



Report prepared for Brå by Luz Anyela Morales, Vicente Garrido and Julio Sánchez-Meca

Treatment Effectiveness in Secure Corrections of Serious (Violent or Chronic) Juvenile Offenders

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Abstract

This study examines the outcomes of the best available empirical research regarding the effectiveness of treatment programmes implemented in secure corrections to prevent the recidivism of serious (violent or chronic) juvenile offenders (from 12 to 21 years old). In this review 31 experimental and quasi-experimental studies are analyzed. The global effect size of these 31 studies assuming a random-effects model in terms of the odds ratio was $or+ = 1.269$, being positive in favour of the treatment groups and statistically significant ($p = .005$). Its translation into a correlation coefficient was $r = 0.072$, meaning that the subjects that received any intervention programme exhibited, on average, 7.2% less recidivism into crime than those of the control groups. With relation to serious recidivism, we obtained a significant mean odds-ratio that supported the effectiveness of the treatment ($or+ = 1.488$). Moderator variables did not show statistically significant results to explain the heterogeneity effectiveness of the treatment. However, we found evidence to suggest desirable effects of cognitive-behavioural treatments and of multi-focused programmes.

Acknowledgements

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We appreciate the kind collaboration of Dr. Michael Caldwell for sending us his recent studies about the treatment of violent adolescent offenders.

Finally, we would like to acknowledge the support of the Campbell Collaboration in the preparation of this study.

Foreword

The potential gains from treatment programs for juvenile offenders are of significant interest to the crime policy debate. This is even more the case if the youths in question have been placed in secure correctional facilities. A range of different treatment programs have been implemented in relation to this target group. But how well do they work? What does the research tell us?

There are never sufficient resources to conduct rigorous scientific evaluations of all the crime prevention measures implemented in an individual country such as Sweden. For this reason, the Swedish National Council for Crime Prevention (Brå) has commissioned distinguished researchers to carry out an international review of the research published in this field.

This report presents a systematic review, including a statistical meta-analysis, of the effects of treatment programmes for juvenile offenders placed in secure corrections, which has been conducted by Lecturer, Ph. Candidate Luz Anyela Morales of the Autonomous University of Puebla (México), Associate Professor, Ph.D Vicente Garrido of Valencia University (Spain) and Professor, Ph.D Julio Sánchez-Meca of Murcia University (Spain).

The study follows a rigorous method for the conduct of a systematic review. The analysis combines the results from a number of evaluations that are considered to satisfy a list of empirical criteria for measuring effects as reliably as possible. The meta-analysis then uses the results from these previous evaluations to calculate and produce an overview of the effects of these programmes on the prevention of violent and non-violent offending. Thus the objective is to systematically evaluate the results from a number of studies in order to produce a more reliable picture of the possibilities and limitations associated with such programmes in relation to crime prevention efforts.

In this case, the systematic review and statistical meta-analysis are based on a large number of high quality evaluations. Even though important questions remain unanswered, the study provides an accessible and far-reaching overview of treatment programs for young offenders in secure correctional facilities and of their effects.

Stockholm, June 2010

Jan Andersson
Director-General

Summary

Background

The expression “serious” includes violent or chronic (persistent) offenders. “Juvenile” refers to young people aged 12 to 21 years. Juveniles who are responsible for violent offenses are at high risk of becoming chronic offenders, committing many types of offenses and likely to receive an institutional sentence. The challenges involved in the treatment of the violent delinquents include the fact that when the majority of serious delinquents are identified and, as consequence, receive intensive treatment from the juvenile justice system, they are well into their delinquent careers. It remains to be demonstrated what specific strategies are really promising in rehabilitating incarcerated serious juvenile offenders.

Method

The objective of this review was to collect and assess the outcomes, in a systematic way, of empirical research regarding the effectiveness of treatment programmes implemented in secure corrections in order to decrease the reoffense rate and quality (i.e., type of offence) of serious (chronic or violent) delinquents (12–21 years old).

A set of criteria for including and excluding studies in the review were developed taking into account study identification, type of participants, type of offenders, intervention context (institutionalization), type of interventions, type of design and type and quality of outcome measures.

We described the characteristics of the selected studies. Then, separate meta-analyses were carried out for the two different recidivism measures (general and serious recidivism) and for completers and intent-to-treat data (including non-completers of the programme).

We selected as the effect-size (ES) index the odds ratio (or). The meta-analytic calculations were carried out assuming a random-effects model and a fixed-effects model as well. When the heterogeneity Q test was statistically significant, mixed-effects analyses were carried out to search for moderator variables that could explain the variability among the effect estimates.

For qualitative moderator variables, weighted analyses of variance were applied on the effect estimates, whereas the relationship between continuous moderator variables and the effect estimates was assessed using weighted regression models.

Results

Assuming a random-effects model, we obtained as overall results at the last follow up for completers data a statistically significant desirable result in favour of the treatment groups ($or_+ = 1.269$; $r = 0.072$, $p = .005$). Regarding the overall results for intent-to-treat data (i.e, we assumed that all the subjects missed before the last follow-up had recidivated, an “intent-to-treat analysis”), with the fixed-effects model a statistically significant average odds ratio was obtained ($or_+ = 1.209$; $r = 0.057$; $p < .001$), but with the random-effects model the average effect did not reach statistical significance ($or_+ = 1.129$; $r = 0.037$; $p = .281$). This result showed that assuming the worst case scenario the intervention was still effective only when assuming a fixed-effects model. However, a non-significant relationship was found between effect size and attrition of the treatment group, attrition of the control group, and differential attrition between treatment and control groups. With relation to serious recidivism, we obtained a significant mean odds ratio that supported the effectiveness of the treatment ($or_+ = 1.488$). Moderator variables did not show statistically significant results to explain the heterogeneity in effectiveness of the treatment. However, we found evidence for positive effects of cognitive-behavioural treatments and of multi-focused programmes.

Policy Implications

In general, the programmes “do work” to reduce the general and, especially, the serious recidivism of serious institutionalised juvenile offenders. Results suggest that cognitive-behavioural and multifocused programmes could be the best choice when they are applied to male samples in juvenile reform centres.

Research Implications

Considering that some programmes showed a high ES and that the global ES was positive for treated juveniles, it is justifiable to continue the efforts in the treatment of this population. However, it is important to note that there are few studies assessing the efficacy of correctional intervention for this category of offenders. It is important to improve the number and quality (with a complete description of moderator variables) of this kind of studies, in order

to advance knowledge. Additionally, the few studies carried out with female samples did not permit definitive conclusions about this population.

Taking into account that results of this review suggested desirable results with cognitive – behavioural and multifocused treatments, it is important to foster research on these topics.

Regarding recidivism outcomes, it is necessary to include serious recidivism as a measure of efficacy in all the programmes intended to reduce the delinquent behaviour of serious offenders.

Introduction

The importance of interventions for serious juvenile offenders cannot be overstated as this group poses a significant challenge to criminal justice agencies both in terms of their frequency and seriousness of their offending and their later behaviour as adults. Authorities are increasingly incarcerating these young people; however, doubts remain over the effectiveness of such an approach.

In this review “serious” includes violent or chronic (persistent) offenders, and “juvenile” or “delinquent” refers to young people aged 12 to 21 years. Although different models may be needed to explain the development of delinquency and therefore the treatment characteristics for males versus female offenders, the very few studies including female offenders preclude selecting gender as a moderator variable in the analyses. Consequently this review is focused mainly on male delinquents. The focus on institutional sentences of this review exclude the research on community-based interventions.

There are many studies showing that those juveniles responsible for violent offenses are at high risk of becoming chronic offenders, committing many types of offenses and likely to receive an institutional sentence. For example, Thornberry, Huizinga and Loeber (1995) reported results from the Programme of Research on the Causes and Correlates of Delinquency, which consists of three well co-ordinated longitudinal research projects: The Denver Youth Survey, the Pittsburgh Youth Study and the Rochester Youth Development Study. In total these three projects involved 4,500 inner-city youths, ranging in age, at the beginning of data collection, from 7 to 15 years old.

Chronic violent offenders constituted only 15% of the total sample in Rochester and 14% of the adolescent sample in the Denver study; however, they committed 75% of all the violent offenses reported in the Rochester study and 82% of all the violent offenses reported in the Denver study. Data from the Rochester and Denver studies indicated the criminal versatility of these violent offenders (i.e. they commit a wide array of other offenses including property crimes, public disorder, status offenses and drug sales). In conclusion the authors stated that “If we do not successfully reach this small group, we will leave the vast majority of the violence problem untouched” (p. 220).

Similar results were obtained in the Cambridge longitudinal study (Farrington, 2003), where 73% of males convicted as juveniles between the ages of 10 to 16 were reconvicted between ages 17 and 24, in comparison with only 16% of those not convicted as juveniles (also see studies of Krohn et al., 2001, and Stattin & Magnusson, 1991, as quoted by Farrington, 2003). Violent juveniles in the Cambridge study were also criminally versatile: 55 of the 65 males with a conviction for violence also received a conviction for a non-violent crime. To a large extent, the frequent offenders were versatile and sooner or later committed a violent offense. Effective interventions with juveniles should therefore affect later offending rates in adulthood.

Finally, those juveniles with multiple convictions are more likely to receive further periods of incarceration. A twenty-state research programme sponsored by the Office of Juvenile Justice and Delinquency Prevention, 'Juveniles Taken into Custody', reported programmes that shared age 18 as the upper age of juvenile jurisdiction, permitting readmission rates to be calculated over a reasonable time period. Of the 8,057 youths released in 1992, 27% were readmitted within one year of their release. Male readmission rates were much higher than for females (28% and 16%, respectively), and there was a strong relationship between the number of prior correctional commitments and readmission rates (Krisberg & Howell, 1998).

Background

The challenges involved in the treatment of violent delinquents have been widely reported. As Thornberry, Huizinga and Loeber (1995) point out, by the time most serious delinquents are identified and receive intensive treatment from the juvenile justice system, they are well into their delinquent careers. For example, the National Youth Survey in the United States (Elliott, 1994; Elliott, Huizinga and Morse, 1986, quoted by Thornberry, Huizinga and Loeber, 1995) found a substantial gap between the peak ages of involvement in serious violence and processing by the juvenile justice system. In addition, the offenders enrolled in treatment programmes have a host of negative characteristics that reduce the likelihood of successful intervention. “These offenders are older, are heavily involved in delinquent careers, and are likely to have progressed along overt, covert and authority conflict pathways. They are likely to be involved in other forms of delinquency, to use drugs, and to exhibit other related “behavior problems”. They are likely to have multiple risk factors and social deficits [...]. Given these limitations, our expectations of treatment programmes should be modest” (Thornberry, Huizinga and Loeber, 1995, p. 233).

Lipsey and Wilson (1998) highlighted the paucity of systematic reviews of interventions with different types of offenders, especially the most serious offenders who might be presumed to be among the most resistant to treatment. This includes serious juvenile offenders.

An underlying problem is the dearth of primary intervention research conducted specifically with serious juvenile offenders: Most of the samples are mixed including less serious offenders and serious offenders are not separately identified and analysed. In an attempt to clarify the effects on serious juvenile offenders, Lipsey and Wilson (1998) conducted a meta-analysis (not in the context of a systematic review) focusing on two basic questions:

Does the evidence indicate that intervention programmes generally are capable of reducing reoffending rates for serious delinquents? And if so, what types of programmes are the most effective?

Lipsey and Wilson included 200 experimental or quasi-experimental studies (published between 1950 and 1995) that involved serious juvenile offenders to some degree (more stringent inclusion

criteria produced a very small number of studies). The juveniles finally selected were those “reported to be adjudicated delinquents”. The juvenile samples were largely male and with an average age of 14 to 17 years old. Lipsey and Wilson categorised the studies as non-institutionalised (N=117) or institutionalised (N=83).

With *non-institutionalised* juveniles, treatment effects were larger for juvenile samples with mixed priors (i.e., including some proportion of person offenses) than those with mostly property priors. The more effective interventions were a group composed of interpersonal skills training, individual counselling and behavioural programmes, while the less effective interventions were wilderness/challenge programmes, early release from probation or parole, deterrence programmes (shock incarceration), and vocational programmes (distinct from employment related programmes).

The results with *institutionalised* juveniles contrasted markedly with those for non-institutionalised juveniles: With offenders in institutions, the treatment effects are much the same for a given programme whatever the sample characteristics such as age, gender, ethnic mix and history of prior offenses. Again, the most successful intervention was interpersonal skills training, followed by the teaching family home programme (Achievement Place Project). The least effective interventions were wilderness/challenge programmes, drug abstinence, employment related programmes and milieu therapy.

The mean effect sizes were similar for both non-institutional ($r = .07$) and institutional interventions ($r = .05$), and the difference was not statistically significant. Specifically, the most effective treatments with institutionalised juveniles showed mean effect sizes of .17–.19. In terms of the equivalent recidivism rate differentials, these techniques had an impact on recidivism that was equivalent to reducing the control group recidivism rate in a 17%–19%, which is a substantial reduction considering the challenge presented by this category of offender¹.

Although Lipsey and Wilson categorised interventions as either institutional or non-institutional, they included in the institutionalised category many programmes that were, in fact, residential community-based interventions, such as Achievement Place.

According to Andrews et al. (1990), treatment for delinquent behaviour is most effective when the juveniles to whom that treatment is administered have an appreciable risk of actually reoffending (the ‘risk principle’). The contrary view, however, is often expressed: That the most serious cases will be the least amenable to treatment. The authors’ meta-analysis supported the risk princi-

¹ Values in this paragraph correspond to the translation of d values (standardized mean difference) of observed ESs presented by Lipsey and Wilson (1998), not the method-adjusted ESs.

ple: For both groups of offenders, the average intervention programme produced a desirable effect equivalent to about a 12% reduction in subsequent reoffense rates.

In spite of these results, it remains to be demonstrated what specific strategies are really promising in rehabilitating incarcerated juvenile offenders, and, as a subgroup, the incarcerated serious juvenile offender. Presently, we have some preliminary results which suggest that the efforts directed at juveniles are more promising than the ones directed at adults. Redondo et al. (1997) reported in the first meta-analysis of only European evaluations that in terms of crime typology, the largest effects sizes (criterion: General improvement) were obtained with offenders against persons ($r = .419$), and the lowest with sexual offenders ($r = .085$), and that juvenile centres ($r = .257$) and juvenile prisons ($r = .193$), were more effective than adult prisons ($r = .119$).

In a second systematic review, Redondo, Sánchez-Meca and Garrido (1999) analysed the specific influence of 32 European treatment programmes (applied during the 1980s) on recidivism. Important findings included: (1) behavioural and cognitive-behavioural programmes were the most effective; (2) treatments were more successful with juvenile offenders, the reason for this probably reflected the use of the most successful techniques (behavioural and cognitive-behavioural) with juveniles; and (3) the greatest effectiveness was achieved with violent offenders (not sex offenders), which seems to confirm the risk principle (Andrews et al., 1990).

In an update of the second European meta-analysis, Redondo, Sánchez-Meca and Garrido (2002), found that the largest effect sizes were obtained with adolescents ($r = .35$), although all of the age categories there were significant positive results.

Outcome measures in this area of “violent offending” also pose a challenge to an investigator and reviewer and must therefore be considered in this review. As Serin and Preston (2001) stress, the definition of “violent offender” and the issue of measures of recidivism have yet to be clarified. It is necessary to specify in more detail the characteristics of offenders enrolled in programmes and the quality of the reoffending, separating the new violent offenses from the general recidivism rate.

The role played by different moderating variables (e.g., prior offense history, chronicity of violent offending, age at intervention, booster programmes and gender) requires further investigation, as described by Lipsey and Wilson and the European meta-analyse.

A clinically relevant issue is the diagnosis of psychopathy. In recent years, interest has grown in the study of psychopathic personality traits as powerful predictors of violence. Prototypical psychopaths are callous, egocentric and deceitful, lacking deep emotions, guilt or remorse. They act impulsively and irresponsibly.

bly, developing a lifestyle of persistent violations of social norms and expectations (Hare, 1996), and their behavioural problems generally begin in childhood and continue through adulthood. Although there have been serious concerns about the suitability of labeling an adolescent as a psychopath, in recent years evidence has emerged that psychopathic traits can be reliably assessed in this age period (Forth, Kosson & Hare, 2003). Currently the general view about the treatment of youth with psychopathic features is that they are poor candidates to improve, or (taking into account the research about intervention in adults) may even be made worse by treatment. Likewise some research indicates that high psychopathy scores in youth predict violence and rule infractions in institutions, as well as aggression directed toward peers (Caldwell, McCormick, Umstead & Van Rybroek, 2007).

This broad picture, however, hides important gaps with respect to treatment evaluation: many of the studies examined the impact of treatment services of moderate intensity and duration or those that were not designed to increase treatment compliance, ameliorate psychopathic features or reduce recidivism. As Caldwell et al. (2007, p. 576) point out: “These studies clearly show that adolescents with psychopathic features are likely to be difficult to treat. As a result, treatment programmes not designed to specifically manage disruptive and aggressive institutional behavior may be poorly suited to the treatment needs of youths with more psychopathic features”.

In summary, many gaps remain in our knowledge about the treatment of serious delinquents:

1. The Lipsey and Wilson (1998) meta-analysis compared institutionalised and non-institutionalised treatment for serious delinquents, but they included in the institutionalised category many programmes that were in fact residential community-based interventions, like Achievement Place. We still do not know the effectiveness of secure corrections treatment *per se*, in comparison to that of the traditional juvenile prisons and training schools as well as modern small units for some kinds of offenders (with individualised treatment as a philosophy in the programme intervention).
2. The role played by different moderating variables (for example: Prior offense history versus no prior history; violent non-chronic offenders versus violent chronic offenders; intervention at an early age versus at a later age; programmes that include booster treatment after leaving versus programmes that do not include this; male delinquents versus female delinquents) has to be further investigated.

3. The measurement of “violent offenders” and offender recidivism has not been clear and consistent. It is necessary to specify in more detail who are the participants treated and the quality of the reoffending, separating new violent offenses from the general recidivism rate. In particular the issue of psychopathic traits has to be dealt with, considering the association repeatedly found between psychopathy and intervention failure.

Methodology of this Review

The general objective is to collect and assess the quality, in a systematic way, of the outcomes of empirical research regarding the effectiveness of treatment programmes implemented in secure corrections in order to decrease the reoffense rate and quality (i.e., type of offence) of serious (chronic or violent) delinquents (12–21 years old).

The specific objectives are the following:

- To identify quantitative published and unpublished studies relating to the evaluation of correctional intervention programmes for institutionalised serious (chronic or violent) juvenile offenders.
- To analyse the effects of correctional intervention in serious (violent or chronic) juvenile offenders.
- To analyse the variability caused by moderating variables. These include: Type of treatment (theoretical framework of the treatment, focus), subjects or participants in the programmes (type of offense committed), the setting in which the intervention occurs (e.g. the regime of the participants), methodology (type of design, groups attrition), and extrinsic variables (e.g. publication year).

Criteria for Inclusion and Exclusion of Studies for this Review

- *Type of studies*: This review includes published and unpublished studies between 1970 and 2007.
- *Type of participants*: The programme recipients were juveniles, either male or female, in secure corrections aged between 12 and 21 years old, under either adult or juvenile jurisdiction. In general, juvenile offenders are considered as a group of young people from 12 to 21 years old (Fuhrman, 1986; Tolan & Guerra, 1994; Rutter, Giller & Hagell, 1998; Garrido, Stangeland & Redondo, 2001).
- *Type of offenders*: We determined that the population in the selected studies belongs to the category of serious delinquents by inspecting the type of offense committed and their previous convictions. We defined violent delinquents as juveniles who have

committed violent offenses. These comprise “those acts in which someone is hurt and resulted in serious injury (requiring medical treatment-cut, bleeding, unconscious, etc.) or in which a weapon is used” (Thornberry et al., 1995, p. 224 in reference to the Denver Youth Survey). Furthermore, we included offenses that involve threatening behaviour by physical force. We included studies in which *more than half* of the sample have committed or had a history of violent offenses (see Wiebush et al., 1995, about the category of “serious and violent” offenses on which the Annual Survey of the US Office of Juvenile Justice and Delinquency Prevention is based (OJJDP, p. 176).

We defined “chronic or persistent offenders” as those juveniles with three or more previous legal adjudications (as they had been defined in studies like those of Capaldi & Paterson, 1996; Haggell and Newburn, 1994). We have included studies in which more than half of the sample consists of juveniles with three or more previous legal adjudications, or studies where the mean of the criminal history of the sample is three or more previous legal adjudications for any kind of offenses except violent ones.

Additionally, we included studies where less than half of the sample were violent delinquents, but the combination of chronic and violent individuals was higher than 50%.

Finally, we excluded studies in which more than half of the samples are sexual offenders and studies that include juveniles committing minor offenses such as shoplifting, minor public order, traffic offenses and status offenses for the first time.

· *Intervention context:* This review only included studies with institutionalised juveniles in “secure corrections” (environments or secure institutions characterized by physical restraint measures such as locked doors, walls, bars, fences, etc). We included as secure corrections: Centres of juvenile reform, prisons, borstals², training schools, camps and ranches, which hold juveniles accountable for their delinquent acts and provide a structured treatment environment. We excluded community programmes or programmes such as foster care, foster home, group home, periodical detention and, in general, those in which delinquents are in contact every day with the community (such as Achievement Place).

Because of the existence of institutionalised sentences with the final period spent in the community, we have included studies in which more than 50% of the treatment takes place in the insti-

² This is a term not in use in the USA, but has a long tradition in the UK and refers to the classic reformatory.

tution. In those cases the treatment in the community has been registered as a moderator variable.

- *Types of interventions.* We included interventions aimed at decreasing post-treatment recidivism when the juveniles are returned into the community. These include psychological approaches, social and educational procedures and methods, as well as environmental conditions directed at supporting the learning of prosocial behaviours and attitudes. The classification of interventions takes into account two criteria: the first is about the theoretical model supporting the programme, while the second one is the focus of the programme. In order to analyse all the possible varieties of cross cultural studies, we proposed the following categories of interventions to be included in our review (Redondo et al., 1997; Redondo et al., 1999):
- *Behavioural:* This model is based on learning theories (developed in criminology by, among others, Edwin Sutherland, Albert Bandura and Ronald Akers). It considers that criminal conduct, like any other human behaviour, is learned. The objective of behavioural programmes is to employ learning mechanisms to reverse the learning process, so that subjects can learn to inhibit their criminal conduct and put new socially admissible behaviour into practice.
- *Cognitive-behavioural:* This model emphasises the need to teach offenders skills that will make their interaction with other people easier (including a mixture of cognitive, social, and emotional skills). These skills will be oriented toward prosocial values, either within the family, in their jobs, or in any other social context. (e.g. Ross and Fabiano, 1985; see also Ross and Ross, 1995).
- *Cognitive:* Cognitive programmes emphasise cognitive reframing through the control of cognitive distortions, automatic thought and self-instructions.
- *Education:* These programmes consist of courses, school activities, delivery of materials for reading, etc. In these educational programmes, the curriculum focuses on core academic skills (such as grammar, mathematics, etc.) in lieu of teaching living skills (as in the social skills workshops included in cognitive-behavioural programmes).
- *Non-behavioural/cognitive:* The treatment of offenders has to be directed at treating underlying psychological alterations that are related to emotional distress. In this model, a heterogeneous set of techniques is used including techniques founded on psychodynamic theory, on a medical or pathological model of crime, or on client-centered counselling.

Another classification criterion for programmes used in our review was the focus or target of the intervention.

- *Family*: Programmes directed to change the dynamics of family relationships.
- *Group*: Programmes directed to young people working as a group generally formed by offenders with similar characteristics.
- *Peers*: Programmes directed to promote prosocial modelling among the youths, using a peer-to-peer approach.
- *Individual*: The programme is aimed at changing individual behaviour through a personal helping relationship (mentoring, counselling, etc.).
- *Multi-focused*: Programmes with several foci of attention.

Specifically, this review excludes studies that correspond with other Systematic Reviews from the Campbell Crime and Justice Group such as boot camps or scared straight programmes.

- *Type of Design*: experimental and quasi-experimental studies with control or comparison groups. Furthermore, the outcomes presented in the studies have to include recidivism rates or at least information about new offenses. Studies without a control or comparison group were excluded, due to their poor methodological quality, as well as the N = 1 studies, because it is not possible to obtain from these studies an effect-size index in the same metric as that of the group studies.
- *Types of outcome measures*. Studies had to include at least one outcome of subsequent offending behaviour, as measured by such indices as official records obtained from the police or adult/juvenile courts, that involve any kind of new offences with any kind of court response (parole, prison, etc.). Here we will refer to this outcome measure as ‘general recidivism’.

We have taken into account another measure of outcome: The measure of Serious Recidivism defined as any new officially registered serious offence that causes a new commitment to a secure facility. Serious recidivism means reincarceration or reinstitutionalisation. We tried to analyse other outcome measures such as psychological variables or behavioural achievements. Unfortunately, it was impossible to do this because there were few studies with this type of information available.

Search Strategy for Identification of Relevant Studies

Several strategies were used to identify relevant studies. First, we did a hand search of a selection of specialised relevant journal contents that are held in our Universities. We reviewed by hand search 21 english journals and seven non-english journals:

English journals

- Adolescence
- British Journal of Criminology
- Criminal Justice and Behavior
- Criminology and penology Abstracts
- Criminology, Penology and Police Science Abstracts
- Criminology
- Developmental Psychology
- Journal of Adolescence
- Journal of Applied Behavior Analysis
- Journal of Clinical Psychology
- Journal of Legal and Criminological Psychology
- Personality and Individual Differences
- Aggressive Behavior
- Association for Correctional Psychology
- Clinical Child and Adolescent Psychology
- Consulting and Clinical Psychology
- Criminal Justice Abstracts
- International Journal of Offender Therapy and Comparative Criminology
- Journal of Clinical Child Psychology
- Journal of Juvenile Justice and Detention Services
- Journal of Offender Rehabilitation

Non-English journals

- Anuario de Psicología Jurídica
- Criminalia/Academia Mexicana de Ciencias Penales
- Criminoticias/Instituto Andaluz Interuniversitario de Criminología (Spain)
- Delincuencia/Delinquency: A Social Sciences Interdisciplinary Journal.Universidad de Valencia (Spain)
- Dei Delitti e delle Pene: Revista di Studi Sociali, Storici e Giuridico Sulle Questione Crimenelle/Edizione Scientifiche Italiane
- Criminologie, Les Presses de l'Université de Montréal
- Papers d'estudis i formacio/Generalitat de Catalunya, Departament de Justícia.

Second, we conducted a specific search of 11 available electronic databases relevant for our research:

- Criminal Justice Abstracts
- Current Contents
- ERIC (Education Resource Information Clearinghouse)
- Humanities Abstracts
- Medline
- NJRS
- Pais International (Public affaire Information Service) and Sigle
- Psychological Abstracts (PsycINFO)
- Dissertation Abstracts
- Serfile
- Sociofile (Sociological Abstracts and Social Planning and Development abstracts).

Third, we contacted leading researchers in the area, and some of them sended the papers requested.

Results

In this part of the report, we describe the characteristics of the selected studies. We explain afterwards the global results of the Effect Size (ES) for general and serious recidivism, and then we analyse the relationships between some moderator variables and the effect estimates.

We found 18 reports that fit the criteria of our review. These 18 references allowed us to analyse 31 different evaluations (comparisons between treated and control groups).

Description of Selected Studies

This review included an analysis of 18 documents (ten journal articles, two books, four unpublished governmental report and two unpublished dissertations). In these 18 documents, we identified 31 comparisons between a treatment group and a control group. We named these comparisons “studies”.

For these 31 studies, we have only included groups with “n” (number of youths in each sample) equal to or above five³. When the studies had information about more than one control or comparison group, we chose one of them in order to avoid the dependency in the data (we made that choice in two cases: Bottcher [1985] and Jesness [1975]).

Table 1 shows the main characteristics of the studies included in this meta-analysis. In general, the studies included in this review were published in the United States, with samples of male violent offenders, with a mean age of 16 years. Most of the programmes were non-behavioural interventions, followed by cognitive-behavioural and cognitive treatments, and with a minority of behavioural and educational programmes. Most of the programmes focused on individuals; only one study focused on the family, two applied multi-focused services, three were directed at groups of offenders and five were directed at peers. The participants in the studies lived in juvenile prisons, as well as in special training schools and juvenile reform centres. Of the 31 studies, 13 of them were experimental studies, whereas 18 were quasi-experimental studies.

³ We decided to apply this criterion because effect sizes calculated from small sample sizes are very unstable. In any case, none of the studies had to be deleted or excluded for this reason.

A total number of 7,757 juveniles were included in all the 31 selected studies (3,786 juveniles were in the treatment groups and 3,971 in the comparison groups). However, as we have included only the most serious offenders from the samples, the initial total population included in this review is smaller (6,906 juveniles). The initial sample sizes ranged from 5 to 660 juveniles. The last follow up in the studies was between 6 and 120 months. On average, the last follow up period for the 31 studies had a median value of 18 months, whereas the mean was 31.3 months ($SD = 35.5$). The global attrition was 17% for general recidivism studies and 29% for serious recidivism studies. Descriptive characteristics of continuous variables of the studies are included in Table 2.

Description of the Studies Included in this Review

Bottcher (1985) evaluated the effect of a cognitive treatment named the Technique Situational Decision Making Model (SDM). The basic purposes of the SDM were to teach self accountability and responsibility, personal decision making skills and interpersonal problem solving skills to young female offenders who had relatively long prior records at juvenile hall (over 7 prior bookings) and fairly serious offenses on their records (86% had a person or property offense at or before commitment). Participants were 72 young female offenders (44 in the treatment group and 28 in the control group) with a mean age of 15 years. The average length of intervention in the treatment group was 3,5 months.

In this study several comparisons between treatment and control groups were reported, but for this review we only selected one comparison in order to avoid dependency effects in the data. The selected comparison was treatment group Athena 1 (which was a treatment group composed of all the girls who were committed to the Athena Programme and who were released or left in time to permit a 18 month follow up); and comparison group 4 (this group excluded all the control girls who were subsequently referred to Athena). The design of this research had moderate statistical control. Although random assignment was not done, there was post hoc matching and regression analysis to assess differences between treatment and control groups. At 18 month follow up period, the treatment group had a lower percentage of general recidivism than the control group with not significant differences between the two groups (79.55% *versus* 85.71%).

Bottoms and McClintock (1973) evaluated a treatment where participants received a non-behavioural programme characterized as a modified regime which emphasized the case history files and a special training plan for each individual. The average length of in-

tervention was 10 months in the treatment group, and 14 months for the control group. Youth participants were male mixed offenders who were thought to require secure conditions, either because of their extended records of recidivism or because of the serious nature of their crimes. In this study young male offenders participated (150 in the treatment group and 137 in the comparison group) with a mean age of 18.55 years.

This research consisted of a “before and after” research design. Offenders were assigned to conditions non randomly, and there was post hoc matching. Additionally, the authors used a prediction instrument where each offender was given an estimated probability of failure. Each juvenile was assigned to one of five classes (A,B, C, D, E), “A” being the lowest probability of failure (less than 25%) and “E” being the highest (i.e. 75% or more). In this review we only included the most serious offenders (with the higher scores, D and E).

General recidivism was assessed after a follow up period of 18 months and the data showed practically the same frequency of recidivism in both groups (modified and traditional regimes). The percentages of recidivism were 72.67% for the treatment group and 72.99% for the control group.

In *Caldwell and Van Rybroek (2001)* study 20 juveniles participated (10 in the treatment group and 10 in the control group). Participants were highly disruptive and aggressive incarcerated male juvenile offenders (80% of the participants were adjudicated delinquent for a felony index offense, and all of them had at least one previously charged crime against persons) who were matched to a resident who lived in the same institution, but did not receive the programme.

The treatment group received a cognitive-behavioural programme named the “Decompression Model”. This model places on the subject an emphasis on shifting bonds through tangible experiences and de-emphasizes the unproductive verbal processing of past complaints and unresolved feelings. The goal of the treatment was to obtain enough behavioural control with the purpose that the juvenile could be able to engage in the usual treatment and rehabilitation services.

Each ‘decompression participant’ was matched to an institutional resident than had not participated in the programme (control group). The groups were matched on their race, family, socio-economic status, county of origin, and number of parents in the home. In addition, each treatment and control participant was matched on two key theoretical variables: (1) the age of first arrest; and (2) course of persistent offending. The factors used to match the control groups certainly indicated that the treatment group was no less delinquent or disruptive than the comparison group. None of the control variables means differed significantly between the treatment and the control groups.

In this study general recidivism was measured at an average follow up period of 17.73 months. The recidivism percentage of the treatment group was 10% versus 70% of the control group. The data showed significant differences in favor of the treatment group ($p < 0.01$).

Caldwell and Van Rybroek (2005) evaluated the reduction in offending in a population of serious juvenile offenders following an intensive institutional treatment programme. The treatment group ($n = 110$) was compared to a similar group that was assessed but not treated ($n = 147$). It is remarkable that both groups presented an elevated psychopathy score (33% in the treatment group and 32% in the control group, measured by the Psychopathy Checklist Youth Version), which is often a predictor of poor treatment outcome.

The assignment of participants to the groups was not random, and the authors included a propensity score analysis procedure in the outcome analysis. Experimental group youths received an intensive programme based on the Decompression Model. The programme attempted to be highly responsive to the issues that generate treatment resistance in these youth. It was found that the youth treated had lower re-offense rates at two years of follow up than the juveniles in the control group (51.49% versus 72.79%; $p < .001$).

Cann, Falshaw, Nugent and Friendship (2003) did two comparison studies. The first one compared an Enhanced Thinking Skills Programme group and a control group (study 1). The other one compared the Reasoning and Rehabilitation programme group and a control group (study 2).

The sample comprised young male mixed offenders (chronic and violent). Two-year expected reconviction rates were generated for the sample using the average OGRS score for offenders in each risk group (Low, Medium-Low, Medium-High and High). This research used a retrospective matching methodology to match young offender treatment participants to comparison offenders. A 1:1 match was made for each programme starter. This was done using five matching variables: (1) risk of reconviction measured which was used to categorize offenders as low, medium low, medium-high and high risk (for this review, we only took into account the high risk category); (2) ethnicity; (3) sentence length (less than 12 months, 12 months to 2 years, 2 to 4 years and 4 years or more for young offenders); (4) offense type (violent, sexual, acquisitive, drugs and other); and (5) year of discharge (1996, 1997, 1998, 1999 and 2000).

In Study 1, 1136 youths participated in the Enhanced Thinking Skills programme: 568 juveniles in the treatment group and 568 youths in the control group. It was found that the treatment group showed lower recidivism rates than the control group at one year

of follow up (45.07% *versus* 49.3%), but without statistical significance.

In Study 2, 306 juveniles participated in the Reasoning and Rehabilitation programme: 153 in the treatment group and 153 in the control group. Match was made for each participant. The recidivism rate was lower in the treatment group in comparison to the control group (44.44% *versus* 50.98%), without statistical significance.

Cornish and Clarke (1975) compared 173 young male chronic offenders (with an average of 3.1 previous court appearances) randomly allocated to treatment (86 youths) or control (87 juveniles) groups. The mean age of youths in this study was 14.30 years.

From the pool of 280 boys allocated to Kingswood Training School, the staff of the experimental House selected those whom they considered would benefit from the treatment offered by their therapeutic community. These eligible boys were randomly allocated between the E House and the C House. Additionally, a comparison of the two groups on nineteen background factors was made, and was no differences between groups were found.

The treatment consisted of a therapeutic community. The most important components of the treatment were the group meetings (which helps the individual to internalize acceptable codes and values for a normal society) and the interaction between juveniles and the outside community. The General recidivism at 24 months of follow up was a little higher percentage for the treatment group in comparison to the control group (67.14% *versus* 64.29%; no statistical significance). The available data corresponded to 70 youths of the treatment group and 70 juveniles of the control group.

Fagan's (1990) research included 227 male violent juvenile offenders (122 in the experimental group and 105 in the control group) with a mean age of 16.4. Participants were selected after adjudication for a Part I index felony, and had a prior adjudication for a "major" felony. Juveniles had prior petitions and prior adjudications.

Eligible youths were assigned randomly to experimental programmes or to mainstream juvenile corrections programmes. This research was done in four different cities of the United States. As recidivism data in each city was shown in an independent way, these data have been analyzed in this review as 4 different studies: Study 1: Boston; Study 2: Detroit; Study 3: Memphis; and Study 4: Newark.

The intervention model applied in this research was cognitive-behavioural, named the Violent Juvenile Offender (VJO) programme. The intervention model emphasized the development of social bonds and the "unlearning" of delinquent behavior along with the development of social competence and skills applicable to a natural neighborhood setting.

The program included different dimensions such as theoretical principles as well as structural elements.

The theoretical principles included the following elements: (1) social networking; (2) provision of opportunities for youths (participation in school, workplace and family activities); (3) social learning (including rewards and sanctions for attainment of goals or for contingent behaviors); (4) goal-oriented behaviors (e.g., substance abuse treatment or psychotherapy).

The structural elements of the program included: (1) case management procedures; (2) reintegration of youths into their communities; and (3) multiple-phase residential program (secure care, community-based residence, and community living or reintegration phases).

A continuous measure of treatment was developed from analyses of the program implementation. This measure included comparisons of the relative strength and integrity of the interventions. Implementation analyses compared the presence of program elements and theoretical principles in experimental and in control conditions. Although the treatment was basically the same, there were some differences in its implementation in each one of the cities involved. We describe the program characteristics that showed differences between the four studies:

Study 1 Boston: In this city the programme had the most balanced reward/sanction ratio for attainment of goals or for contingent behaviors of the juveniles. The overall implementation of all components of the programme in this city was high. At 12 month follow up period there was available data of 10 youths in the treatment group and 10 juveniles in the control group. The outcome of general recidivism was lower for the treatment group in comparison with the control group (40% *versus* 50%), no significant differences.

Study 2. Detroit: In this study the programme had an unbalanced reward/sanction ratio for attainment of goals or for contingent behaviors of the juveniles. The overall implementation of all components of the programme in this city was high. After 36 month follow up period, there was available data about general recidivism for 17 juveniles in the treatment group and 7 youths in the control group. The general recidivism was higher in the treatment group than in the control group (64.71% *versus* 28.57%), no significant differences.

Study 3. Memphis: In general, Memphis had a poor reward/sanction ratio for attainment of goals or for contingent behaviors of the youths. The implementation of the programme in this city was medium. The number of juveniles of the treatment and control groups at the 24 month follow period was 5 and 7, respectively. For this follow up period the general recidivism was lower in the treatment group in comparison to the control group, without statistical significance (40% *versus* 71.43%).

Study 4. Newark: In this city the programme had a poor reward/sanction ratio for attainment of goals or for contingent behaviors of the juveniles; on the other hand that technique had been implemented very late in the programme. The implementation of the programme in this city was low. At a 24 month follow up period there was available data only of 15 and 12 juveniles of the treatment and control groups, respectively. The general recidivism was lower in the treatment group in comparison to the control group (53.33% versus 75%), no significant differences.

Friedman and Friedman (1970) reported two studies in their research. The first one corresponded to the application of non behavioural family therapy treatment compared to a control group; the second was a cognitive intervention named Intensive Peer Group Counseling. The two studies had a total of 479 male young offenders (236 in study 1 and 243 in study 2) with a mean age of 16.50 years. The average frequency of arrest in official records was 5.6 for the total sample.

Study 1. Non behavioural – Family therapy. Male young offenders participating in this study (128 in the treatment group and 108 in the control group) were partially randomly assigned to treatment and control conditions. The authors used statistical co-variance procedures for equating groups. The family therapy treatment included extra support and reassurance to the family at times of crisis, assistance to the family to set realistic goals and cooperatively work towards them, resolving long suppressed hurt, bitter and hostile feelings that members had toward each other, and helping them to understand and resolve each others feelings. After a 33 month follow up, the available data of the treatment and control groups corresponded to 79 and 37 juveniles, respectively. The mean for general recidivism was lower in the treatment group (6.8) in comparison to the control group (8.6), no significant differences.

Study 2. Cognitive (Intensive Peer Group Counseling). Young offenders participated in this study (135 in treatment group and 108 in control group) with a mean age of 16.5 years. The groups were randomly assigned. The treatment programme was cognitive (Intensive Peer Group Counseling). This approach gives special importance to the delinquent peer group and emphasizes direct confrontation about delinquent values, previous careers, nocturnal habits, antisocial attitudes and how they had not been able to work consistently on a job in the past, as well as taking responsibility for themselves. At 33 month follow up, the available data for the treatment and control groups corresponded to 75 and 37 juveniles, respectively. The mean for general recidivism was lower in the treatment group (6.8) in comparison to the control group (8.6), no significant differences.

In the *Gordon (1996)* study participated 480 serious male juvenile delinquents (254 in the treatment group and 226 in the con-

control group) with a mean age of 16.3 years. Half of the juvenile participants in this study committed offenses against the person. They had a mean of 2.82 prior convictions, and 50% had 3 or more prior convictions. This study was a longitudinal design with two groups. There was not random assignment of juveniles, but the author did a post hoc match between the experimental and comparison groups. Both groups were similar.

The intervention was a cognitive – behavioural programme. Its goal was to change youths attitudes and behaviors from antisocial to pro-social. The programme focused on cognitive therapy and behavior modification. There were other components of the programme such as reality therapy and family intervention. After 24 months of follow up, there was available data only of 104 youths of the treatment group and 226 juveniles of the control group. For this follow up period the treatment group registered lower recidivism percentage than the control group (33.65% *versus* 44.69%) with tendency to the statistical significance ($p = .059$).

Guerra and Slaby (1990) studied 120 juvenile offenders (mean age: 17.2). All of the participants were incarcerated for committing one or more violent criminal acts. Potential offenders were randomly assigned (balanced by gender) to one of three experimental groups: cognitive mediational training (CMT), attention control (AC) or no – treatment control (NTC).

Study 1. The authors reported data about general recidivism of 29 and 24 juveniles from treatment and control groups respectively. The treatment applied was the cognitive mediation training programme (CMT). The programme focused on remediating social problem-solving skills deficits and on modifying those beliefs that supported the use of aggression. After 24 months of follow up, the treatment group had a lower percentage of recidivism than the control group (34.48% *versus* 45.83%, no statistical significance).

Study 2. Actually, this study is the comparison between two control groups. The first one consisted of an attention group where the applied treatment had an educative emphasis. The control group did not receive treatment and was only assessed. The first group was composed of 28 youths and the second one of 24 juveniles. At 24 months of follow up, the treatment group had a lower percentage of recidivism than the control group (42.86% *versus* 45.83%, no statistical significance).

In *Jesness's (1971)* research there were 655 male juveniles in the treatment group and 518 in the comparison group. As the author assessed the risk of youths, we chose for the purposes of this review only the most serious (higher risk) offenders (222 in the treatment group and 182 in the comparison group) with a mean age of 17.6 years. Juveniles were randomly assigned to experimental or control groups. The treatment was delivered according to the sub-

type of personality of the participants. There were 6 units and each one of them had a different emphasis in the treatment:

Unit 1: Unsocialized Aggressive and Unsocialized Passive unit: one to one individual contacts.

Unit 2: Conformist Cultural Unit emphasized a quiet relaxed atmosphere and one to one individual contacts.

Unit 3: Conformist Immature Unit preferred group rather than individual counseling.

Unit 4: Manipulator Unit used behavioural intervention and one to one individual contacts.

Unit 5: Neurotic Acting Out Unit focused on individual counseling based on transactional analysis to help juveniles understand and deal with family hang-ups.

Unit 6: Neurotic Anxious Unit emphasized one to one individual contacts and group counseling.

At 24 month follow up the treatment group had a little lower percentage of recidivism than the control group (75.68% *versus* 77.47%), without statistical significance.

Jesness (1975) analysed 2010 male juvenile offenders (1113 in the study 1, and 897 in study 2). Juveniles had a mean age of 16.6 years. The youths were serious offenders (i.e., almost all had fairly extensive prior records).

Study 1. The experimental group (453 youths) received a non-behavioural programme based on transactional analysis (psychodynamic principles and group therapy). The comparison group was composed of 660 youths. At 12 months, the recidivism rate of the experimental group was significantly lower than for the comparison group (32.89% *versus* 47.42%; $p < 0.01$).

Study 2. Male juvenile offenders in the treatment group ($n = 398$) received a behavioural intervention. The comparison group contained 499 youths. The recidivism rate for the experimental group was significantly lower than for the comparison group (32.41% *versus* 41.68%; $p < 0.01$).

Kawaguchi (1975) assessed the treatment programme of 319 violent male offenders compared to 333 youths in the comparison group. The mean age of the participants was 17.4 years. Participants in this study had prior petitions and camp commitment for offenses against persons. Every juvenile had more than 3 prior legal petitions. This study was a non-equivalent control group design. The experimental and control groups did not have pre-experimental sampling equivalence. However, for data analysis, the author took into account the differences between the treatment and the control groups. Both experimental and comparison groups emphasized vocational training and academic education for senior boys. The main difference between the groups was the participation of the Teledyne Economic Development Company (TED) in the first group. The TED programme was private and this condi-

tion allowed greater programming and staffing flexibility than in the control group. The objective of the programme at Camp Fenner was to prepare male delinquent juveniles for successful re-entry into the community. After 12 months of release, the recidivism percentage was available only for 168 and 202 youths of the treatment and control groups. The general recidivism in the treatment group was higher than the control group (38.1% *versus* 35.15%, no statistical significance).

Moody (1997) studied 28 male young offenders (14 in the treatment group and 14 in the comparison group) with a mean age of 14.3 years participants were not randomly assigned, but the author used a chi square test to compare treatment and control youths in recidivism. He did not find significant differences between the groups. Most juveniles in the sample had previous criminal convictions, including a history of assaultive behavior and violence convictions. The treatment was cognitive-behavioural and consisted of pair counseling, moral dilemmas, discussion groups and a token economy. After 18 month follow up, the percentage of recidivism in the treatment and the control groups was the same (50%).

Randall (1973) studied 100 male offenders (50 in the treatment group and 50 in the comparison group) with a mean age of 19.3 years. All the young inmates in the study had been convicted and sentenced for a serious crime or felony, as defined by the Connecticut Statutes. The programme applied to the experimental group was a vocational training one (project YIPPEE – Youth Incarcerated and/or Prison Preparing Early to Earn). Courses in YIPPEE were related to job opportunities that were available in Connecticut communities.

Fifty juveniles were selected as an experimental group from those inmates who had completed the courses in Project YIPPEE (treatment). This experimental group was matched with a control group of fifty subjects selected from released inmates who were considered to be eligible for Project YIPPEE, but who did not participate in it. Information for each participant was used to compare the experimental and control groups. A *t* test was used to determine if there were differences between both groups in variables such as: (1) mean of age; (2) learning skills; (3) education level; and (4) reason for incarceration. The differences in these variables were not statistically significant. A *chi square* analysis was performed on the reason for incarceration and showed no significant differences. A chi square test showed no significant differences between the two groups. At 12 month follow up, the recidivism percentage for the experimental group was the same as in the control group (58%).

Robinson (1994) compared 73 youths in the treatment group to 64 youths in the comparison group. The mean age of the par-

ticipants in this study was 15.8 years. Youth were adjudicated to the facility to serve a time guideline (sentence) by a juvenile court judge either for a series of criminal offenses or for offences, such as homicides, serious enough to warrant confinement. The project was conducted as a quasi-experiment. In general, both groups were equivalent. After studying the control group and the treatment group for equivalency, it was found that the groups were not significantly different in the following variables: (1) age at which the offenders were committed to secure confinement; (2) age of the youth's first offense; (3) School achievement; (4) IQ scores; (5) the number of prior felonies; (6) seriousness of prior offenses (total crimes against persons).

The only difference founded between treatment and control groups was the number of misdemeanors. The control group had significantly more prior misdemeanors than the treatment group.

The treatment applied to the experimental group consisted of several modules of the Reasoning and Rehabilitation curriculum including problem solving, social and negotiation skills, management of emotions, creative thinking, values enhancement, critical reasoning, and cognitive exercises group discussions. After 6 months, the recidivism percentage for the treatment group was lower than for the control group (39.73% versus 48.44%), no significant differences.

Ross and McKay (1976) compared four 15 girl treatment groups to one control group (n = 15). The mean age of the girls was 15 years. The participants were unmanageable delinquent girls with chronic and severe behavior problems. The sequential nature of the project prevented the authors from using random assignment of the participants to the various treatment and control groups. However, the authors were able to select from the population of offenders treated (approximately 200) comparison groups of subjects matched on variety of factors such as age, length of institutionalization and IQ. There were no pre-treatment differences in the institutional behavior of participants in the different treatment or control groups. This research consisted of four comparisons between treatment and control groups. Each comparison corresponded to one kind of treatment (study 1 to study 4).

Study 1. In this study a behavior modification programme (token economy) was applied. This programme incorporated sequential stages or levels through which each girl progressed as she earned her return to community living. After 9 months of follow up, the recidivism percentage was higher for the treatment group in comparison with the control group (53.33% versus 33.33%, no statistical significance).

Study 2. In this programme rewards were contingent only upon performance of specified positive social acts. After a 9 month of follow up period, the recidivism percentage for the treatment group

was higher than for the control group (66.67% *versus* 33.33%, no statistical significance).

Study 3. In this study, a behavior modification programme plus a peer therapist programme was applied. After a 9 month follow up period, the recidivism percentage for the treatment group was higher than for the control group (60% *versus* 33.33%, no significant differences).

Study 4. In this study a peer therapist programme alone was applied. The participants were trained in reinforcement therapy principles and persuaded to act as therapists for each other. After a 9 month of follow up period, the recidivism percentage for the treatment group was lower than the control group (6.67% *versus* 33.33%; $p = .097$).

Sowles and Gill (1970) examined 40 youths in treatment groups (15 boys and 5 girls in individual counseling, 15 boys and 5 girls in group counseling) and 20 juveniles in the control groups. The mean age of youths in this study was 14.85 years. The mean total official offenses for the boys was 5.6. The mean total official offenses for the girls was 3.4. Participants were randomly assigned to one of two counseling treatment groups (individual or group counseling), and to one control group. Each treatment was applied to boys and girls. As the results were presented by gender, we took into account boys and girls as independent studies. Except for the control group, workers encouraged the delinquents to develop stable and acceptable relationships with peers and staff, in order to explore their experiences and feelings which may have contributed to the delinquent offences, as well as to cope with their feelings of frustration in more acceptable ways.

Study 1. Boys. In this study a non-behavioural individual counseling programme was applied. After 120 months, the percentage recidivism of the treatment and control groups were the same (53.33%).

Study 2. Girls. In this study a non-behavioural individual counseling programme was applied. After 120 months, the percentage recidivism of the treatment group was higher than of the control group (60% *versus* 20%, no significant differences).

Study 3. Boys. In this study a non-behavioural group counseling programme was applied. After 120 months, the percentage recidivism of the treatment group were higher than of the control group (60% *versus* 53.33%), no significant differences.

Study 4. Girls. In this study a non-behavioural group counseling programme was applied. After 120 months, the percentage recidivism of the treatment group were higher than of the control group (60% *versus* 20%, no significant differences).

Results of the Meta-Analysis

For this review, we defined general recidivism in a broad sense, including any official record obtained from the police or adult/juvenile justice courts, which involved any kind of new offenses with any kind of court response (parole, prison, etc.). The results obtained about general recidivism from the completers data is shown in Table 3. Figure 1 shows a forest plot for the effect sizes distribution in the metric of the odds ratio, with the values over 1 showing a lowest rate of general recidivism in the treatment group in comparison to the control group. Assuming a random-effects model, the average odds ratio was $or_+ = 1.269$, being positive in favour of the treatment groups and statistically significant ($p = .005$). Its translation into a correlation coefficient was $r = 0.072$, meaning that the individuals who received any intervention programme exhibited, in average, 7.2% less recidivism than those of the control groups. The average effect size obtained from the fixed-effects model was very similar ($r = 0.088$) to that from the random-effects model and the heterogeneity Q test was statistically significant ($p = .018$; $I^2 = 38.1\%$). These results imply that the effectiveness of the applied treatments was heterogeneous and, as a consequence, we analysed the influence of moderator variables on the effect estimates by means of mixed-effects models. Because of the small number of studies included in the meta-analysis, only a few conceptually relevant moderator variables were examined.

With the purpose of carrying out a sensitivity analysis, the odds ratio of each single study was re-calculated taking into account the initial sample size of both the treatment and the control groups. As the outcome was dichotomous (recidivism versus non-recidivism), we assumed that all the subjects missed before the last follow-up had recidivated (an “intent-to-treat analysis”). With this strategy, we were recreating the poorest scenario in terms of effectiveness. If under this scenario the results were similar to those obtained with the completers data, then we will have a strong argument to dismiss possible biases due to attrition.

Table 4 shows the results of our meta-analysis for intent-to-treat data. With the fixed-effects model a statistically significant average odds ratio was obtained ($or_+ = 1.209$; $r = 0.057$; $p < .001$), but with the random-effects model the average effect did not reach statistical significance ($or_+ = 1.129$; $r = 0.037$; $p = .281$). This result showed that assuming the worst scenario (that is to say, that all missing individuals both in the experimental and the control group had recidivated), the intervention was still effective only when assuming a fixed-effects model. This can be a threat against the validity of our results. However, as we will comment later, a non-significant relationship was found between effect size and attrition of treatment group, attrition of control group, and differen-

tial attrition between treatment and control groups (see Table 6). In this way we can conclude that our results are not overly influenced by attrition. As a consequence the following analyses were carried out only with the completers data.

Effect Sizes for General Recidivism: Searching for Moderator Variables

The first moderator variable was the design type, distinguishing between experimental (random assignment) and quasi-experimental (nonrandom assignment) studies. Table 5 shows the results of applying a mixed-effects model for the design type on the odds ratios. The inter-categories homogeneity test (Q_B) showed no statistically significant differences between the mean effect sizes for the experimental and quasi-experimental studies ($p = .267$), although the confidence interval of the average odds ratio for the experimental designs included the null effect ($or_+ = 1.070$; $r = 0.020$), whereas that of the quasi-experimental designs did not include it ($or_+ = 1.332$; $r = 0.086$). Although the absence of significant differences between the two design types justifies the integration of all the studies in order to analyse the rest of the moderator variables, the results should be interpreted very cautiously because of the differences between the two mean effect sizes.

Attrition and Effect Size

In order to complement the intent-to-treat analyses presented before, we also carried out simple regression analyses, assuming a mixed-effects model, to examine the relationships between effect size and three moderator variables concerning attrition: (a) attrition in the treatment group (A_T), (b) attrition in the control group (A_C), and (c) differential attrition between the treatment and the control group, defined as $A_{Dif} = A_T - A_C$. So, positive values for A_{Dif} represented a higher attrition in the treatment than in the control group, and vice versa (Table 6).

The results shown in this table point out that neither the attrition of the treatment group ($p = .997$), nor that of the control group ($p = .698$), nor the differential attrition between both groups ($p = .607$) were significantly related to the effect estimates. Therefore, attrition is unlikely to be a meaningful source of bias in these results.

Treatment Type and Effect Size

One of the moderator variables that was most conceptually relevant to explain heterogeneity among the effect size estimates was the type of treatment implemented in the experimental groups.

Table 7 presents the results of analysing this moderator variable on the effect estimates. Comparing the five treatment categories here considered the result was not statistically significant [$Q_B(4) = 5.393, p = .249; \omega^2 = 0.034$]. We can not say, consequently, that some treatments were better than others, although the absence of statistical significance can be due to the paucity of studies included in each. Moreover, with the exception of the cognitive-behavioural treatment, the remaining four treatment categories obtained confidence intervals around the average effect size that included the null effect and, therefore, we must conclude that there was no evidence in favour of the effectiveness of those interventions evaluated with serious juvenile offenders in terms of general recidivism.

Therefore, although in a strict sense our findings did not show differential effectiveness of the treatment categories, we find sound evidence for positive effects of the cognitive-behavioural treatments.

In relation to the control or comparison groups, in general there was a poor description of the research conditions. Most of the comparison groups (17 of the 31 studies included in the review) had no available information about the characteristics of the programme received (if it was educational, vocational or only more controlling regimes), but it seems that these programmes were not highly structured. In six cases it was clear that the comparison groups were in a hard facility regime. Other five studies received some kind of academic or educational programme. In two studies comparison groups received some kind of therapeutic community. Finally, only one study included behavioural intervention in the control group.

Focus Type and Effect Size

A moderator variable related to the treatment category was the focus of the programme. As is shown in the Table 8, nonsignificant differences were found among the mean effect sizes pertaining to the intervention categories in terms of the selected focus ($p = .255$). However, of the four categories analysed, only the multi-focused programmes had a significant mean ES ($or_{\pm} = 1.798$; confidence limits: 1.096 and 2.950; $r = 0.175$). This result has to be taken very cautiously because it is based on just two studies.

Delinquent Type and Effect Size

There were no significant differences among the three types of offenders (chronic, violent or mixed) in relation to effectiveness ($p = .219$), with a proportion of variance accounted for almost null ($\omega^2 = .022$). Moreover, the mixed offenders was the only category with a significant mean ES ($or_{\pm} = 1.355$; confidence limits: 1.086 and 1.691; $r = 0.092$) (Table 9).

Follow-up Duration and Effect Size

A weighted mixed-effects regression model was applied in order to test whether the follow-up period was related with the effect sizes (see Table 6). The unstandardized regression slope was negative ($B = -0.0054$), but it did not reach statistical significance [$Q_R(1) = 1.490, p = .222$], with a negligible proportion of variance accounted for ($R^2_{adj} = .010$). Therefore, the follow-up period did not seem to be related to the treatment effect.

Publication Bias

On the other hand, to test if publication bias might be a threat to the validity of our meta-analytic results, we compared the mean effect size for the published and unpublished studies included in the meta-analysis. There were no significant differences related to publication status.

To complement this result, we applied the Egger test. The ‘Egger test’ is an unweighted regression consisting of taking the precision of each study as the independent variable (precision being defined as the inverse of the standard error of each effect size) and the effect size divided by its standard error as the dependent variable. A t -test for the hypothesis of an intercept equal to zero enables us to determine if publication bias is a threat against the validity of our overall effect size (Sterne & Egger, 2005). In our case, applying the Egger test we obtained a statistically non-significant result for the intercept of the regression model [Intercept = -0.520 ; $T(29) = 1.422, p = .166$] and, therefore, we can reject publication bias as a confounding source of our results.

Serious Recidivism and Effect Size

With relation to serious recidivism, the 16 studies that were analysed had a significant mean odds ratio that supported the effectiveness of the treatment ($or_+ = 1.488$; confidence limits: 1.200 and 1.845; $r = 0.119$) (Figure 2). Moreover, the ESs were homogeneous around the mean odds ratio [$Q(15) = 15.002, p = .451$], and the between-studies variance was 0 (as well as the I^2 index); as a consequence, the assumed statistical model in this case was the fixed-effects model. Therefore, we can affirm that the interventions reduced serious recidivism.

Are the results for serious recidivism better than those for general recidivism? Taking into account only the studies that reported both general and serious recidivism, the mean ES in terms of the correlation coefficient for serious recidivism ($or_+ = 1.488$; $r = 0.119$) was almost twice the ES for general recidivism ($or_+ = 1.249$; $r = 0.067$) (see Table 10). However, the confidence interval for general recidivism for these 16 studies included the null effect, sug-

gesting that the effectiveness obtained for serious recidivism did not extend to general recidivism.

Again, the results obtained rejected publication bias, because we did not find significant differences between published and unpublished studies. On the other hand, because few studies reported data about serious recidivism we did not conduct any analysis with respect to the influence of moderator variables.

Conclusions

One of the main objectives of this review was to identify empirical published and unpublished studies with high methodological rigor, relating to the evaluation of correctional intervention programmes for institutionalised serious (chronic or violent) juvenile offenders. Considering this objective, we found few studies that met our definition of serious offenders and high methodological rigor. Only 18 documents met these inclusion criteria for our review. Although these criteria were flexible (because we included experimental as well as quasi-experimental studies), the number of studies found was low.

Additionally, in spite of our efforts we could not find studies with these characteristics in languages other than English. Almost all the studies in this review were done in the United States. This condition limits our conclusions for other countries and cultures, and supports the need to foster this kind of research in other countries.

Our main question was if, with the best available evidence, correctional treatment could demonstrate effectiveness to reduce the recidivism of serious institutionalised juvenile offenders. This systematic review addressed the following question: Are correctional treatments effective in reducing recidivism among institutionalised serious (violent or chronic) juvenile offenders?

Our research confirms the overall finding found in other meta-analyses of the efficacy of the treatment programmes for juvenile offenders (Andrews et al., 1990; Garret, 1985; Gensheimer, Mayer, Gottschalk and Davidson, 1986; Redondo, Garrido and Sánchez-Meca, 1997, 1999, 2002), and especially the results of assessments about the limited effectiveness of programmes applied to serious offenders (Lipsey, 1999; Lipsey and Wilson, 1998).

In general, the mean ES for general recidivism was positive in favour of the treatment groups. Thus, the evidence suggests that implementing programmes is better than not doing this. However, due to the available information from the studies and considering the number of studies analysed in this review, it is very difficult to discriminate the main characteristics associated with effective programmes.

The previous meta-analyses of Lipsey and Wilson (1998) and Lipsey (1999) reported ESs of $r = .05$ for interventions with institutionalised serious juveniles offenders. The present review re-

ports an ES of $r = .07$, a similar value, which leads us to the conclusion that the effectiveness of interventions with serious offenders is significant but small. Although with the available data we cannot affirm that the type of intervention has an influence on the results found, it is important to point out that cognitive – behavioural programmes had the greatest effects. These results are in agreement with the results of other meta-analyses.

Another important result is the focus of the intervention programme. The multi-focused interventions reported a significant ES. Although there were only two studies classified in the category of multi-focused treatment, it is important to consider this factor in future research, with its respective complete description in the studies. The result about the focus of the interventions can be an initial indication of a promising component of treatment success.

Finally, in spite of the fact that not all the included studies in this review had data on serious recidivism, the analysis of the 16 studies with this kind of result presented interesting data. The global ES for serious recidivism was favourable to treatment groups with a statistically significant mean ES. In particular the results obtained by Caldwell and Van Rybroek (2005) are remarkable, in showing that offenders with a high score in psychopathy features can respond positively after the treatment. These results indicate that rehabilitation programmes for serious offenders reduce serious recidivism to a higher degree than general recidivism. This is an important finding because the treatment for serious offenders has among its main objectives to reduce the recidivism and the dangerousness of serious offenders. The data points out an important effect on both of these aims.

Research Implications

In general, no single approach in the treatment of violent adolescents has been proven effective (for example, Lipsey and Wilson, 1998). In words of Tate, Reppucci and Mulvey (1995): “Service provision should be reconceptualized as an ongoing care model that emphasizes intervention in multiple spheres of an adolescent’s life. The most promise lies in a comprehensive, long-term commitment, not in the development of any singular, more powerful approach” (p. 780). The results of this review suggest more attention in this sense.

It is important to point out that many studies did not have available information about the intensity and the magnitude of the intervention. The latter is important if we take into account the early age of onset of delinquent activities of the serious offenders and their long learning histories of illegal behaviour. For this reason it is important to propose a discussion about the efficacy of short vs. long intervention programmes. Because only a few of our re-

viewed studies reported information about the intensity and the magnitude of the programmes, conclusions about both issues are limited.

Other features in the literature associated with successful programmes such as the principles of risk, needs or responsivity were not studied in our review. Again, in many studies there was not available information about these principles. The results obtained by Caldwell and Van Rybroek (2005) and Caldwell et al. (2007) in the treatment of psychopathic offenders should encourage intervention with this kind of youths generally labelled as “unmanageable” and poor candidates to improve.

A very important methodological point is that it is difficult to find control groups that receive no correctional programme (the “treatment-as-usual” effect). This situation could be considered as one of the reasons that explains why we did not find higher ESs. For instance, in researches such as the one of Cornish and Clarke (1975), the control group as well as the treatment group received a therapeutic community intervention with only some differences in the structure. In another example, Friedman and Friedman (1979), the control groups had an educational intervention. And in other studies as in Guerra and Slaby (1990) the youths in the control group did not have any cognitive intervention, but it was not possible to know if this group had received any other kind of intervention in the past. Thus, if the control group received some kind of intervention, this circumstance could influence the ES results.

From 31 studies analysed in this review, 13 corresponded to experimental studies and 18 to quasi-experimental studies. The experimental studies had a non-significant small ES, whereas the quasi-experimental studies obtained a significant small ES. In spite of the absence of a statistically significant difference between the mean ESs of the experimental and quasi-experimental studies, our results should be interpreted very cautiously, because the experimental studies showed a non-statistically significant mean ES. These data also suggest the importance of doing more experimental researches, with the aim of obtaining stronger conclusions about the effectiveness of the interventions with institutionalised young serious delinquents.

In summary: In accordance to the results obtained in this review, in general the programmes “do work” to reduce the general and, specially, the serious recidivism of serious institutionalised juvenile offenders. This seems particularly true in the case of interventions with a cognitive-behavioural emphasis, applied to male samples in centres of juvenile reform. We still do not know the effect of the aftercare period on the intervention programme efficacy. We do not know either the effect of the programmes on females, neither the intensity nor appropriate magnitude of the intervention with the aim to reduce recidivism in serious offenders. Furthermore, the ef-

fect of the intervention programmes on other outcomes such as the minimum time for recidivism is unknown, although the preliminary data are promising.

The need is clear for more experimental studies on the effect of correctional programmes on institutionalised serious juvenile offenders. In addition to this, the data show that we must explore the possibilities of multi-focused programmes in increasing intervention effectiveness.

The statement of Tate, Reppucci and Mulvey (1995, p. 780) is still valid: “There is a clear need for methodologically sophisticated studies of treatment effectiveness that are more precise with regard to their definition of violence and that either exclusively target or conduct separate analyses for violent juveniles”.

Policy Implications

It is important to stress that if a small part of the offender population is catalogued as chronic and violent, and this specified population is responsible for a substantive part of the offenses, the need to identify these kind of offenders and to propose correctional intervention programmes to reduce their delinquent behaviour is evident.

The results showed that the programmes have a desirable effect on general recidivism, and an even higher effect on serious recidivism. Our data supported the importance of continuing to work in secure corrections in order to improve the quality of the interventions offered to inmates.

Additionally, since we found some evidence for positive effects of the cognitive-behavioural treatments and multi-focused programmes, it is more advisable to use these strategies for this type of offenders. Programmes focused on developing self-control in serious juvenile offenders find support in the “decompression model” shown to be effective in the study of Caldwell and Van Rybroek (2005), and therefore should be followed as a promising strategy.

Finally, interventions for females are indispensable. The few studies with women did not permit sound conclusions. It is necessary to prepare more researches in order to identify if delinquent girls need some special characteristics in their programmes.

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Tables

Table 1. Descriptive characteristics of the studies (categorical variables)

Moderator variable	Count	%
Design Type:		
Experimental	13	41.9
Quasi-experimental	18	58.1
Treatment Type:		
Behavioural	4	12.9
Cognitive	7	22.6
Cognitive-Behavioural	8	25.8
Education	3	9.7
Non-Behavioural	9	29.0
Focus of the intervention:		
Group	3	9.7
Individual	20	64.5
Multi-focused	2	6.5
Peers	5	16.1
Family	1	3.2
Delinquent Type:		
Chronic	5	16.1
Mixed	9	29.0
Violent	17	54.8
Study Source:		
Published	25	80.6
Unpublished	6	19.4
Country:		
Canada	4	12.9
England	4	12.9
USA	23	74.2
Study Date:		
1970–79	17	54.8
1980–89	1	3.2
1990–99	9	29.0
2000–07	4	13.0

Table 2. Descriptive characteristics of the 31 studies (continuous variables)

Moderator variable	Min.	Max.	Mean	Median	SD
Treatment sample size (Initial)	5	568	112	40	145
Control sample size (Initial)	5	660	118	40	171
Total sample size (Initial)	10	1136	230	80	314
Treatment sample size (Final)	5	568	95	29	139
Control sample size (Final)	5	660	105	24	170
Total sample size (Final)	10	1136	200	53	307
Treatment attrition	0	73.7	16.7	0	25.0
Control attrition	0	75.0	17.2	0	27.1
Differential attrition	-27.5	59.1	-0.5	0	13.7
Last follow-up (in months)	6	120	31.3	18	35.5

Min.: Minimum value.

Max.: Maximum value.

SD: Standard deviation.

Table 3. Overall Results for Completers Data

Statistical Model	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I.		<i>z</i>	<i>p</i>
				<i>L_l</i>	<i>L_u</i>		
Fixed-Effects Model	31	0.088	1.338	1.205	1.485	5.467	< .001
Random-Effects Model	31	0.072	1.269	1.076	1.496	2.828	.005

Heterogeneity assessment $Q(30) = 48.435, p = .018; I^2 = 38.1\%; \tau^2 = .059$

k: Number of studies.

r: Average correlation coefficient obtained by translating the average log odds ratio.

or₊: Average odds ratio.

95% C. I.: 95 per cent confidence interval around the average odds ratio.

z: Significance test for the average log odds ratio.

p: Probability level.

Q: Heterogeneity test.

*I*²: I squared index.

τ^2 : Between-studies variance.

Table 4. Overall Results for Intent-to-Treat Data

Statistical Model	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I.		<i>z</i>	<i>p</i>
				<i>L_l</i>	<i>L_u</i>		
Fixed-Effects Model	31	0.057	1.209	1.092	1.339	3.649	< .001
Random-Effects Model	31	0.037	1.129	0.905	1.407	1.077	.281
Heterogeneity assessment	Q(30) = 90.087, <i>p</i> < .001; <i>I</i> ² = 66.7%; <i>τ</i> ² = .181						

k: Number of studies.

r: Average correlation coefficient obtained by translating the average log odds ratio.

or₊: Average odds ratio.

95% C. I.: 95 per cent confidence interval around the average odds ratio.

z: Significance test for the average log odds ratio.

p: Probability level.

Q: Heterogeneity test.

*I*²: I squared index.

*τ*²: Between-studies variance.

Table 5. Design Type and Odds Ratios for General Recidivism

Design Type	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I.	
				<i>L_l</i>	<i>L_u</i>
Experimental	13	0.020	1.070	0.763	1.498
Quasi-experimental	18	0.086	1.332	1.101	1.611

$Q_B(1) = 1.231, p = .267; \omega^2 = 0.002$

Q_B : Chi-square statistic to test the homogeneity among the average Log odds ratios for the different categories of the moderator variable. ω^2 : Hays' omega squared index, which represents the proportion of variance accounted for by the moderator variable.

Table 6. Simple regression analyses for odds ratios

Moderator variable	<i>k</i>	<i>B_j</i>	Q_R	<i>p</i>	R^2_{adj}
Treatment Attrition	31	-0.0015	0.000	.997	.0
Control Attrition	31	-0.145	0.150	.698	.0
Differential Attrition	31	0.273	0.265	.607	.0
Follow up	31	-0.0054	1.490	.222	.01

B_j: Unstandardized regression slope.

Q_R : Chi-square statistic to test the influence of a moderator variable on the effect size.

p: Probability level associated to the Q_R statistic.

R^2_{adj} : Adjusted *R*-squared index, that represents the proportion of variance accounted for.

Note: using weighted least squares and assuming a mixed-effects model.

Table 7. Treatment Type and Odds Ratios for General Recidivism

Treatment Type	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I. <i>L_l</i> , <i>L_u</i>
Behavioural	4	-0.020	0.939	0.564 1.564
Cognitive	7	0.096	1.376	0.983 1.925
Cognitive-Behavioural	8	0.175	1.800	1.163 2.786
Education	3	-0.015	0.953	0.571 1.590
Non Behavioural	9	0.051	1.184	0.866 1.620

$Q_B(4) = 5.393, p = .249; \omega^2 = 0.034$

Table 8. Focus Type and Odds Ratios for General Recidivism

Focus Type	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I. <i>L_l</i> , <i>L_u</i>
Group	3	-0.079	0.770	0.377 1.571
Individual	20	0.059	1.214	0.993 1.483
Multi-focused	2	0.175	1.798	1.096 2.950
Peers	5	0.093	1.360	0.861 2.148

$Q_B(3) = 4.057, p = .255; \omega^2 = 0.014$

Table 9. Delinquent Type and Odds Ratios for General Recidivism

Delinquent Type	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I. <i>L_l</i> , <i>L_u</i>
Chronic	5	-0.088	0.747	0.397 1.406
Mixed	9	0.092	1.355	1.086 1.691
Violent	17	0.068	1.252	0.955 1.642

$Q_B(2) = 3.038, p = .219; \omega^2 = 0.022$

Table 10. Overall results for the 16 studies (completers data)

Type of Recidivism	<i>k</i>	<i>r</i>	<i>or+</i>	95% C. I. <i>L_l</i> , <i>L_u</i>	<i>Q</i>	<i>p</i>	<i>I</i> ²	τ^2
Serious Recidivism	16	0.119	1.488	1.200 1.845	15.002	.451	0.0%	0.0
General Recidivism	16	0.067	1.249	0.953 1.637	21.132	.133	29.0%	0.074

k: Number of studies.

r: Average correlation coefficient obtained by translating the average log odds ratio.

or₊: Average odds ratio.

95% C. I.: 95 per cent confidence interval around the average log odds ratio.

z: Significance test for the average log odds ratio.

p: Probability level.

Q: Heterogeneity test.

*I*²: I squared index.

τ^2 : Between-studies variance.

Figures

Figure 1. Forest plot of the odds ratios obtained for general recidivism at the last follow-up (completers data) assuming a random-effects model.

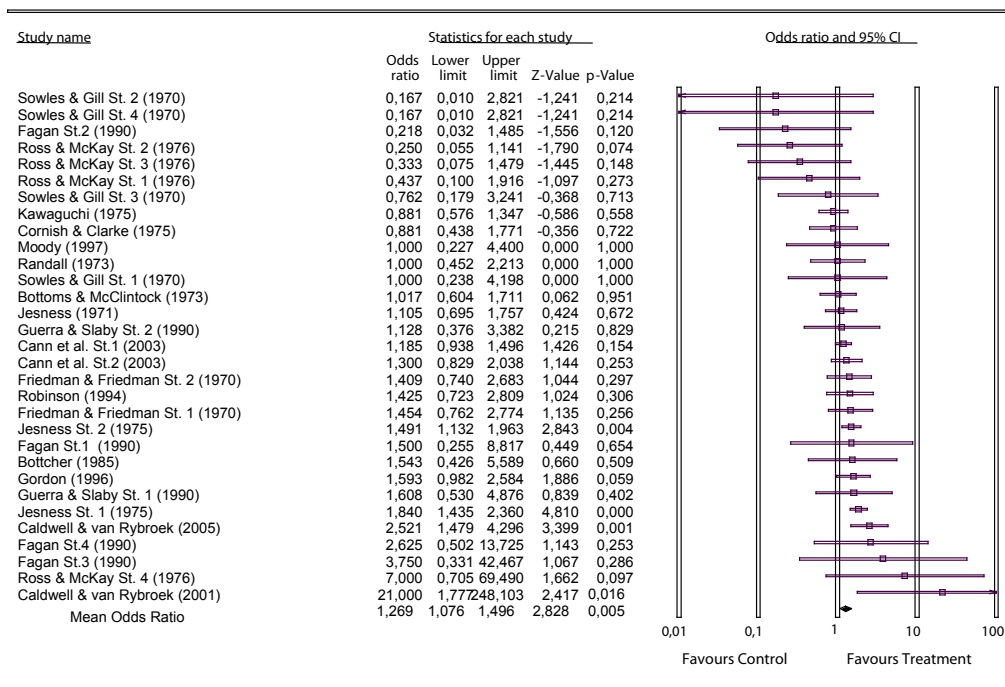
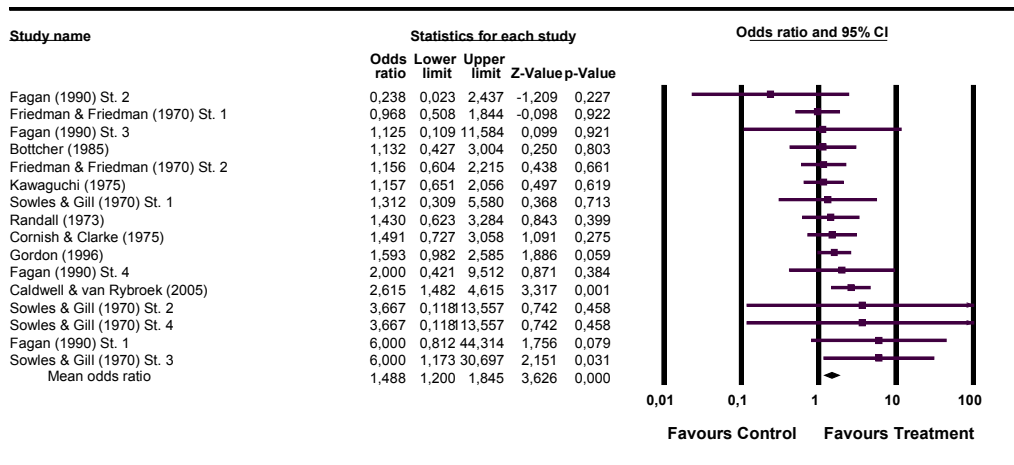


Figure 2. Forest plot of the odds ratios obtained for serious recidivism at the last follow-up (completers data) assuming a random-effects model.



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The potential gains from treatment programs for juvenile offenders are of significant interest to the crime policy debate. This is even more the case if the youths in question have been placed in secure correctional facilities. A range of different treatment programs have been implemented in relation to this target group. But how well do they work? What does the research tell us?

Finding one's bearings in relation to a constantly growing body of research and drawing one's own conclusions is often difficult. This also applies to research on the effects produced by measures intended to combat crime. Systematic reviews are one means of helping people to pick their way through the jungle of research findings. Systematic reviews combine a number of evaluations that are considered to satisfy a list of empirical criteria for measuring effects as reliably as possible. The results of these evaluations are then used to calculate and produce an overall picture of the effects that a given measure does and does not produce. Systematic reviews aim to systematically combine the results from a number of studies in order to produce a more reliable overview of the opportunities and limitations associated with a given crime prevention strategy.

The Swedish National Council for Crime Prevention (Brå) has therefore initiated the publication of a series of systematic reviews, in the context of which internationally renowned researchers are commissioned to perform the studies on our behalf. In this study, the authors have carried out a systematic review, including a meta-analysis, of 31 evaluations.

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