



# Effective Intervention for Serious Juvenile Offenders

#### Mark W. Lipsey, David B. Wilson, and Lynn Cothern

Effective intervention plays an essential role in any strategy designed to diminish the rates of juvenile delinquency. Individuals who are employed in the juvenile justice system use intervention as an important component of dispositional sanctions imposed in juvenile cases. This is particularly true for the treatment of serious, violent, and chronic juvenile offenders (serious offenders) who have the potential for long and harmful criminal careers and who, absent effective interventions, are likely to recidivate while at the age for peak offending.

Which interventions are most effective in dealing with the serious offender? Although recent research reviews have shown that some intervention programs result in lowered recidivism among youthful offenders, the reviews have only asked whether intervention is *generally* effective (Andrews et al., 1990; Cullen and Gilbert, 1982; Garrett, 1985; Gendreau and Ross, 1987; Lipsey, 1992; Palmer, 1994). Little systematic attention has been given to the effectiveness of interventions with distinct types of offenders, and little intervention research has looked specifically at serious offenders.

This Bulletin presents the results of a meta-analysis (a systematic synthesis of quantitative research results) that posed two questions:

- Can intervention programs reduce recidivism rates among serious delinquents?
- If so, what types of programs are most effective?

The Bulletin describes the procedures used to select studies for the meta-analysis, presents the methods of analysis used to answer the above questions, and then discusses effective interventions for noninstitutionalized and institutionalized offenders.

#### **Selection Procedures**

The results reported here were derived by updating a previously conducted meta-analysis of the effects of intervention on delinquency (Lipsey, 1992, 1995) with more recent studies. A subset of studies on serious offenders was selected from that meta-analysis, yielding 200 experimental or quasi-experimental studies of interventions for both noninstitutionalized and institutionalized serious offenders. The studies selected for the new database had the following characteristics:

◆ The great majority, or all, of the juveniles were reported to be adjudicated delinquents. Most had records of prior offenses that involved person or property crimes or other, more serious, acts of delinquency (but not primarily substance abuse, status offenses, or traffic offenses).

#### From the Administrator

Although research indicates that intervention programs can reduce overall recidivism rates among juvenile offenders, inadequate attention has been paid to their impact on serious juvenile offenders.

This Bulletin describes a meta-analysis that addresses the following questions: Can intervention programs reduce recidivism rates among serious delinquents? If so, what types of programs are most effective?

While the effects measured across the 200 studies reviewed varied considerably, there was an overall decrease of 12 percent in recidivism for serious juvenile offenders who received treatment interventions.

The Bulletin describes the intervention programs that showed the strongest, most consistent impact on recidivism for serious juvenile offenders. The most effective interventions were interpersonal skills training, individual counseling, and behavioral programs for noninstitutionalized offenders, and interpersonal skills training and community-based, family-type group homes for institutionalized offenders.

The information provided by this Bulletin and by the final report of OJJDP's Study Group on Serious and Violent Juvenile Offenders, cited by the authors as a resource, should guide efforts to provide effective intervention programs for serious juvenile offenders.

John J. Wilson Acting Administrator



The referral to the intervention program was made by someone within the juvenile justice system, or the juveniles were recruited directly by the researcher.

Other studies included were those in which most or all of the juveniles in the study had aggressive histories or those whose specific purpose was to change aggressive juvenile behavior.

# Methods of Analysis and Findings

## Profile of Studies in the Database

The pool of studies selected for the metaanalytic database shared the following features:

- They were conducted in the United States by psychologists, criminologists, or sociologists and were published after 1970.
- ◆ The sample populations were largely male, mostly white or of mixed ethnicity, with an average age of 14 to 17 years. Most of the juveniles had prior offenses. In two-thirds of the samples, some or all of the juveniles had a history of aggressive behavior.
- ◆ In most of the samples, juveniles were under the supervision of the juvenile justice system and were receiving court-ordered intervention. In one-third of the sample groups, juvenile justice personnel administered treatment. In one-fifth of the groups, treatment was administered by mental health personnel in public or private agencies. In the remainder of the groups, it was administered by other counselors, laypersons, or researchers.

- ♦ For noninstitutionalized juveniles, the interventions studied included counseling, skill-oriented programs, and multiple services (combinations of services or treatments that involved several different approaches). For institutionalized juveniles, they included counseling, skill-oriented programs, and community residential programs. Treatments usually lasted 1 to 30 weeks and involved continuous contact or sessions that ranged from once or twice per week to daily, for 1/2 hour to 10 hours per week.
- Almost half of the studies used random assignment to experimental conditions; many of the others used some form of matching. Control groups typically received the usual treatment (e.g., regular probation or institutional programs). The recidivism outcome variables that were measured most frequently were police contact or arrest, court contact, or parole violations.

#### **Recidivism Effect Size**

Only one recidivism outcome measure was selected from each study. Police contact or arrest was selected if it was available; otherwise, officially recorded contact with juvenile court or offense-based probation violations were used because they are the most comparable to police arrest. The difference between the treatment and control groups on the selected recidivism measure was calculated for each study and standardized so that different measures could be compared.

Overall, juveniles who received treatment showed an average 12-percent decrease in recidivism. This result, while not enormous, was positive, statistically significant, and large enough to be meaningful. More important, however, was the large variability in

effects across studies. The remainder of this Bulletin explores the characteristics of the interventions that produced the largest effects on recidivism.

# Variation in Study Methods and Procedures

The differences in methods and procedures used in the studies are the first source of variability in effect size. The use of a multiple regression equation made it possible to estimate what the mean effect size over the 200 studies would be if all the studies were uniform in method and procedure. The method-adjusted effect sizes were then analyzed in terms of various treatment variables to identify those producing larger effects.

# Interventions for Noninstitutionalized Juveniles

The database was divided into studies of interventions with noninstitutionalized juveniles and studies of interventions with institutionalized juveniles because the circumstances of treatment are different and because the nature and response of the juveniles receiving treatment may differ. This section examines the effects of noninstitutional treatment using the method-adjusted effect size values (discussed previously) in relationship to four clusters of variables. These clusters, which were associated with more than half of the variation among effect sizes across the studies, are listed in decreasing order of magnitude:

- ◆ Juvenile offender characteristics.
- ◆ Treatment types.
- Treatment amount delivered (e.g., total number of weeks and frequency of treatment, and other ratings of treatment effectiveness).
- General program characteristics.

This model was further reduced to include only the variables in each category that were most closely related to intervention effects on recidivism among noninstitutionalized serious juvenile offenders. Intervention effectiveness was associated with the characteristics of the juveniles who received treatment. The effects were larger for more serious offenders (indicated by the types of prior offenses that included both person and property offenses) than for less serious offenders. Type of treatment was important and is discussed in the next section. Longer treatment was positively associated with effectiveness, whereas the

mean number of hours per week was negatively correlated due to the small effects realized for low-intensity programs that operate continuously or meet frequently, such as wilderness/challenge and group counseling programs. Among general program characteristics, only the level and nature of the researcher's participation made a significant, independent contribution to effect size. Effects were larger when the researcher was more involved in the design and delivery of treatment.

## Type of Treatment and Effects on Recidivism

To compare differences in treatment, observed effect sizes (the original effect size computed in each study), equated effect sizes (the effectiveness after controlling for all common variables), and methodadjusted effect sizes (the effectiveness after controlling for differences in study methods and procedures) were examined to consider the magnitude of the mean effect, the variance around each of those means, and the extent of agreement across the three different effect size estimates. Three types of treatment showed the strongest and most consistent evidence of reducing recidivism in noninstitutionalized serious offenders:

- Interpersonal skills training (based on three studies).
- Individual counseling (based on eight studies).
- Behavioral programs (based on seven studies).

It should be noted that there are only a small number of studies for each type of treatment because these treatments have not often been studied in reference to serious noninstitutionalized offenders. Following these treatment types in effectiveness were multiple services and restitution programs for juveniles on probation or parole.

The types of treatment that showed the clearest evidence that they were not effective included wilderness/challenge programs, early release from probation or parole (based on only two programs), deterrence programs, and vocational programs.

One group of treatment types, including employment-related programs; academic programs; and advocacy/social casework, group counseling, and family counseling programs, presented mixed or ambiguous evidence. This group showed inconsistent effect size estimates. On the other hand, their equated effect sizes (which account for method and procedure, juvenile char-

acteristics, and other differences) were favorable. However, without understanding the variables contributing to these differences, it is difficult to know whether the effectiveness calculated for this group of treatments was due to the treatment or to another variable.

#### Interventions for Institutionalized Juveniles

Of the 200 studies analyzed, 83 dealt with programs for institutionalized youth; of these programs, 74 were in juvenile justice institutions and 9 were in residential facilities under private or mental health administration. Using the same method of regression analysis, researchers examined the same four clusters of variables as in the sample of studies with noninstitutionalized offenders. The clusters associated with the largest variation in method-adjusted effect size were, in decreasing order of magnitude:

- General program characteristics.
- ◆ Treatment types.
- Treatment amount delivered (e.g., total number of weeks and frequency of treatment, and other ratings of treatment effectiveness).
- ◆ Juvenile offender characteristics.

This model was further reduced (using the same procedure described earlier) to weed out the weakest variables. This process indicated that the characteristics of institutionalized juveniles accounted for the smallest proportion of effect size variation. This was in contrast to noninstitutionalized juveniles, for whom juvenile characteristics were most important. This means that the

conclusions yielded by this model need not be differentiated by juvenile characteristics such as age, gender, ethnic mix, or prior offense history.

Two variables emerged that were important in terms of the amount of treatment provided. First, monitoring to ensure that all juveniles received the intended treatment was essential. Second, the length of treatment was related to the size of treatment effect; that is, the longer the treatment (the average in this sample was 25 weeks), the larger the effects. The type of treatment also was important and is discussed in the next section.

General program characteristics (i.e., the way in which a program is organized, staffed, and administered) were more related to the size of recidivism effects than the type or amount of treatment. The largest treatment effects were found for wellestablished programs (2 years or older). However, the variable most strongly related to effect size was administration by mental health personnel, in contrast to juvenile justice personnel.

# Type of Treatment and Effects on Recidivism

The different types of treatment for institutionalized juveniles were grouped according to the magnitude of mean effect sizes and the consistency of effect sizes. Again, it is important to note that the small number of studies forming the basis of these estimates limits the ability to draw strong conclusions. Two types of treatment showed relatively large, statistically significant mean effect sizes for institutionalized offenders across all estimation procedures: interpersonal skills programs (involving training in social skills and anger control)



and teaching family homes (community-based, family-style group homes). Interpersonal skills training was also one of the treatments that had a stronger effect on noninstitutionalized juveniles. Strong, but less consistent, results appeared for multiple service programs, community residential programs (mostly other than juvenile justice programs), and other miscellaneous treatments.

Milieu therapy (in which the total environment, including peers, is structured to support the goals of treatment) showed consistent null results. Drug abstinence programs, wilderness/challenge programs, and employment-related programs did not show statistically significant or consistent mean effects.

The middle tier consisted of behavioral programs and individual, group, and guided group counseling (involving a facilitated group in which members develop norms, give feedback, and make decisions that regulate behavior). Some were statistically significant and some were consistent across the three estimation procedures, but none met all the criteria. In the case of behavioral programs, this may have been because only two studies were included. For the three varieties of counseling, the effect size estimates were inconsistent. Observed effects were confounded with other study characteristics, making it difficult to determine actual treatment effects.

#### Effectiveness of Treatment Types

The question asked at the beginning of this Bulletin, "Can intervention programs reduce recidivism rates among serious delinquents?" has been answered. A review of the statistical findings of 200 studies found that the average intervention effect for these studies was positive, statistically significant, and equivalent to a recidivism reduction of about 6 percentage points from a 50-percent baseline, but variation in effects across studies was considerable.

Because there were relatively few studies of any one type of treatment and a range of influential variables, only tentative conclusions can be drawn from this meta-analysis. The first and most important finding is that sufficient research has yet to be conducted on the effects of intervention with serious offenders. Keeping this in mind, then, the question arises, "What types of programs are most effective for reducing recidivism?"

Again, the differences between interventions with institutionalized and noninstitutionalized offenders should be noted. For noninstitutional interventions, effects were most strongly related to the characteristics of the juveniles, especially those with a history of prior offenses. The influence of treatment type and amount was intermediate, and program characteristics were weakly related to effect size. This order was reversed for interventions with institutionalized juveniles. Program characteristics were most strongly related to the size of intervention effects; the type and amount of treatment were moderately related, and the characteristics of the juveniles were not especially important.

The specific program characteristics most closely connected with the reduction of reoffense rates of serious offenders were different for institutional programs for incarcerated offenders than for noninstitutional programs for offenders on probation or parole in the community. These characteristics did not necessarily have to do with the type of intervention; some were part of the administrative context or due to the characteristics of the juveniles treated. Therefore, a good match between program concept, host organization, and the targeted juvenile is essential.

#### Effective Interventions for Noninstitutionalized Offenders

The selection criteria for the 117 studies of noninstitutionalized offenders included in this meta-analysis were not highly restrictive, resulting in a range of programs in the study. The samples also varied considerably in terms of the severity of the juveniles' offense records. This allowed for some analysis of whether the interventions generally used with noninstitutionalized offenders would also be effective in reducing the recidivism of more serious offenders. The research directly addressing this question is limited, so there is no assurance that these interventions would be effective. However, this meta-analysis indicated that the intervention effects were larger for samples having greater numbers of serious offenders (with prior offenses). Also, there was little difference in the effects of interventions with respect to other characteristics of the samples (extent of aggressive history, gender, age, and ethnic mix). These two factors provide reason to believe that the interventions that are generally effective for noninstitutionalized delinquents

would be equally effective with more serious offenders. Table 1 compares the effectiveness of different types of treatments for noninstitutionalized and institutionalized offenders. Treatment types are given in descending order of effectiveness.

In this meta-analysis, the types of treatment that were the most effective for non-institutionalized offenders—individual counseling, interpersonal skills, and behavioral programs—were shown to reduce recidivism by about 40 percent, a significant decrease. It is interesting to note that individual counseling appears to be an effective form of treatment for noninstitutionalized serious offenders but not for institutionalized offenders. Further examination of this discrepancy is warranted but was beyond the scope of the meta-analysis.

Following is a description of the most effective intervention programs for noninstitutionalized offenders, as represented in table 1.

#### Individual Counseling

- Juvenile probationers received one-toone counseling from citizen volunteers in addition to regular probationary supervision (Moore, 1987).
- Reality therapy counseling, in which clients practiced eight steps until they were able to take charge of their lives, was given in weekly hour-long sessions for 12 weeks by two students enrolled in graduate-level counseling courses (Bean, 1988).
- ◆ Juvenile sexual offenders were treated with multisystemic therapy (Borduin et al., 1990).

#### Interpersonal Skills

- An experimental training program used drama and the production of videos to help delinquent juveniles see themselves from the perspective of others and to provide remedial training in role-taking skills (Chandler, 1973).
- ◆ An intensive 10-day course in a large camp or church retreat facility for juveniles included followup that involved commitment to one or more personal or community projects (Delinquency Research Group, 1986).

#### Behavioral Programs

 Adjudicated delinquents were ordered by the court to a family counseling program as a condition of probation (Gordon, Graves, and Arbuthnot, 1987).

Table 1: A Comparison of Treatment Types in Order of Effectiveness

Types of Treatment Used With Noninstitutionalized Offenders

Types of Treatment Used With Institutionalized Offenders

#### Positive effects, consistent evidence

Individual counseling Interpersonal skills Behavioral programs Interpersonal skills Teaching family homes

#### Positive effects, less consistent evidence

Multiple services Restitution, probation/parole Behavioral programs Community residential Multiple services

#### Mixed but generally positive effects, inconsistent evidence

Employment related Academic programs Advocacy/casework Family counseling Group counseling Individual counseling Guided group counseling Group counseling

#### Weak or no effects, inconsistent evidence

Reduced caseload, probation/parole

Employment related Drug abstinence Wilderness/challenge

#### Weak or no effects, consistent evidence

Wilderness/challenge Early release, probation/parole Deterrence programs Vocational programs Milieu therapy

 Probationers were included in a contingency contracting program as a method of behavior therapy (Jessness et al., 1975).

#### Multiple Services

- ◆ A probation program offered 24 different treatment techniques, with no juvenile receiving more than 12 or fewer than 4 techniques (Morris, 1970).
- ◆ A project provided 3 months of intensive services to youth on probation, followed by approximately 9 months of followup services (Browne, 1975).
- Youth were placed under intensive case management and received an array of services to meet their specific needs (Weisz et al., 1990).

#### Effective Interventions for Institutionalized Offenders

Of the 83 studies on interventions with institutionalized offenders examined in the meta-analysis, 74 involved juveniles in the custody of juvenile justice institutions and

9 involved residential institutions administered by mental health or private agencies. All juveniles had committed serious offenses warranting confinement or close supervision in an institutional facility.

Recidivism effect sizes for the different treatment types were most consistently positive for interpersonal skills interventions and teaching family homes. Recidivism effects for behavioral, community residential, and multiple service programs were somewhat less consistently positive. However, the small number of studies in each category makes it difficult to draw strong conclusions about the relative effectiveness of treatment types for institutionalized offenders. Using control group results from the available studies, the researchers estimated that the recidivism rate for these juveniles would be approximately 50 percent without treatment. Relative to that, the most effective treatments would reduce recidivism by 30-35 percent, a significant decrease considering the seriousness of these juveniles' delinquency.

The following describes the most effective intervention programs for institutionalized offenders, as represented in table 1.

#### Interpersonal Skills

- Adolescent boys living in a community home school participated in twelve 1-hour sessions in social skills training over 6 weeks (Spence and Marzillier, 1981).
- ◆ Adolescent boys at a youth center participated in aggression replacement training, which took place in 30 sessions over 10 weeks (Glick and Goldstein, 1987).
- ◆ The Social Interactional Skills Program was a structured didactic program that encouraged youth to recall problematic past experiences and identify negative social stimuli that affected their social interactions (Shivrattan, 1988).

#### Teaching Family Homes

- ◆ In a community-based, family-style group home, supervising adults (called teaching parents) used behavior modification with six to eight delinquent juveniles (Kirigan et al., 1982).
- ◆ Adjudicated delinquents were in a community-based, family-style, behavior modification group home where teaching parents used a token economy to help youth progress behaviorally and academically (Wolf, Phillips, and Fixson, 1974).

#### Behavioral Programs

- ◆ Incarcerated male and female adolescents participated in a 12-week cognitive mediation training program involving small discussion groups ranging in size from 10 to 14 youth (Guerra and Slaby, 1990).
- ◆ Institutionalized male delinquents participated in a stress inoculation training program that included defining anger, analyzing recent anger episodes, reviewing self-monitoring data, and constructing an individualized six-item anger hierarchy (Schlicter and Horan, 1981).
- Girls in a correctional institution were trained in reinforcement therapy principles and acted as peer counselors for incoming wards (Ross and McKay, 1976).

#### Community Residential Programs

◆ A community-based group home for girls offered advocacy, counseling, educational support, and vocational support (Minnesota Governor's Commission on Crime Prevention and Control, 1973).



- Institutionalized youth placed in a 32-bed therapeutic community setting in an inner-city neighborhood received counseling, remedial education, vocational assessment and training, and other services (Auerbach, 1978).
- A community-based residential treatment center for adjudicated youth used extensive group discussion as therapy and emphasized progressive assumption of self-responsibility (Allen-Hagen, 1975).

#### Multiple Services

- A probation department used a camp as an experimental program. The camp provided supportive services such as vocational training, skill-oriented education, job placement, and cottage living (Kawaguchi, 1975).
- Institutionalized boys were treated in a multifaceted program to overcome academic, vocational, and psychological deficits (Thambidurai, 1980).
- A planned reentry program used a shortterm, 52-bed living unit that included cottage living, counseling, education, and recreation activities (Seckel and Turner, 1985).

#### The Challenge of Providing Effective Interventions for Serious Juvenile Offenders

Two views are often expressed about the effectiveness of intervention with serious offenders. According to the risk principle (Andrews et al., 1990), treatment for delinquent behavior is most effective when provided to juveniles who are at highest

risk for reoffending. The opposite view is that serious juvenile delinquents are the most hardened and least likely to respond to treatment. The results of this metaanalysis support the first view—that is, serious delinquents can be helped.

On average, the 200 intervention programs studied produced positive, statistically significant effects equivalent to a 12-percent reduction in recidivism. Intervention, therefore, can reduce recidivism. However, it is difficult to know which types of programs to use. The best programs reduced recidivism by as much as 40 percent, whereas others had negligible effects on recidivism. By determining the characteristics of effective intervention, new and better programs can be designed, tested, implemented, and evaluated.

# For Further Information

The following publications are available from the Juvenile Justice Clearinghouse (JJC). For more information or to order a copy, contact JJC, 800–638–8736 (phone), 301–519–5600 (fax), puborder@ncjrs.org (e-mail), www.ojjdp.ncjrs.org (Internet).

- ◆ Summary of the Final Report of the Study Group on Serious and Violent Juvenile Offenders (Study Group). To help communities and practitioners learn more about serious and violent juvenile offenders, OJJDP released a Bulletin that summarizes the Study Group's final report. The 8-page Bulletin, Serious and Violent Juvenile Offenders (May 1998), is available (free of charge) from JJC.
- Final Study Group Report. The Study Group's final report, Never Too Early, Never Too Late: Risk Factors and Suc-

cessful Interventions for Serious and Violent Juvenile Offenders (Loeber and Farrington, 1997), is also available (for a fee) from JJC.

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