search Terms

Demographic: juvenile; youth*; young; minor; adolescen*

Law enforcement: pre-adjudicat*; preadjudicat*; adjudicat*; arrest*; crim*; delinquen*; diversion; divert*; offend*; perpetratt*; petition; detain*; detent*

Program intervention terms: after-care; aftercare, alternative education, continuing care, day treatment, deinstitutionalization, intervention, reintegrate, redirect, restor*; step-down; step down; transition; in-home; out of home; cognit*behavioral; treatment; community-based; campus; residential, non-residential; substance abuse; comorbidity; conduct disorder; psychopathy; court referred; ptsd; program; re-ent*; reent*; drug; alcohol; family

Databases Searched

National Criminal Justice Reference Services (NCJRS); Dissertation Abstracts Online; Criminology; International Bibliography of the Social Sciences (IBSS); PAIS International; PsycInfo; Social Services Abstracts (SSA); Sociological Abstracts; Sociology: A SAGE Full-Text Collection; Worldwide Political Science Abstracts; Criminal Justice Abstracts (CJA); Social Sciences Citation Index (ISI Web of Knowledge); Expanded Academic ASAP; Lexis-Nexis; ProQuest; JSTOR; U.S. Political Science Documents—Educational Resources Information Center (ERIC); Medline/OVID; C2 SPECTOR; Google Scholar; Science Direct; Wiley InterScience; EBSCO Megafire; SpringerLink; Justice Research & Statistics Association; Juvenile Justice Clearinghouse; National Criminal Justice Reference Service; RePORTER; Office of Juvenile Justice and Delinquency Prevention (OJJDP); U.S. Government Printing Office Publications; National Reentry Resource Center Library; Washington State Institute for Public Policy.

Declaration of Conflicting Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors acknowledge financial support from the Association of Private Correctional & Treatment Organizations (APCTO) to complete this study.

Notes

1. The decision to limit studies to these dates was made in light of Mark Lipsey's comprehensive meta-analysis of 500 juvenile justice programs spanning the years 1950 to 1995. It was felt that repeating his work would do nothing to increase the knowledge base in the field, therefore, review of the juvenile justice intervention literature for the current study spans the years 1996 to 2009, inclusive.
2. <http://ies.ed.gov/ncee/wwc/>

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Author Biographies

Michelle Evans-Chase is a PhD candidate at the School of Social Policy and Practice at the University of Pennsylvania and holds an MA in psychology from San Francisco State University. She has combined her interest in adolescent development with her knowledge of existing structural barriers to individual-level change and institutional barriers to intervention delivery in her approach to the design and evaluation of interventions for adolescents in and out of the juvenile justice system.

Huiquan Zhou received her PhD in social welfare from the University of Pennsylvania in May 2011. She holds an MSW-MEd joint degree from Boston University and also an MA in biology from Boston University. Her research interests are social policy and social development, particularly, service provision to the vulnerable and marginalized population.