

SYSTEMATIC REVIEW OF YOUTH CRIME PREVENTION INTERVENTIONS

PUBLISHED 2008-2012



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FOREWORD

The present systematic literature review was commissioned by the Danish Crime Prevention Council in August 2012 as part of a larger project focusing on the prevention of youth crime in Denmark.

The objective of this review of literature on youth crime prevention interventions published between 2008 and 2012 is to bring forward the newest information to supplement existing knowledge about crime preventive methods targeting youth. The review is one of several components of a collaboration between the Danish Crime Prevention Council and TrygFonden in which the Danish Crime Prevention Council aims to qualify local youth crime prevention efforts by collecting and disseminating knowledge about effective preventive methods.

We find a great number of evaluations of preventive interventions that have applied a stringent experimental or quasi-experimental methodology. Some of the identified interventions are well known in a Danish context while several have not previously been implemented in the Danish setting. It is our hope that the current review can support policy and practice towards more efficacious youth crime prevention efforts and motivate more stringent evaluation of intervention implementation in the a Danish context.

This review is the result of the combined efforts of a number of people in addition to the review authors. We would like to acknowledge

the important contributions by colleagues at the Trials Unit. Pia Vang Hansen contributed to the literature search and retrieval of publications. Misja Eiberg-Madsen assisted with the descriptive analysis. Asta Breinholt Lund and Trondur Møller Sandoy helped generate the overview tables. Ninna Lagoni and Anne-Sofie Due Knudsen conducted the first level screening. Trine Filges gave input to the quality assessment methodology and Mette Deding provided overall project overview and helpful guidance throughout the review process. Bence Boje-Kovacs and Ianthe Dickhoff were indispensable to the literature search process as regards pursuing relevant leads in German and Dutch literature.

We would like to thank our external referee Professor Flemming Balvig at the Faculty of Law, University of Copenhagen, for his insightful comments on a previous draft of this report.

København, marts 2013

JØRGEN SØNDERGAARD

SUMMARY

This systematic literature review was commissioned by the Danish Crime Prevention Council to supplement the existing knowledge base about youth crime prevention and provide useful information about implementation and effectiveness of known crime prevention initiatives. The review is one component of a larger project commenced by the Danish Crime Prevention Council to collect information about methods and implementation processes for youth crime prevention interventions. Within the scope of this project, a network of prevention ambassadors is being established across Danish municipalities and it is the hope of the Danish Crime Prevention Council that this systematic literature review can inform and qualify the work of these prevention ambassadors in their local prevention efforts.

INTERVENTIONS THAT INCLUDE A FOCUS ON THE SOCIAL ENVIRONMENT OF YOUTH HAVE GREATER LIKELIHOOD OF SUCCESS

We included primary, secondary and tertiary prevention interventions and analysed them according to their delivery modes splitting them into seven different types: individual interventions, family-based, group-based, or school-based interventions, community oriented or systems-oriented interventions or interventions with multiple delivery modes.

The greatest likelihood of positive intervention results was found for comprehensive interventions that aim to develop a more pro-social environment for target youth and that do not merely focus on individual-level factors such as cognition and behaviour management. The interventions that were most frequently successful were those with multiple delivery modes or delivered to the entire family. 63% and 57% of interventions with multiple delivery modes and family-based interventions respectively showed positive effects in terms of reducing disruptive or criminal behaviour. This is in comparison with a third or less of the school- or group-based interventions included in this review.

The review also found trends to suggest that interventions with durations of at least four to six months were more likely to be effective than shorter durations in reducing disruptive or criminal behaviour. At the same time, most interventions lasting over four months had multiple delivery modes and it is as such not possible to separate effects related to longer duration from effects related to a more comprehensive approach.

Also, interventions that appear to take a resource-oriented rather than a problem-focussed approach had a higher likelihood of success. This inference is tempered by the unverified assessment of approach and the fact that only few problem-focussed interventions were included in the review.

GAPS IN RECENT YOUTH CRIME PREVENTION LITERATURE

The systematic literature review reveals that very few quality evaluations using a control-group design have been conducted in a European let alone a Nordic setting. The vast majority of included interventions are from the United States. Due to the differences in juvenile justice systems and target group characteristics generally, translation of findings from the U.S. to the Danish context is problematic. As an example of this, an intervention such as Multisystemic Therapy (MST) which is one of the blueprints for violence prevention in the U.S. (showing sustained effects and successful replication across study sites) was not found to be better than usual services when implemented in Sweden.

Recently evaluated youth crime prevention interventions distinguish only broadly between different types of youth offenders and youth with problem behaviour. Very few interventions target for instance ethnic minorities, girls or youth with specific risk characteristics. Similarly, the interventions identified in this review do not, for the most part, ex-

pressly recognize youth offending as group behaviour, though this is the case for the majority of youth offending in Denmark.

THE LITERATURE BASE FOR THE SYSTEMATIC REVIEW

Seventy-two studies (incl. journal articles, dissertations, book chapters and reports) published between 2008 and 2012 were identified through a systematic literature search conducted for this review. Selected studies used using experimental or quasi-experimental research designs targeting 12-17 year olds and focusing on effects in terms of disruptive or criminal behaviour. Fifty-six studies were of adequate quality to allow a plausible inference of causality between intervention implementation and evaluation findings. These form the basis for the analysis of intervention characteristics and intervention effectiveness across preventive levels and intervention delivery modes.

INTRODUCTION

This systematic mapping of youth crime prevention interventions is the outcome of a call for tenders issued by The Danish Crime Prevention Council (DCPC) in June 2012. Within the scope of a larger practice-oriented project about youth crime prevention, DCPC wishes to assemble knowledge of ‘what works’ with a view to implementation in a Danish context. Many strategies for prevention of youth crime have been designed and implemented worldwide and DCPC anticipates being able to put this existing knowledge to use to increase effectiveness of locally implemented interventions. For this purpose, DCPC has commissioned a systematic review of relevant new literature within the field to contribute to the existing knowledge base and provide better possibilities for linking research and practice.

It is the wish of DCPC that the review will prove a useful input to the network of prevention ambassadors that DCPC has established across Danish municipalities. Based on the newest knowledge about intervention methods, the prevention ambassadors will work to further develop and improve effectiveness of local youth crime prevention efforts in local policy as well as practice.

The main purpose of the systematic review is thereby to collect and map knowledge about efficient methods to prevent juvenile delinquency, including knowledge about implementation processes, in order

to create a qualified scientific basis for DCPC's further work with youth crime prevention. Specifically, the resultant report should be the result of a systematic literature review of empirical studies that examine the effect of methods to prevent juvenile delinquency, i.e. youth crime prevention interventions.

In August 2012, The Danish National Centre for Social Research was commissioned to conduct the systematic literature review and execute the project within a four month period from September 2012 until mid-January 2013. In the following methods section, the project criteria as defined by DCPC are described. These create the framework for the literature review and are the point of departure for the subsequent work with this report. As regards the contents of the review, DCPC requested a detailed description of all included studies, a mapping of studies across particular intervention characteristics and an analysis focussing on effects relative to the different methods and target groups of included interventions.

The present report is built up according to this structure. Firstly, we present the methods we have used through-out the review process. This includes our literature search strategy, screening inclusion and exclusion criteria, as well as the procedure used for coding, mapping and analysing studies. The methods section also describes how the quality assessment of studies was conducted.

Next, detailed descriptions of all identified studies are provided. These descriptions include information about the intervention being evaluated, the population sample used for the evaluation, the results and design of the study and an assessment of study quality. The description of studies section is organised so that primary, secondary and tertiary prevention interventions are listed separately. Within these three categories, the individual studies are ordered alphabetically by the last name of the first author.

In the Study Mapping section following, all studies are mapped according to specified study or intervention characteristics to give an overview of the entire field of studies. This section highlights the number of high and medium quality studies since only high and medium quality studies are included in the analysis.

Subsequently, the Analysis section presents an analysis of intervention characteristics and of effectiveness. Based on the intervention delivery mode, we examine aspects such as target group characteristics,

intervention characteristics and intervention effects. This section is again ordered first by preventive level and then by delivery mode within each preventive level. Primary, secondary and tertiary prevention interventions are distinctive categories with distinctive target groups and distinctive aims. For this reason, it is appropriate to first carry out the analysis within rather than across each of these levels. Subsequently, a discussion of the findings across preventive levels is presented.

Finally, we provide some concluding remarks that highlight findings and gaps in the literature and emphasise pertinent aspects as they relate to the Danish context.

Appendix 1 contains a detailed literature search documentation that includes a flowchart of the search and screening process. Appendix 2 contains an overview of the medium and high quality studies that are included in the analysis with characteristics for each study. These characteristics have been selected on the basis that they are relevant for practitioners with a view to implementation. Studies in Appendix 2 are again ordered by preventive level and, within each of the three preventive levels, by the last name of the first author.

METHODS

As noted in the Introduction, the framework for this review was set out by the Danish Crime Prevention Council (DCPC), who requested a systematic literature mapping including a description of studies, a mapping of studies and an analysis focussing on effectiveness of the interventions under review.

In this section, we present the methods employed in the review, starting with literature search methods and then the procedures followed during the systematic review including study coding, mapping and analysis. We conclude with a discussion of the limitations of the methodology employed.

Project criteria defined by DCPC are given in Box 2.1 on the next page. The review should include studies published after 2008 since knowledge about youth crime prevention pre-2008 has been accumulated both by the Danish Commission on Youth Crime (2009) and in a systematic review of preventive measures for youth offenders by Söderholm Carpelan et al. (2008). Special focus should be given to retrieving literature from the Nordic countries as well as the Netherlands and Germany to ensure the relevance of the review to a Danish practitioner audience. Furthermore, studies should target a population primarily in the 12-17 years age-group.

BOX 2.1

Project criteria defined by the Danish Crime Prevention Council

Time: Studies included in the review should be published between 2008- medio 2012 to focus on the newest evidence.

Scope: The literature search should include national and international studies. Individual searches should be conducted for Danish, Scandinavian, Dutch, German and English studies. The search should involve electronic databases and a search for grey literature through internet search engines, websites and via content experts.

Intervention types: All kind of interventions related to juvenile delinquency are relevant including primary, secondary and tertiary prevention interventions. However, mentoring interventions and leisure activity interventions are not to be included since these have already been mapped by DCPC.

Population: The target groups of interest for the review are both girls and boys who are primarily in the age-group 12-17 years.

Intervention effects: The studies should assess intervention effect using outcomes that measure all types of crimes and disruptive behaviour.

Study design: The review should include studies with a design that allows for plausible and valid causal inference between intervention implementation and findings.

LITERATURE SEARCH METHODS

The literature search was conducted by an information specialist at SFI Campbell with aid from co-workers who had strong German and Dutch language skills. Relevant studies were identified through systematic electronic databases, other online resources and through contacting content experts within the field. In line with the project description defined by the Danish Crime Prevention Council we searched especially for: (i) literature published between 2008 and mid-2012, (ii) Danish and Scandinavian studies, (iii) German-, Dutch- and English-language studies, (iv) grey literature¹, as well as (v) requesting suggestions for studies from content experts.

The search for literature was adapted to the timeframe of the review and information sources that broadly cover different subjects were selected. We used electronic databases to search for peer-reviewed litera-

1. Grey literature is the common name for academic or scientific publications that are not published via a traditional publisher or journal. Grey literature can be working papers or reports as well as articles and dissertations that are not finally published.

ture, general search engines and website searches for both peer-reviewed and grey literature and the Scandinavian national library catalogues for Nordic-language literature. Reference lists of included primary studies were checked for new leads.

The electronic database search was performed in educational, sociological, healthcare-related and criminological databases each of which covers particular topics and special geographic foci. Specifically, the following databases, catalogues and bibliographies were used:

International databases

- Criminal Justice Abstracts: Criminology
- Embase: Health, Psychiatry, European focus
- ERIC: Educational theory and practice
- MEDLINE: Health, Psychiatry, Anglo-American focus
- PsycINFO: Psychology
- SocIndex: Sociology

Nordic national catalogues

- Bibliotek.dk: Danish literature
- Bibsys: Norwegian literature
- Libris: Swedish literature

German and Dutch national bibliographies

- Deutsche Nationalbibliothek
- National Bibliotheek van Nederland

Germany and the Netherlands do not provide joint national catalogues as is the case in the Scandinavian countries. Therefore, in addition to searches in the national library bibliographies of these countries, a comprehensive search in Google Scholar in the respective languages was performed, as well as searches in identified relevant research- or content-specific databases. Also, we contacted German and Dutch experts in psychology and criminology to identify possible studies as well as unpublished and ongoing studies.

With regards to grey literature, additional searches for relevant studies and useful leads were made by means of the Google search engine and Google Scholar. In these types of searches, we checked the first 150 hits. Copies or links to relevant documents have been made and we have recorded the URL and date of access for relevant document (see Appendix 1). In addition we searched the following websites for relevant studies, ongoing or unpublished research projects and other useful leads:

- Brottsförebyggande rådet - BRÅ (Sweden)
- Børnerådet (Denmark)
- Centrum voor Criminaliteitspreventie en Veiligheid – CCV (The Netherlands)
- Det kriminalitetsforebyggende råd - KRÅD (Norway)
- Det Kriminalpræventive Råd (Denmark)
- Deutsche Jugend Institut (Germany)
- Deutsche Vereinigung für Jugendgerichte und Jugendgerichtshilfen (Germany)
- Deutsches Forum für Kriminalprävention (Germany)
- The EUCPN (European Crime Prevention Network)
- Grüne Liste Prävention – CTC - Datenbank empfohlener Präventionsprogramme (Germany)
- What Works Clearinghouse (WWC) (US)
- National Criminal Justice Reference Service – NCJRS (US)
- Nederlands Jeugdinstituut (The Netherlands)
- Office of Juvenile Justice & Delinquency Prevention –OJJDP(US)
- Rockwool Foundation (Denmark)
- Scandinavian Research Council for Criminology
- Social Care Online (UK)
- Wetenschappelijk Onderzoek- en Documentatiecentrum (WODC) (The Netherlands)
- The Youth Justice Board (UK)
- Thesis database (The Netherlands)

LITERATURE SEARCH STRATEGY

The search strategy included two elements, namely population and study design. To define the population we searched for synonyms for young people within the age-group of interest and combined these with a selection of synonyms for criminal or disruptive behaviour. For study design,

we used a selection of concepts that as accurately as possible try to isolate quantitative studies that focus on evaluation of intervention effects.

An example of the applied search strategy as used in the database PsycINFO is presented below. The strategy consists of a number of search sets (1 – 24) which described various combinations of free text words in title (TI), abstract (AB) and subjects (SU) and specific controlled descriptors (DE). The search sets are combined and limited in relation to publication year as described previously.

PsycINFO search strategy

1. DE: Juvenile delinquency or DE "Predelinquent Youth"
2. TI (Young* or youth* or student* or adolescent* or teenager* or teen* or juvenile*) or AB (Young* or youth* or student* or adolescent* or teenager* or teen* or juvenile*)
3. TI (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome) OR AB (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome)
4. 2 and 3
5. 1 or 4
6. DE:"Crime Prevention"
7. TI crim* n1 prevent* or AB crim* n1 prevent*
8. 6 or 7
9. 2 and 8
10. DE: "Experimental Design" or DE: "Between Groups Design" or DE: "Experiment Controls" or DE: "Quasi Experimental Methods" or DE: "Experimental Methods"
11. TI (Non-random* or nonrandom* or (non n1 random*)) OR AB (Non-random* or nonrandom* or (non n1 random*))
12. TI (quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control*) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR ex-

- periment* design* OR experiment* method* OR experiment* stud*
OR experiment* evaluation* OR experiment* test* OR experiment*
assessment* OR assessment only OR (comparison n1 samp*) OR
propensity match* or (Between N1 group*) or longitud*) OR AB
(quasi-experiment* or quasiexperiment* OR Propensity score* or
(compar* N1 group*) or (match* N1 control*) OR (match* N1
group*) OR (match* N1 compar*) OR experiment* trial* OR ex-
periment* design* OR experiment* method* OR experiment* stud*
OR experiment* evaluation* OR experiment* test* OR experiment*
assessment* OR assessment only OR (comparison n1 samp*) OR
propensity match* or (Between N1 group*) or longitud*)
13. TI ((assign* N5 case) or (assign* N5 subject*) or (assign* N5
group*) or (assign* N5 patient*) or (assign* N5 intervention*)) OR
AB ((assign* N5 case) or (assign* N5 subject*) or (assign* N5
group*) or (assign* N5 patient*) or (assign* N5 intervention*))
 14. TI ((intervention* N5 case) or (intervention* N5 subject*) or (inter-
vention* N5 group*) or (intervention* N5 patient*)) OR AB ((in-
tervention* N5 case) or (intervention* N5 subject*) or (interven-
tion* N5 group*) or (intervention* N5 patient*))
 15. TI ((experiment* N5 case) or (experiment* N5 subject*) or (exper-
iment* N5 group*) or (experiment* N5 patient*) or (experiment*
N5 intervention*)) OR AB ((experiment* N5 case) or (experiment*
N5 subject*) or (experiment* N5 group*) or (experiment* N5 pa-
tient*) or (experiment* N5 intervention*))
 16. TI ((treatment* N5 case) or (treatment* N5 subject*) or (treatment*
N5 group*) or (treatment* N5 patient*) or (treatment* N5 interven-
tion*)) OR AB ((treatment* N5 case) or (treatment* N5 subject*)
or (treatment* N5 group*) or (treatment* N5 patient*) or (treat-
ment* N5 intervention*))
 17. TI ((control* N5 case) or (control* N5 subject*) or (control* N5
group*) or (control* N5 patient*) or (control* N5 intervention*)))
OR AB ((control* N5 case) or (control* N5 subject*) or (control*
N5 group*) or (control* N5 patient*) or (control* N5 intervention*))
 18. TI rct OR AB rct
 19. TI ((random* and trial*)) OR AB ((random* and trial*))
 20. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
 21. 5 and 20
 22. 8 and 20

23. 21 or 22
24. Limit to year 2008-2012

The strategy as shown was modified for different databases to accommodate their different functionalities and languages. Similarly, for website searches we used the original search strategy from the database search in moderated form (see Appendix 1 for full search history).

SCREENING

Screening of search results was conducted in two steps. In a first level screening of titles and abstracts, we assessed whether the study was a preventive intervention to reduce youth crime or disruptive behaviour, whether the sample used in the study was primarily between 12 and 17 years of age and whether the study was a quantitative assessment. Those studies that passed the first level screening or those where screening of title and abstract could not provide the required information were retrieved in full text and screened in more detail. The second level screening included whether the study employed a control group and estimated effectiveness of the intervention by using an outcome measure that measured either crime or disruptive behaviour.

With a view to optimising the relevance of the review for practitioners interested in crime prevention, we chose to further focus the review on outcomes that were explicitly related to crime and violence. As such, some ‘crime / disruptive behaviour’ outcomes were assessed to be irrelevant such as for example disruptive behaviour in classrooms and youth alcohol or marijuana use. We used the following exclusion criteria:

1. Studies focused on bullying or within-classroom disruptive behaviour
2. Studies focused solely on alcohol or drug use
3. Studies that use a measure of aggression that is not explicit or reactive aggression (i.e. implicit aggression)
4. Studies that measure only precursors such as psychological traits, various risk measurement scales unrelated to actual behaviour, attitudes etc.

5. Studies that report a shorter follow-up than what is available for the same intervention study

CODING

Articles included after second-level screening were coded according to a range of characteristics concerning study methodology, intervention characteristics, structure and content, study design, sample, data collection and analytical procedure, results and a range of factors related to quality assessment. In total, more than thirty different characteristics of the study or intervention were recorded.

Coding of outcomes and results focussed primarily on such outcomes as were compatible with the crime/disruptive behaviour criterion. This means that ancillary outcomes reported in the study were not necessarily coded nor are they apparent in the description, mapping or analysis in this review.

It is important to note that the coding of studies relies exclusively on information provided in the included publications. For many reasons (such as publication word limits, study foci, study author priorities, etc.), comprehensive information about interventions was not always available to the reviewer and the descriptions, mapping and analysis should be assessed with this limitation in mind.

In addition, some of the characteristics require a subjective rather than objective assessment. Where a characteristic such as geographical origin of the studies is clearly stated by study authors, features like preventive level, primary focus and components are assessed more subjectively according to the reviewer's understanding upon reading the studies. The definitions of these characteristics are given below.

IMPORTANT DEFINITIONS

The preventive level of the interventions has to do with who the interventions target and how they are delivered. For the purpose of this review, primary preventive interventions are defined as those that target general youth, i.e. youth who have given no cause for concern in terms of their risk of developing a criminal career path. Secondary preventive interventions target youth who are assessed to be at risk of committing offenses and embarking on a criminal career path but have not already

done so. These may be youth who exhibit certain risk characteristics such as high levels of aggression, conduct disorder, anti-social behaviour and similar. Tertiary preventive interventions target those who have already committed a crime or offense and as such, these interventions are rehabilitative in focus aiming to avoid future recidivism in offending.

The primary focus of the interventions was coded as either resource-oriented, problem-focussed or a mix of both. Resource-oriented interventions are assessed as focussing more on building up resources in the target group than problem-focussed interventions which focus on avoiding or eliminating problem behaviour. This classification is entirely dependent on our subjective assessment of the words authors have used to describe interventions in the reviewed studies, but whether this corresponds to the actual focus of the intervention or to what happens on the ground when the intervention is implemented is uncertain.

As regards intervention content, the reviewer assessed descriptions of interventions to extract the primary components used. In order to provide an overview of the many different types of components we extracted, we have grouped these into nine categories of similar concepts (see Table 2.1). These categories can be understood as different dimensions of a hypothetical behaviour change model. The categories (or dimensions) do not correspond to any existing model. Rather the categories are constructed directly from the components described in the reviewed studies according to an untested understanding of how they relate to each other in the process towards behaviour change. Other readers may have chosen to place components in different categories.

Also the assessment of intervention delivery mode was based on a subjective reading of the intervention descriptions, since the reviewer did not have personal experience with the interventions included in this report. Delivery mode has to do with how and to whom the intervention is delivered whether to an individual, a group, a family, a community, a school class, etc. These delivery modes are easy to glean from intervention descriptions, but others that are more complex in their set-up may use multiple delivery modes and are coded as such. For instance, an intervention may target the family of youth with family therapy but also include individual therapy or community-oriented efforts. This would be coded as having multiple delivery modes.

TABLE 2.1
Intervention content coded as components and component categories

Categories	Components
Understanding of the self	awareness, moral competence, emotional competence, thriving, feeling of responsibility, personal identity, self-determination, cultural awareness, resilience
Knowledge, beliefs, attitudes, values, perceived norms	knowledge, psychosocial education, cognitive resetting, competence, insight, personal development, character education, values training, (CBT and therapy), victim empathy
Pro-social environment and resources	group support, familial engagement, familial bonding, parent-child communication, family management skills, improved parenting, relationship skills, pro-social involvement / networks, school resources and policies, service provision, neighbourhood characteristics, foster care
Deterrent factors	curfew monitoring, surveillance, sanctions and rewards
Alternatives to crime	planning, job-shadowing, mentoring, beliefs in the future, hope, alternative leisure activities
Self-efficacy	self-management, skills training, drug refusal skills, self-efficacy, conflict resolution skills
Motivation	motivation and motivation maintenance
Behaviour change	anger management, behavioural competence, social competence, behaviour change, behaviour management, behaviour change maintenance
Others	adventure program, football training, rites of passage, restorative justice, re-integrative shaming, non-verbal and verbal expression, expressive writing, academic development, written assignments, informal probation, institutional care, mediation, neighbourhood centre activities

QUALITY ASSESSMENT

The quality of each study was assessed on the basis of three parameters that define the degree to which the reviewer was convinced that study results were in fact caused by the intervention and were not simply artefacts of flawed study methodology or similar.

A risk of bias assessment checked sample selection, including comparability of intervention and control groups, missing data, and loss to follow-up. Also, the assessment involved checking the adequacy of confounder control including the method used and the degree to which all immediately relevant confounders were controlled for.

In addition, an assessment of the validity of the results was conducted based primarily on sample size and analysis methods. Studies with very small study samples may be designed and analysed appropriately with little risk of bias, but the external validity of the results is still ham-

pered by the small sample size on which they are based. Similarly, certain aspects of the analytical methodology such as whether dependency of observations is taken into account or whether parametric tests are used for distributions that do not live up to the assumptions of the given test may influence the validity of significance testing.

A final parameter of importance is the degree to which the intervention is implemented as planned. Many interventions have pre-specified formats, guidelines or follow specific curricula and their proposed effect is naturally related to a proper implementation. Not only the delivery but also the uptake of the intervention is essential for effects, therefore both implementation and target group uptake of intervention services is assessed as a component of the quality assessment, where this information is available.

Based on these three parameters: internal and external validity (including risk of bias) and intervention protocol fidelity, studies were assessed to be of either low, medium or high quality. It is important to note that studies in which authors have made all appropriate methodological decisions may still be assessed as being of low quality due to high levels of missing data, a very small sample size or very low protocol fidelity. A 'low' quality assessment simply indicates that the causal link between the intervention and the reported results is unconvincing. While all studies are described and included in the study mapping chapters of this review, only studies with a medium or high quality assessment are included in the analysis.

DESCRIPTION, MAPPING AND ANALYSIS

STUDY DESCRIPTIONS

All studies were described individually using a pre-specified template including the following information: (i) study objectives, i.e. what is being evaluated and where? (ii) intervention focus (including the name and main focus of the intervention, the theory of change on which it is based if this is described, content and organisation of the intervention and the setting in which it is implemented), (iii) study sample (including intervention and control group characteristics and comparability), (iii) results, (iv) study design (including overall design, data collection method and analytical method) and (v) quality assessment.

STUDY MAPPING

The studies were mapped according to various defining characteristics: geographical origin of the studies, preventive level of the interventions, target groups, intervention characteristics (including intervention delivery mode, primary intervention focus, intervention components and intervention effects). The study mapping gives a broad overview of the combined pool of studies and distinguishes studies of high and medium quality.

ANALYSIS

The analysis was conducted separately for primary, secondary and tertiary prevention interventions using only studies assessed to be of high or medium quality. Within each of these preventive levels, interventions were again analysed within groups distinguished by intervention delivery mode, that is, how and to whom the intervention is delivered: to the individual youth (individual), to groups of youth (group-based), to the youth and his/her family (family-based), to the community (community-oriented), to schools or whole classrooms within schools (school-based) or in some cases, the interventions are aspects of the justice system itself and are thus referred to as system-oriented. Many interventions use a mix of different delivery modes and are thereby termed as having multiple delivery modes irrespective of the particular combination.

For each preventive level and each delivery mode, the analysis investigates who the target groups are, what structure the interventions take, what their content is and their effects. The aim is to give clarity as to how different types of interventions are designed and to what degree these designs seem to work. Subsequently, we conduct a more comprehensive effectiveness analysis that investigates which outcomes are measured for the different types of interventions and by checking whether the direction of effect is related to any of the intervention characteristics or study characteristics such as length of follow-up.

Given that the included studies are restricted to a publication period of just four years (2008-2012), it is not relevant to conduct an actual meta-analysis of intervention effects, since such an analysis would present a skewed understanding (one that does not take into account the majority of the accumulated knowledge in this field) of the pooled effects of different types of interventions. In this review, we instead present the effectiveness analysis in a narrative style.

METHODS LIMITATIONS

The present review is the result of a time-constrained process in which certain predetermined project criteria determined many of our methodological choices. The project framework thereby transfers various limitations to the review findings. Firstly, from the search strategy limits on target age-group, study publication period and outcome measures it follows that the studies included in this review are only a small subsample of the entire material available on the topic of youth crime prevention interventions. As such, this review should be read in conjunction with existing literature. The results presented here are valid only when coupled with previous work. This requires readers to familiarise themselves with the existing literature, as it has been beyond the present scope to incorporate existing knowledge into this review.

Much effort has been invested in identifying relevant literature. As described, we have conducted systematic searches in electronic databases as well as spending considerable time on identification of grey literature through website searches and contacting experts in the field, especially with respect to German and Dutch language literature. However, due to time constraints we have not contacted individual research groups which might have unearthed more ongoing or unpublished studies as well as any published studies not caught by the electronic database searches. Similarly, studies published in languages other than English, German, Dutch and the Nordic languages will not have been caught by the literature search strategy and thereby relevant studies may have been missed (e.g. from French-speaking Switzerland or Canada). A few studies were identified and retrieved only after the end of the coding phase and due to time pressure were not able to be included in the review. A list of these studies can be found in the list of references.

Screening, coding and quality assessment were conducted by only one person. Again due to time constraints we were not able to double screen or double code studies (i.e. two people going over the same studies separately). However, during the first level screening process, screeners cross-checked inter-rater reliability on a subset of studies and a high level of agreement was found. Coding of all studies was conducted by the primary author. Though this forestalls the question of inter-rater reliability, a risk of coder drift remains. Coder drift is defined as the changes that occur while coding is on-going. Progressive insight into the nature of the studies may have enhanced the coder's understanding of what in-

formation was relevant to extract from the studies and thereby changed the nature of the coding. We do not expect coder drift to be a great concern to the validity of the present review, however, since the author frequently referred back to original studies during study description, mapping and analysis to verify subjective coding such as primary focus or intervention content.

When conducting the quality assessment of primary studies, we would have benefited from being able to use two independent assessments to verify quality level. That we were not presents a limitation, since quality assessment was somewhat subjective in nature. As mentioned, the labels 'low', 'medium' and 'high' quality do not as much reflect the methodological decision-making of primary study authors, but rather the degree to which the reviewer was convinced of the causal inference presented in primary studies. Though the assessment was based on sound methods, an existing and validated risk of bias assessment tool was not employed.

For the analysis, the timeframe available was very short. Our decision to focus primarily on intervention delivery modes within primary, secondary and tertiary levels is just one of several angles which could have been selected for the analysis. Our choice was based on a consideration of what would be relevant from a practitioner viewpoint. We could also have chosen to take e.g. target group characteristics or intervention components as the point of departure. Using intervention characteristics has the drawback that many interventions are not described in detail in effectiveness evaluations. Using target group characteristics faces the danger of generalising characteristics across cultures. Biological age, socio-economic position and other risk factors may have different implications in different contexts. In comparison, the implications of intervention delivery mode are assessed to be quite stable across contexts and is generally clearly stated in primary studies. A general concern with the comparison of studies and interventions across cultural contexts is of course the degree to which there are contextual differences which confound the validity of such comparisons. Most often, cultural contexts and their implications are not described in evaluation studies and we can but speculate as to their influence on the findings of this review.

DESCRIPTION OF STUDIES

PRIMARY PREVENTION INTERVENTIONS

The study

Esbensen, F.A. (2009): *Evaluation of the Teens, Crime and the Community and Community Works Program: Final report*. St. Louis, MO: Department of Criminology and Criminal Justice, University of Missouri.

Study objectives

To evaluate the effectiveness of the Teens, Crime and Community Community Works program by the National Crime Prevention Council in middle schools across 4 states of the USA: Arizona, New Mexico, South Carolina and Massachusetts.

Intervention focus

The 'Community Works' (CW) program of the National Crime Prevention Council's 'Teens, Crime and Community' initiative is a law-related educational program with a pre-designed curriculum that aims to increase social responsibility in teens, educate them about the law, reduce

their potential for victimization, and engage them in making their homes, schools, and communities safer. While teaching about crime and its costs/consequences, the program uses both cognitive and skills-building approaches to ensure a sense of connection to the community, improve youths' social competency skills, and improve their assessment of risky situations while supporting them in making better lifestyle choices.

The intervention is implemented in school classrooms by a law enforcement official and consists of three primary components: (i) a 31-lesson curriculum, (ii) the use of community resource people (e.g. teachers, law enforcement officers, doctors, lawyers) who act as role models and help to deliver the curriculum, and (iii) 'action projects' which are a kind of community service in which youth learn to apply what they have learnt through the curriculum.

The curriculum covers six overall topics: You and Your Community, Violent Crimes, Substance Abuse and Drug Dealing, Property Crimes, Hate Crimes, Police and Community. Of the 31 interactive sessions, 8 are 'core sessions': Sessions #1 Creating a Community Vision, #2 What is Crime?, #3 Victims of Crime, #4 Safe and Secure Communities, #5 Where are we safe and unsafe?, #6 Our Community Resources, #7 Your Conflict Choices, and #8 Conflict, Communicating, and Working Together. Each session contains teaching strategies, detailed plans, hand-outs and posters, and suggestions for time management in an attempt to reduce the amount of preparation time for the implementers. A minimum of 20 contact hours is required for CW certification and in the current study implementation varied greatly from school to school with duration of the program lasting between 3 weeks and 7 months.

Sample

The sample for this study consists of 15 schools across nine cities in four different states. In total 98 classrooms participated in the evaluation, with n=49 in the intervention group and n=49 in the control group. 1686 students of whom 40% identified as Hispanic, 31% as White and 11% as African-American returned pre-test questionnaires. 47% of students were male and 24% lived in single-parent households. The modal age at pre-test was 12 years (range 11-16). There were significant pre-test differences in measures of community disorder, school disorder, overall delinquency, violent offending, 'neutralization' and 'hitting neutralization'

(not further described), conflict resolution skills and pro-social involvement between intervention and control groups.

Results

At post-test, a significant reduction in overall delinquency was observed in the intervention group as well as an increase in their pro-social involvement. At the same time, however, the intervention group reported increased perceptions of community and school disorder. At one year's follow-up a significant effect of the intervention was seen only for violent offending. The difference between intervention and control groups is not clearly specified.

Design

Quasi-experimental pre- and post-test design with one year follow-up using multi-level regression to account for nesting within schools and control baseline differences in outcome variables. However, the models used are not clearly specified and the degree of confounder control is thereby not ascertainable. Data derive from three waves of student self-report questionnaires designed specifically for this evaluation (validity not specified).

Quality assessment

Adequate sample size (unit of analysis is the classroom), but the specific methodology employed in this study is too unclear to provide sufficient certainty about the validity of results. Control for confounding is probably conducted but the degree is not specified. Similarly, risk of selection bias cannot be ascertained. Intervention protocol fidelity is low.

Overall assessment: low quality.

The study

Esbensen, F.A., D. Peterson, T.J. Taylor & D.W. Osgood (2012): "Results from a Multi-Site Evaluation of the G.R.E.A.T. Program". *JQ: Justice Quarterly*, 29(1), p. 125-151.

Study objectives

To assess the extent to which middle school students participating in a gang prevention program express attitudes and engage in behaviours that

are measurably different from those of a control group of students at one year post-program across multiple sites across the USA.

Intervention focus

The ‘Gang Resistance Education and Training’ (G.R.E.A.T.) program is a school-based intervention that aims to develop the skills of middle school students to avoid gang involvement. Thirteen lessons taught primarily by uniformed law enforcement officers during social studies, English or science classes follow a cognitive-based approach and focus on decision-making, communication and refusal skills as well as anger management, conflict resolution, empathy and personal responsibility. Cooperative learning strategies and problem-solving exercises are employed. The current study was conducted across seven different cities of the US that varied in size, region and levels of gang activity.

Sample

31 schools with 195 6-7th grade classrooms provided the sampling frame for the current study and 78% consented to participating (n=3820). The sample was 50% male, 37% Hispanic, 27% White and 17% African-American. Mean age was 11.48 years. 20% lived in a single parent household. The intervention group receiving G.R.E.A.T consisted of 102 classrooms, while the control group not receiving the program consisted of 95 classrooms. Baseline comparisons of intervention and control groups are not reported.

Results

After one year follow-up, there were fewer gang members among intervention group students compared to control (39% lower odds) and better attitudes towards police, but no difference in violent offending or delinquency in general.

Design

Randomized controlled trial using a nested design (by classroom) and multilevel analysis via logistic and negative binomial regression. Data derive from youth self-report questionnaires.

Quality assessment

Good sample size, low loss to follow-up (13%), though this and missing data are not assessed thus introducing some risk of selection bias. However, all pre-test variables were controlled for in the analysis. Intervention protocol fidelity is unknown.

Overall assessment: high quality.

The study

Griffin, J., R.C. Holliday, E. Frazier & R.L. Braithwaite (2009): “The BRAVE (Building Resiliency and Vocational Excellence) Program: Evaluation Findings for a Career-oriented Substance Abuse and Violence Preventive Intervention”. *Journal of Health Care for the Poor and Underserved*, 20(3), p. 798-816.

Study objectives

To assess the effectiveness of a career-oriented intervention for preventing involvement with alcohol, tobacco, drugs and violence among African-American middle school children in Georgia, USA.

Intervention focus

The intervention ‘Building Resiliency and Vocational Excellence’ (BRAVE) draws on social learning theory and resilience research and aims to improve general life skills, prevent violence, strengthen resilient behaviour and in addition develop career goals among African-American 8th grade students. The intervention took place during health education classes via curriculum-based exercises that were experiential, interactive and skill-based. Each lesson lasted 90 minutes and consisted of various curricula including a life skills curriculum, a violence prevention curriculum (including violence prevention training videotapes) and a manhood development training curriculum specifically targeted towards African-Americans and with a focus on behavioural maturity, success norms, and responsible gender expectations.

An important component of the intervention is skill-building through reinforced practice (e.g., role-plays) and opportunities to practice skills across social contexts (i.e., school, family, and community). The career goal development component includes peer-to-peer goal monitoring and reinforcement, vocational field trips, a vocational speakers’ bureau as well as one hour weekly mentoring sessions for seven

months by volunteer community role models. The curriculum-based intervention was delivered in classroom lessons two to three times weekly for nine weeks over 7-8 months by certified instructors with the same ethnic background as the target group who were university students.

Sample

The sample for this study consists of 199 8th graders across three consecutive cohorts attending a middle school located in a working-poor-middle-class inner-city neighbourhood of the city of Atlanta. 99% were African-American. The intervention group (n=92) was drawn from six classrooms and was 57.6% male while the control group (n=86) (also from six classrooms) was 68.6% male. Intervention and control classrooms were loosely matched on academic ability, adaptive behaviour and functional level. There were no significant differences between intervention and control groups on whether students lived with both their parents (16.3% and 20% in intervention and control group respectively), lived in a house or an apartment, nor on religious affiliation or the educational levels of their mother and father respectively.

Results

One year post-baseline, there was no significant difference in self-reported violence perpetration (last 12 months) between intervention and control group though a medium sized effect (favouring the intervention group) was detected on alcohol and marijuana use (past 30 days) using Cohen's d effect size criteria.

Design

Quasi-experimental pre- and post-test design with a one year post-baseline follow-up using intervention and control group classrooms selected to be similar on academic ability, adaptive behaviour, and functional level. Analyses were conducted using MANCOVA and controlling for baseline values of outcome variables. Data derive from youth self-report questionnaires.

Quality assessment

Adequate sample size with little missing data (records with missing values were deleted) and a small, non-differential loss to follow-up. Control for confounding is appropriate though risk of residual confounding and

selection bias remains due to unmeasured variables. Analyses do not take nesting within classrooms and cohorts into account. Fidelity to the intervention protocol is unknown.

Overall assessment: medium quality.

The study

Hawkins, J.D., S. Oesterle, E.C. Brown, K.C. Monahan, R.D. Abbott, M.W. Arthur & R.F. Catalano (2012): "Sustained Decreases in Risk Exposure and Youth Problem Behaviors after Installation of the Communities That Care Prevention System in a Randomized Trial". *Archives of Pediatrics & Adolescent Medicine*, 166(2), p. 141-148.

Study objectives

To assess the effectiveness of a community coalition-based universal prevention system for reducing risk of delinquency among community youth in seven states across the USA.

Intervention focus

The intervention 'Communities that Care' (CTC) follows a social development model to develop healthy and positive behaviours in young people by focussing on immersing them in family, school, community, and peer environments that consistently communicate healthy beliefs and clear standards for behaviour.

The first step of the intervention is for community leaders to identify key community members that can serve as members of a CTC Community Board. The task of this Board is to develop a community profile of risk and protective factors and problem behaviours among community youth using knowledge gathered in a baseline survey. The community profile is then used to develop a community action plan for which the Board is inspired by a list of effective preventive programs provided by trainers.

In this intervention, six CTC training sessions were provided over 6-12 months by certified trainers and communities each chose to instate 1-5 preventive actions that had previously been proven effective. These preventive interventions spanned everything from family-focussed parenting interventions to mentoring programs to life skills training for

youth. Technical assistance in implementation of preventive actions was provided by the CTC trainers for five years.

Sample

The Communities that Care program was evaluated in 24 communities in seven states across the USA. In total, 4407 children 5th grade children submitted the first wave of data for the evaluation. The sample were 50% male, 67% White and 20% Hispanic. The intervention group consisted of 12 communities (n=2391) that were matched within each state with 12 control communities (n=1999) on population size, racial and ethnic diversity, economic indicators and crime rates. No differences were found between intervention and control group on baseline violence and delinquency levels as per the baseline survey.

Results

After six years of follow-up (4.67 years after initiation of preventive programs in the communities and one year after technical assistance was no longer provided to communities), the odds of initiating delinquent behaviour (self-reported) between grades six and ten were 21% lower for intervention than control group students (adjusted OR = 0.79). Tenth graders in the intervention group similarly had 17% and 25% lower odds of reporting any delinquency or violence respectively in the past year.

Design

Randomised controlled trial matching intervention communities to control communities on population size, racial and ethnic diversity, economic indicators and crime rates within each state. Analyses controlled for age, race, Hispanic ethnicity, parental education, attendance at religious services, rebelliousness, total population of students in the community and percentage of students eligible for free or reduced school lunch. Data derive from youth self-report questionnaires over 5-6 waves of data collection.

Quality assessment

Good sample size with low non-differential attrition, and little missing data. All models controlled for several student-level and community-level covariates thus reducing risk of confounding. Protocol fidelity was assessed to be good.

Overall assessment: high quality.

The study²

Jagers, R.J., A.A. Morgan-Lopez & B.R. Flay (2009): "The Impact of Age and Type of Intervention on Youth Violent Behaviors". *Journal of Primary Prevention*, 30(6), p. 642-658.

Study objectives

To test the comparative effectiveness of two formats of a school-based universal violence prevention versus a health-curriculum control on reducing violence. One format was a class-room based model and the second format a school/family/community model taking place in the Midwest of the USA.

Intervention focus

The intervention 'Aban Aya Youth Project' is based on the theory of triadic influences and three domains of influences of behaviour: cultural-environmental influences, social context influences and intrapersonal influences. It is a school-based universal prevention program targeting mainly African-American 5-8th graders in poor Metropolitan school districts that focuses on avoiding violence, provocative behaviour, school delinquency, drug use, and unsafe sexual behaviours among youth.

The class-room based social development curriculum (SDC) is designed according to African-American communal values such as unity, self-determination and collective responsibility and targets social emotional competence and risk avoidance through promotion of cognitive-behavioural skills. It consists of 21 lessons per year during social studies class for each of grades five to eight. The school/family/community (SC) component supplements the class-room curriculum with parental involvement, a focus on school climate, and community partnership activities. It emphasizes parent-child communication and reinforces lessons learnt in the class-room component.

Sample

The sample for this study consists of 1044 youth 10-14 years of age of which 49.5% were male and 47% lived in two-parent households. Average household income ranged from 10-13,000 USD and 77% of students

2. This is both a primary and secondary prevention intervention.

were eligible for free or reduced fee lunch. The two intervention groups (n unknown) were compared to a control group (n unknown) that received a health-oriented curriculum in class instead of the Aban Aya curriculum.

Results

Participants in the class-room based social development curriculum intervention as well as in the additional SC component had significantly reduced effects on violence compared to the control group after four years of follow-up (though with varying follow-up times due to individuals participating at various stages of the intervention). The effect was seen only after two years of intervention corresponding to in the older age-group of children above 12.47 years of age. At four years follow-up the mean violence score for the intervention group was 3.78 (SC intervention), 4.03 (SDC intervention) and 4.18 (control group).

Design

Randomised controlled trial using a block design to ensure similarity in school risk profiles in each of the three intervention conditions. Data derive from youth self-report questionnaires and were analysed using hierarchical regression models.

Quality assessment

Good sample size but with no assessment of loss to follow-up nor any assessment of missing data in youth self-reported outcome measures. Intervention and control groups are not further described impeding assessment of selection bias which is relevant due to the blocked nature of randomisation of schools. Intervention protocol fidelity is unknown.

Overall assessment: medium quality.

The study

Kliewer, W., S.J. Lepore, A.D. Farrell, K.W. Allison, A.L. Meyer, T.N. Sullivan & A.Y. Greene (2011): "A School-Based Expressive Writing Intervention for At-Risk Urban Adolescents' Aggressive Behavior and Emotional Lability". *Journal of Clinical Child and Adolescent Psychology*, 40(5), p. 693-705.

Study objectives

To assess the effectiveness of two school-based violence-focussed expressive writing programs compared to a control writing intervention in terms of reducing physically aggressive behaviour among youth in Virginia, USA.

Intervention focus

The two interventions assessed in the study were a standard and an enhanced creative writing intervention for middle school children living in impoverished, high-crime areas. The enhanced condition was designed to reflect important cultural values and traditions in African-American communities while increasing the amount of expressive writing in the intervention. Students were asked to write about their deepest thoughts and feelings about violence they had seen or experienced and were given the option to write stories, skits, songs or poetry about violence in lieu of or in addition to a simple narrative account such as was asked for in the standard expressive writing group. Students wrote twice a week for up to twenty minutes for a total of eight sessions that were guided by project staff using a specified protocol.

Sample

Three public middle schools in Virginia participated in this study and the sample consists of 258 7th grade students (77% of eligible youth). 45% were male and 91% were African-American. The standard writing group (n=108; 40% male; 87.6% African-American) and the enhanced writing group (n=80; 44.9% male, 97.4% African-American) were compared with a control group (n=70; 52.1% male; 89.7% African-American) that wrote about day-to-day experiences instead of about violence. The standard writing group had significantly lower levels of teacher-reported aggression and emotive lability compared to the control group and enhanced writing group, while neither sex, race, previous experience of violence or self-reported physical aggression at baseline differed between groups.

Results

Students were followed up at two and six months post-intervention. An initial reduction in teacher-rated aggression at two months follow-up for the standard writing group was not maintained after six months. The

enhanced writing intervention seemed only beneficial to pupils with a high previous exposure to violence (50th percentile or higher). Boys and girls benefitted equally.

Design

Cluster-randomised controlled trial using mixed model analyses to take into account nesting within classrooms and analysing as per the intention to treat approach, while controlling for sex, race and family structure (male presence) and baseline levels of all outcome variables. Data derive from youth self-report and teacher-report questionnaires on physical aggression and emotive lability.

Quality assessment

Adequate sample size with 13.2% loss to follow-up and no attrition analysis conducted. High fidelity to intervention protocol. Missing data not assessed. Analyses controlled for demographics and baseline differences in outcome variables. Generalizability of results is limited by 77% recruitment rate and randomisation only conducted for 5th period classes.

Overall assessment: high quality.

The study

Koglin, U., F. Petermann, P. Heffter & U. Petermann (2010): "Längerfristige Effekte des JobFit-Trainings für Jugendliche". *Zeitschrift für Psychiatrie, Psychologie und Psychotherapie*, 58(3), p. 235-241.

Study objectives

To assess whether the universal prevention program JobFit- Training has a positive long-term effect on antisocial behaviour and whether the program reduces violent behaviour in school children in Bremen and Niedersachsen, Germany.

Intervention focus

The intervention 'JobFit' is a school-based intervention which draws on cognitive- behavioural methods. The main focus is to promote social competence conducive to preparing youth for a working life and to reduce and prevent aggressive, anti-social behaviour. The intervention targets youth between 13 and 18 years and consists of 12 90-minute sessions conducted within ergonomics classes. The first two sessions are

introductory in nature while the remainder follow a pre-designed structure and cover aspects such as leisure-time and family relations, life goals and responsibilities, resilience, emotions and relationships, empathy, communication skills, coping with critique and let-downs. Other aspects focus specifically on skills required for getting and retaining a job. In the sessions, cartoons, photos, discussions and role playing are employed in order to improve self-efficacy, self-awareness and social competence. The duration of the program was one school semester.

Sample

The sample for this study consists of 104 students in 8-9th grade of 'gesamtschule'. The intervention group (n=60) were 50% male and had a mean age of 15.4 years. 15% were assessed by teachers to have high scores on the conduct problems scale of the Strengths and Difficulties Questionnaire while 6.7% show high scores on the pro-social scale). The control- group (n=44) were 54.5 % with a mean age of 15.8 years. 18.2% were assessed by teachers to have high scores on the conduct problems scale of the Strengths and Difficulties Questionnaire while 18.2% had high scores on the pro-social scale. Statistically significant differences were, however, only found for student scores on the hyperactivity scale with the control group scoring higher than the intervention group.

Results

At six months follow-up, a significant reduction in conduct problems was found in the intervention group compared with controls. The effect size (d=0.52) corresponds to a medium-sized effect. The effects seen for other subscales disappeared between post-test and six-month follow-up.

Design

Quasi- experimental design with pre-, post-test and 6 months follow- up using MANOVA to control for outcome variables at baseline as well as gender and age. Data derive from teacher assessment using the Strengths and Difficulties Questionnaire for teachers (SDQ-L).

Quality assessment

Relatively small sample size but without missing data (loss to follow-up is not specified). The analysis controls for the effects of gender and age but no other covariates are included in the overall model leading to risk

of residual confounding due to unmeasured variables. Baseline differences between groups are not accounted for. Intervention protocol fidelity is unknown.

Overall assessment: medium quality.

The study

Leventhal, T. & V. Dupere (2011): “Moving to Opportunity: Does Long-term Exposure to 'Low-poverty' Neighborhoods Make a Difference for Adolescents?” *Social Science and Medicine*, 73(5), p. 737-743.

Study objectives

To examine the association between moving into and remaining in low-poverty neighbourhoods (or long-term exposure to low-poverty neighbourhoods), compared with staying in high-poverty neighbourhoods, and adolescent outcomes in four major cities of the USA.

Intervention focus

The ‘Moving To Opportunity’ (MOT) program was a universal intervention in high-poverty areas that focussed on moving families living in public housing in areas with a 40% or higher poverty rate out and into low-poverty areas. Participants were offered housing subsidies and housing counselling and were required to stay at least one year in the new housing.

Sample

The intervention group n=119 consists of children in families that received the MOT intervention and remained in the low-poverty area for at least half of the five year follow-up period. Children had a mean age of 14.8 years. 52.9% were male, 70.6% were Black, 8.4% were White and 16.8% identified as Hispanic. 19.3% had learning or behavioural problems while 21.8% attended a special class for gifted children. They lived on average 61.29 months. The intervention group was compared to a matched (using propensity score matching and matching estimators respectively) control group.

Results

After five years of follow-up, there was no significant difference in behavioural problems nor delinquency between intervention and group.

Design

Randomised controlled trial using long-term compliers matched to controls; OLS regression on treatment condition, site, ethnicity, race, household income, maternal age, maternal work status, maternal education, child sex, and child age, with robust standard errors was conducted. Data derived from psychometric tests delivered as in-house structured interviews.

Quality assessment

Large sample size without missing data or loss to follow-up as these cases were excluded from this efficacy study. The sample is a select long-term complier sample but CACE analysis allows a comparable set of controls. There is appropriate control for confounding. Intervention protocol fidelity is very high.

Overall assessment: high quality.

The study

Oesterle, S., J.D. Hawkins, A.A. Fagan, R.D. Abbott & R.F. Catalano (2010): "Testing the Universality of the Effects of the Communities That Care Prevention System for Preventing Adolescent Drug Use and Delinquency". *Prevention Science*, 11(4), p. 411-423.

Study objectives

To assess whether the previously reported positive effects of the Communities That Care program on youth risk behaviour and delinquency differ by gender or risk-related subgroups.

Intervention focus

The intervention 'Communities that Care' (CTC) follows a social development model to develop healthy and positive behaviours in young people by focussing on immersing them in family, school, community, and peer environments that consistently communicate healthy beliefs and clear standards for behaviour. The intervention is installed in communi-

ties through a series of six training events delivered over 6-12 months by certified CTC trainers.

Community leaders identify members of a CTC Community Board which develops a community profile of risk and protective factors and problem behaviours among community youth. This is used to develop a community action plan drawing from the CTC Prevention Strategies Guide which provides a list of effective preventive programs provided by CTC trainers. Communities selected two to five risk factors to focus on according to their risk profiles. On average three programs were implemented per community per year by local providers.

Sample

The sample for this study consists of $n=4407$ 5-6th grade students in 24 communities in seven different States of the USA. 50.2% were male. The intervention group ($n=2424$) were 5th or 6th graders in communities receiving the CTC intervention. They were 49.1% male and 19.8% reported delinquency in the past year. The control group ($n=1983$) resided in communities not receiving CTC. They were 51.5% male and 22.8% reported delinquency in the past year.

Results

After four years of follow-up (in some cases only three years), delinquency was significantly reduced for both those who reported delinquency at baseline (OR=0.84) and those that did not (OR=0.66). CTC thus had an effect on both groups but a greater effect on youth who had not offended at baseline. The effect did not vary between genders or across other risk factors.

Design

Randomised controlled trial using a matched pairs design and a generalized linear model or Poisson regression adjusting for grand-mean centred student- and community-level covariates and including baseline risk and gender as well as an interaction term between intervention status and gender or baseline risk to analyse for differential effects across these covariates. Data derive from youth self-report questionnaires.

Quality assessment

Large sample size with a low non-differential attrition and imputed missing data. Randomisation is adequately maintained and models adjust for baseline covariates. The intervention was assessed as having a good intervention protocol fidelity.

Overall assessment: high quality

The study

Özer, D., F. Baran, A. Aktop, S. Nalbant, E. Aglamis & Y. Hutzler (2012): "Effects of a Special Olympics Unified Sports Soccer Program on Psycho-Social Attributes of Youth with and without Intellectual Disability". *Research in Developmental Disabilities: A Multidisciplinary Journal*, 33(1), p. 229-239.

Study objectives

To explore the effect of Special Olympics training for youth with and without intellectual disability on psycho-social attributes including delinquency and aggression in a Turkish setting.

Intervention focus

The intervention draws on a theory of inclusive education and consists of Special Olympics football training during eight weeks as an after school program. Teams comprise a mix of students with and without intellectual disability and met three times per week for 90 minutes of training following the Special Olympics Football Coaching Guide (2004). Training includes skill training, sportsmanship, team tactics and football rules. The end of the program was marked by a football tournament with parents attending as spectators.

Sample

The sample for this study consists of 76 7th-8th graders. Participants with intellectual disability (n=38) attended a special school, while participants without intellectual disability (n=38) attended an ordinary high school. The intervention group (n=46) consisted of 23 students with and 23 students without intellectual disability (mean age 14.5 and 14.1 years respectively). The control group (n=30) was similarly comprised and students with intellectual disability had a mean age of 14.5 years while students

without disability were a bit younger at 13.8 years on average. The control group did not participate in additional sports activities.

Results

Immediately post-intervention, a significant decrease in externalising behaviour in children with intellectual disorders was found. However, a similar decrease was found for the control group, and the intervention was thereby not proven to have any unique effect.

Design

Randomised controlled trial using simple randomisation in each of the two participating schools and analysing participants with and without intellectual disability separately. Data derived from questionnaires filled out by teachers and parents.

Quality assessment

Small sample size with some loss to follow-up (exact amount uncertain). It is as such unclear to which degree randomisation is maintained. The authors do not report amount of missing data and do not take loss to follow-up into account. Analyses are subject to potential residual confounding. Possible recruitment bias due to just 77% recruitment rate limits generalizability of findings.

Overall assessment: *medium quality*.

The study

Petermann, U., U. Koglin, F. Petermann & P. Heffter (2010): "Kompetenzaufbau durch das JobFit-Training für Schulklassen". *Psychologie in Erziehung und Unterricht*, 57, p. 144-152.

Study objectives

To assess whether the universal prevention program JobFit- Training has a positive effect on antisocial behaviour and whether the program reduces the potential to violent behaviour among general school youth in Bremen and Niedersachsen, Germany.

Intervention focus

The intervention 'JobFit' is a school-based intervention which draws on cognitive- behavioural methods. The main focus is to promote social

competence conducive to preparing youth for a working life and to reduce and prevent aggressive, anti-social behaviour. The intervention targets youth between 13 and 18 years and consists of 12 90-minute sessions conducted within ergonomics classes. The first two sessions are introductory in nature while the remainder follow a pre-designed structure and cover aspects such as leisure-time and family relations, life goals and responsibilities, resilience, emotions and relationships, empathy, communication skills, coping with critique and let-downs. Other aspects focus specifically on skills required for getting and retaining a job. In the sessions, cartoons, photos, discussions and role playing are employed in order to improve self-efficacy, self-awareness and social competence. The duration of the program was one school semester.

Sample

The sample for this study consists of 72 students in 8-9th grade of 'haupt' and 'gesamtschule'. The intervention group (n=43) were 51,2 % male and had a mean age of 15.3 years. By teacher assessment, 25.6 % presented with high scores on the conduct problems scale of the Strengths and Difficulties Questionnaire while 32.6% had high scores on the pro-social scale. The control group (n=29) were 55.2 % male with a mean age of 15.1 years. In the control group, no students were assessed (teacher assessment) with high results on the conduct problems scale of the Strengths and Difficulties Questionnaire while 41,3% (12 pupils) show high results on the pro-social scale.

Results

The change in scores on the SDQ-L questionnaire from pre- to post-test favours the intervention group compared to controls. Specifically, a statistically significant difference on the conduct problems scale with an effect size of 0.41 (small to medium effect) was found.

Design

Quasi- experimental design with pre- and post-test differences tested by way of t-test. Data derive from teacher assessment using the Strengths and Difficulties Questionnaire for teachers (SDQ-L). Furthermore teachers used the questionnaire LSL (Lehrereinschätzliste für Sozial- und Lernverhalten von Petermann 2006) to report children's development including self-efficacy, self- perception, perspective- taking.

Quality assessment

Small sample size but without missing data. Potential baseline differences between intervention and control group are not assessed except for on outcome measures and these differences are not accounted for in the analysis, thus leaving a high risk of confounding. Intervention protocol fidelity is unknown.

Overall assessment: low quality.

The study

Rich, T., K. Carlson, P. Finn, L. Olsho & B. Rhodes (2009): *Impact Evaluation of Youth Crime Watch Programs: Final report*. Cambridge, MA: Abt Associates Inc.

Study objectives

To assess the effectiveness of Youth Crime Watch programs on suspensions and the reported instances of crime in the school setting in three school districts in Florida, USA.

Intervention focus

The intervention 'Youth Crime Watch' (YCW) covers a variety of activities in which school youth are engaged through a voluntary program. Youth Crime Watch may include one or more of nine different activities: youth patrolling around school during either break or class-time; crime reporting; drug, violence, and crime prevention education; bus safety; mentoring; conflict resolution; mediation; peer and cross-age teaching; and action projects (e.g. litter removal activities).

YCW programs should have an adult advisor (preferably trained but not always so)—either a teacher, police officer, school administrator, or community leader; have a core group of at least 6 students members; implement at least one of the nine YCW components; hold at least two meetings per month or spend at least 150 hours of activity on their program components during the year; send adult advisors or the core group of student members to a YCW implementation training at least every three years; make the community and school aware of the program; and have a site agreement signed by the school principal that affirms the school's commitment to adhere to these minimum standards. Program implementation can vary greatly across schools and can either be organ-

ised as an extracurricular course, as an elective class or as substitute for an elective class.

Sample

The sample for this study consists of schools in three school districts of Florida, USA. The number of schools varied across years (2000-2006) ranging from 155 schools to 172 schools with approximately 279,245 students in total. The intervention group consisted of those schools which in a particular year implemented a YCW program (N=133 schools on average across years) and these were compared with a control group (N=23 schools on average across years). Middle schools (60% of schools) had a mean of 1300 students with USD 4.6 spent on average per student per year. 47.4% of middle school students were eligible for free or reduced-priced lunch. High schools had a mean of 2300 students with USD 4.9 spent on average per student per year. The mean drop-out rate in high schools was 1.9% and mean graduation rate 71.9%.

Results

Overall reported incidence rates (of criminal behaviour in or around schools) were 14% higher in middle schools with YCW programs (i.e. the intervention group), though alcohol and drug use reports were 18% lower. In high schools, there was no overall effect but violent acts were reported 25% more frequently in YCW schools. When looking only at youth patrolling activities (the most common YCW activity), property crimes were reduced by 29% ($p < 10\%$) in middle schools and violent acts were reduced by 21% in high schools. Suspensions were reduced by an average of 5% in high schools and 3% in middle schools.

Design

Quasi-experimental cross-sectional design with schools as units of analysis in Poisson regression with school-level fixed effects and seemingly unrelated regressions (SUR) controlling for some school-specific differences. There was no follow-up after interventions and no time lag between intervention and outcome measurement. Data derive from archive Department of Education Records which are based on school self-report. Individual level analyses were also conducted but with outcome measures that were not crime or disruptive behaviours. These analyses are therefore not described here.

Quality assessment

Adequate sample size though units of analysis are schools rather than individuals and the distribution is uneven between intervention and control groups leading to a small sample size for the control group which could reduce validity of statistical tests. While some differences in school characteristics are controlled for, there remains a risk of residual confounding including selection bias due to unmeasured variables. Intervention protocol fidelity is unknown and potentially subject to recall bias.

Overall assessment: medium quality.

The study

Shek, D.T.L. & L. Yu (2012): “Longitudinal Impact of the Project PATHS on Adolescent Risk Behavior: What Happened after Five Years?” *The Scientific World Journal*.

Study objectives

To examine the effectiveness of a large scale curriculum-based positive youth development program two years post-intervention on adolescent delinquency in Hong Kong.

Intervention focus

The intervention ‘Positive Adolescent Training through Holistic Social Programs’ (Project PATHS) is a universal intervention targeting junior secondary school students (age 12-15) in order to promote positive development and reduce risk and problem behaviour among adolescents. The intervention lasts three years and consists of a 20-hour program that can be delivered in a variety of formats and covers 15 positive youth development constructs such as bonding, resilience, social competence, recognition of positive behaviour, emotional competence, cognitive competence, behavioural competence, moral competence, self-determination, self-efficacy, clear and positive identity, beliefs in the future, pro-social involvement, pro-social norms, and thriving. Relevant adolescent developmental concerns (e.g. drug issues, financial management, a sense of responsibility and life meaning) and adolescent developmental strengths (e.g. high level of concern for society and high proficiency in information technology) are incorporated in the program content.

Sample

The sample for this study was provided by 48 secondary schools in Hong Kong. Participating schools did not differ from each other in characteristics such as students' academic competence, geographic district, religious affiliation, sex ratio of the students and source of funding. The intervention group (24 schools, n=4049) was compared with a control group (24 schools n=3797) which did not differ significantly from the intervention group except for on age, where the control group were somewhat older than the intervention group. All students were in grade 1 of secondary school upon project initiation.

Results

At two years post-intervention (i.e. five years after baseline), the intervention group presented consistently lower levels of violence than the control group. Other measures of delinquency (having had sex, having stayed away from home overnight, and having trespassed are not reported here).

Design

Randomised controlled trial using linear mixed-effect modelling controlling for gender and initial age. Data derive from youth self-report questionnaires.

Quality assessment

Large sample size with a tolerable loss to follow-up (17.3% after five years) and adjustment for differential baseline characteristics. However, the attrition introduces risk of selection bias since five intervention schools dropped out before outcome measurement. No attrition analysis was conducted. Fidelity to the intervention protocol is unknown.

Overall assessment: high quality.

The study

Taylor, B., N. Stein & F. Burden (2010): "The Effects of Gender Violence/Harassment Prevention Programming in Middle Schools: A Randomized Experimental Evaluation". *Violence and Victims*, 25(2), p. 202-223.

Study objectives

To assess the effect of gender violence / sexual harassment prevention programs that focus on either gender socialization or on facts and laws in middle schools compared to no program at all in Ohio, USA.

Intervention focus

An inter-action based gender socialization curriculum was contrasted to a curriculum focussing solely on law and justice. Both interventions are taught for 40 minutes once per week for five weeks in 6th and 7th grade classrooms using predesigned materials with detailed instructions for each lesson.

The inter-action based curriculum draws on the Theory of Reasoned Action and addresses negative attitudes and beliefs about dating violence using interaction skill building leading to behavioural change. The inter-action based intervention focuses on setting and communicating relationship boundaries; forming deliberate relationships and friendships and the continuum between friendship and intimacy; determining wanted/unwanted behaviours and the role of the bystander as intervener. Lessons do not provide simple answers, but rather made students struggle with subjectivity and ambiguity as aspects of sexual harassment.

The law and justice curriculum is designed to change behaviour more directly through a fact-based curriculum focussing on laws, definitions, information, and data about penalties for sexual assault and sexual harassment as well as results from research about the consequences for perpetrators of gender violence. This knowledge was expected to reduce gender violence and sexual harassment.

Sample

The sample for this study was drawn from 123 6th and 7th grade classrooms in suburban middle-schools in near Cleveland, Ohio. Participants (n=1639) were 11-13 years of age, 48% male, 52% White and 27% African American. 28% and 21% had respectively experienced and perpetrated dating violence prior to the intervention. 29 classrooms received the inter-action based intervention (n=570). This group was 46% male and 62% had been in a dating relationship lasting more than a week. Another 29 classrooms received the law-based intervention (n=585). This group was 44% male and 61% had been in a dating relationship. The

control group (65 classrooms, n=1155) received standard health education that did not cover gender violence. This group was 52% male and only 53% had been in a dating relationship. Gender and dating experience differed significantly from both intervention groups.

Results

Both immediately and six months after the interventions, both intervention groups were more likely than controls to perpetrate dating violence (both sexual and non-sexual). Participants in the interaction-based intervention were, on the other hand, less likely to be victims of dating violence. The authors interpret the results as indicating a greater awareness about dating violence in the intervention groups and thus higher self-reported violence rather than greater incidence of actual dating violence.

Design

Randomised controlled trial using a stratified random allocation procedure (by grade level and school) and hierarchical linear modelling. Data derive from youth self-report questionnaires.

Quality assessment

Large sample size but 30% attrition creates risk of selection bias. No attrition analysis is possible. Intervention protocol fidelity is good, missing data is imputed.

Overall assessment: medium quality.

The study³

van der Velden, F., D. Brugman, J. Boom & W. Koops (2010): "Effects of EQUIP for Educators on Students' Self-serving Cognitive Distortions, Moral Judgment and Antisocial Behavior". *Journal of Research in Character Education*, 8(1), p. 77-95.

Study objectives

To investigate the effects of EQUIP for Educators on both prevalence of antisocial behaviour and attitudes towards antisocial behaviour in a school-based setting in a highly urbanised part of the Netherlands.

3. This study is both a primary and a secondary prevention intervention.

Intervention focus

The intervention ‘EQUIPPing youth to help one another’ (EQUIP) for Educators is a modification of a tertiary prevention intervention adapted for universal use in a school setting. The program draws on the peer-helping approach and on cognitive behavioural therapy and focuses on equipping youth to think and act responsibly. The intervention targeted 8th grade students in pre-vocational schools (i.e. lowest level of Dutch education) and took place in class. Teachers were trained over an 18 hour training course. The intervention lasted 16 weeks and included two introductory sessions and the 30 EQUIP curriculum lessons structured around anger management, social skills and social decision-making.

Lessons were modified from their original content to correspond with the broader target group in a universal intervention. Students learn skills to stay calm and act constructively by practising these skills during role-play sessions. Emphasis is placed on reducing cognitive distortions, improving social skills and stimulating moral development.

Sample

The sample for this study is made up of 8th graders in nine pre-vocational secondary schools. Schools with resources to implement the intervention made up the intervention group (7 schools) while schools who did not have the resources but were open to participating in the research made up the control group (2 schools). Of the 764 8th graders in these schools, 622 provided data at both pre- and post-test. The intervention group (n=512) were 58.8% male and had a mean age of 14.1 years. 58.2% had ethnic minority backgrounds and 84.5% were from families of low socio-economic position. The control group (n=110) were 62.7% male and had a mean age of 13.94 years. 38.3% were from ethnic minority backgrounds and 80% from families of low socio-economic position. Groups differences were significant only on age and ethnic background.

Results

After the intervention, both intervention and control group displayed a small reduction in prevalence of self-reported anti-social behaviour in the past three months, but there was no significant difference between the groups and the reduction can as such not be attributed to the intervention. This did not vary across gender or ethnicity. Significant but small

reductions in positive attitudes towards anti-social behaviour and self-serving cognitive distortions were observed in the intervention group compared to controls.

Design

Quasi-experimental study with a pre- and post-test design. Stratified analyses (method not specified) assessed the differential impact of gender and ethnicity on anti-social behaviour in the past three months controlling for social desirability of youth answers (as per the Crowne and Marlow Social Desirability Scale). Data derive from youth self-report questionnaires.

Quality assessment

Good sample size with tolerable attrition (18.6% across 4 months) assessed to be non-differential on antisocial behaviour at baseline while other characteristics were not assessed. There is no specification of method of analysis or missing data. Protocol fidelity is assumed to be good due to monitoring of sessions by research staff. Interpretation of results on anti-social behaviour is hampered by difference in item wording (having 'ever' engaged in anti-social behaviour (at pre-test) vs. having engaged in anti-social behaviour 'in the past 3 months' (at post-test)); this difference would be expected to result in an over-estimation of program effects and is thereby perhaps not decisive for this study.

Overall assessment: medium quality.

The study

Van Ryzin, M.J., E.A. Stormshak & T.J. Dishion (2012): "Engaging Parents in the Family Check-Up in Middle School: Longitudinal Effects on Family Conflict and Problem Behavior Through the High School Transition". *Journal of Adolescent Health*, 50(6), p. 627-633.

Study objectives

To assess how outcomes such as family conflict, antisocial behaviour, deviant peer involvement and alcohol use are affected by participation in the intervention Family Check-Up after a four year follow-up period during which children shifted from middle to high school.

Intervention focus

The intervention 'Family Check-Up' is a family-centred program based on social learning theory and the 'Everyday Parenting' curriculum that focuses on enhancing parenting skills in order to prevent escalation of adolescent problem behaviour during the transition from middle school to high school. Key components include promoting family management mechanisms such as positive behaviour support, monitoring and setting limits. Families participate in three school-based sessions of assessment and feedback that engage families in a positive change process (average time spent: 4.4hrs per family). Subsequently, parents in need of additional support are offered tailored interventions focussing on specific parenting skills.

Sample

Two cohorts of 6th grade students in 3 middle schools in the Pacific Northwest participated in the study. The sample (n=593) consists of an allocated intervention group (n=386) of whom just 163 (42.2%) actually received the intervention and a control group (n=207) that did not receive Family Check-Up. The mean age at recruitment was 11.88 years, 51.4% of the sample were male, 36.1% were European-American; 18% were of Latino ethnicity; while 15.2% were African-American. The study does not report the comparability of the intervention and control groups on risk factor characteristics.

Results

The intervention proved to significantly reduce family conflicts (with a moderate effect size) and have a large impact on youth antisocial behaviour and deviant peer involvement for those families who actually received the intervention.

Design

Randomised controlled trial using complier average causal effect analysis (to uphold randomisation after loss-to-follow-up or lack of intervention adherence) and models using robust maximum likelihood estimation. Results are based on battery scales (with good internal reliability) measuring family conflict, antisocial behaviour, and deviant peer involvement. Data derive from student-completed surveys.

Quality assessment

This study has an appropriate sample size. A 17% loss-to-follow-up is accounted for by using complier average causal effect analysis which retains the initial randomised assignment, but precludes analysis of mediating factors in the cause-effect relationship. Data are based exclusively on self-report via questionnaires, but the amount of missing data is not specified. Fidelity to intervention protocol is similarly unknown.

Overall assessment: medium quality.

The study

Van Ryzin, M.J. & T.J. Dishion (2012): “The Impact of a Family-centered Intervention on the Ecology of Adolescent Antisocial Behavior: Modeling Developmental Sequelae and Trajectories during Adolescence”. *Development and Psychopathology*, 24(3), p. 1139-1155.

Study objectives

To assess the impact of the Family Check-Up intervention on adolescent antisocial behaviour and assess the mediating effects of family conflict on this relationship, as well as the impact of parental monitoring and deviant peer association.

Intervention focus

The intervention ‘Family Check-Up’ (FCU) is grounded in coercion theory with regard to its understanding of the processes that lead to family conflict and youth antisocial behaviour. The intervention itself draws from social learning theory and focuses on supporting parents of young adolescents in their ability to appraise child risk and own parenting practices while helping parents identify appropriate services and change strategies.

The FCU has two components. The first is a Family Resource Centre located in participating middle-schools with services that include brief parent consultations, feedback to parents about their child's behaviour in school and videotapes and reading materials about parenting. The second component is a selective intervention consisting of three sessions: an initial parent interview, family assessment (including being videotaped in the home while interacting with the child) and a motivational interviewing feedback session that focuses on improving parenting skills. The

feedback session leads to parents being offered a menu of family-centred interventions to improve communication skills and family management practices including positive behaviour support, monitoring, limit setting, and change planning.

All interventions are consistent with the Everyday Parenting Curriculum. Parents choose the most appropriate intervention for *them* based on the assessment of observed family interactions, available resources and parents' motivation and skills. The program thus follows an adaptive intervention framework where the intervention is modified to suit the needs of the family. The intervention was available for everyone, but high-risk youth were specifically offered the FCU in 7th and 8th grades. On average intervention group families had 8.9 hours of direct contact with intervention staff over 1-2 years (depending on the duration of their individualised intervention).

Sample

The sample for this study consists of 998 sixth graders from two cohorts at three urban middle-schools in the Northwest of the USA. The sample was 52.7% male and of diverse ethnicities: 42.3% European-American, 29.1% African American, 6.8% Latinos, and 5.2% Asian American. Median family income was 30-40,000 USD and 58.6% of families included the biological father of the child. The intervention group (n=500) were compared with a control group (n=498). Baseline characteristics of the two groups are not reported. In the intervention group, 115 (23%) elected to receive the FCU and of these, 88 received at least one follow-up intervention.

Results

Participation in the FCU significantly reduced anti-social behaviour at age 19 (effect size not available). There was a significant mediating effect of family conflict on this relationship with the FCU reducing family conflict which in turn was associated with lowered antisocial behaviour among youth. Also, change in family conflict predicted later levels of parental monitoring and deviant peer association which in turn predicted antisocial behaviour at age 19.

Design

Randomised controlled trial using structural equation models and controlling for anti-social behaviour at age 12 in the analysis of the relationship between intervention at age 12 and antisocial behaviour at age 19. The mediating effect of family conflict at age 15 was included in a second model. Data derive from youth and parent self-report questionnaires.

Quality assessment

Good sample size but with a low level of program completers and analysis conducted as per intention to treat, effect is presumable underestimated. Causal inference is strong due to temporal differences in measurement of mediating variables during longitudinal follow-up. Baseline characteristics of the intervention and control groups are not assessed. Loss-to-follow-up and missing data are not specified. Fidelity to the intervention protocol is not specified.

Overall assessment: medium quality.

The study

Weisburd, D., N.A. Morris & J. Ready (2008): "Risk-Focused Policing at Places: An Experimental Evaluation". *JQ: Justice Quarterly*, 25(1), p. 163-200.

Study objectives

To assess whether a tailored placed-based risk-focused approach is an improvement over traditional police service in terms of levels of self-reported delinquency in California, USA after two years of program implementation.

Intervention focus

The intervention 'Risk-Focussed Policing at Places' (RFPP) focuses on addressing factors that place youth most at risk for delinquency and other problem behaviours through targeting census blocks where risk of juvenile delinquency is high. The program was implemented over two years and incorporated problem-oriented policing tactics through careful assessment of the problems specific to a particular geographic location, and the tailoring of problem specific solutions; influencing and interacting with the community to cultivate and enhance pro-social community norms, healthy development of adolescent children and increased posi-

tive interactions with the police. Interventions were not evenly dispersed across the experimental sites. The total number of interventions for the experimental block groups ranged from a minimum of two to a maximum of 32. The average number of interventions during the study period was thirteen, and the median number of interventions was eight. Over half of the experimental block groups received fewer than ten interventions throughout the study period, whereas four experimental block groups received over 20 interventions.

Sample

26 census blocks at elevated risk provided participants for the current study. With a 72% recruitment rate, 800 students aged 12-18 years participated. 47% of the sample were male and 5.5% had previously been arrested. In the intervention group (N=13 blocks) participating students had a mean age of 14.42 and 48% were White. In the control group (N=13 blocks) participating students had a mean age of 14.54 years and 51% were White. The gender distribution in both groups was the same.

Results

After two years of intervention, the findings from this study do not report any evidence of RFPP having an impact on youth delinquency outcomes.

Design

Matched block randomized experimental design using hierarchical linear models and taking nesting into account. Census blocks were matched on domain with highest risk factor score, domain with second highest risk factor score, calls for service, population per square mile, median value of home, and sum of all risk factors. Data derive from youth self-report questionnaires.

Quality assessment

Good sample size, but loss to follow-up and missing data are not assessed. Intervention and control groups were not similar on policing characteristics at baseline, nor were policing interventions uniform across intervention sites. Intervention protocol fidelity not otherwise assessed.

Overall assessment: low quality.

SECONDARY PREVENTION INTERVENTIONS

The study

Barnes, L.B. (2010): *An Evaluation of the Right Choices Program to Determine Effectiveness in Delivering Constructive Interventions and Providing an Early Support Program in Order to Modify Behavior of First-Time Student Offenders Who Commit Drug and Violent Acts*. Gardner-Webb University School of Education. Ph.d. thesis.

Study objectives

To determine the effectiveness of the Right Choices program in delivering constructive interventions to modify student behaviour once students have left the program and returned to their regular learning environment in a large school district in the southeast of the USA.

Intervention focus

The intervention 'Right Choices' is a program for middle-school children who have been suspended from school due to violation of the student Code of Conduct. In the Right Choices program, youth are taught by former military staff: drill sergeants who teach the students how to march from one location to another, how to stand to attention when speaking to adults, and the proper way to address all adults. The drill sergeant's job is to address the overall character traits of the students. In addition, academic middle-school curriculum is taught. Youths' stay in the program averaged 27 out of the assigned 30 days.

Sample

The sample for this study consists of 622 urban middle-school students. The intervention group (n=311) were matched to a control group (n=311) on school, grade, age, gender and ethnicity. The control group was suspended but did not receive the Right Choices program. Demographic characteristics are provided only for another, larger sample and are thus not repeated here, since they do not describe the sample that is analysed.

Results

At the end of follow-up, the intervention group had 45% fewer suspensions than the control group, but this result is not adjusted for any po-

tential confounders (such as age, gender, race, family background, etc.) nor potential differences in follow-up periods within and between groups.

Design

Quasi-experimental control group design analysed descriptively with no attempt to assess causal associations or control for potential confounders. Data derive from program data from the North Carolina Window on Student Education produced for the Annual Report on Crime and Violence.

Quality assessment

Good sample size without missing data or loss to follow-up. However, differences in follow-up time are not measured or taken into account and there is no control for confounding, thus rendering results untrustworthy. *Overall assessment:* low quality.

The study

Berry, V., M. Little, N. Axford & G.R. Cusick (2009): "An Evaluation of Youth at Risk's Coaching for Communities Program". *Howard Journal of Criminal Justice*, 48(1), p. 60-75.

Study objectives

To evaluate the effectiveness of the Coaching for Communities program in reducing anti-social behaviour among youth in the UK.

Intervention focus

The intervention 'Coaching for Communities' (CfC) is based on a logic model that addresses risks leading to anti-social behaviour and builds on protective factors such as pro-social networks and aspirations. Logic model content includes improving self-esteem, reducing impulsivity, increasing future aspirations, improving positive outlook, reducing involvement with anti-social peers and reducing negative thoughts and feelings. The intervention targets 15-18 year olds exhibiting anti-social behaviour and consists of a five-day retreat with classes and exercises followed by a nine-month menteeship with weekly contact and theme-based meetings once a month. The five-day intensive course covers top-

ics such as relationship to authorities, responsibility, behavioural self-management and cognition.

Sample

The sample for the study was 63 15-18 year olds involved in low-level anti-social behaviour in more than one area of their life (family, school, community). The intervention group (n=32) was compared with a control group (n=31) that received whatever services they were involved with at baseline but not CfC. The demographic characteristics of the sample are not reported, except that 95% were either enrolled in education or employed. Intervention and control groups differed significantly on their levels of involvement with anti-social peers and their volume of self-reported offending with the control group being more disadvantaged than the intervention group.

Results

One year post-baseline, there was no discernible difference in levels of self-reported offending between intervention and control group. However, a small significant difference in levels of convictions was found with the intervention group having a lower risk of being convicted. Similarly, the intervention group had fewer types of offenses than the control group.

Design

Randomised controlled trial using linear regression modelling controlling for variables measured at baseline (no mention of demographic data). Data derived from youth self-report questionnaires and official offense records.

Quality assessment

Small sample size with high attrition and no reporting of demographic characteristics leading to fear of selection bias. Recruitment was low at ~20% of eligible youth. Protocol fidelity not assessed. Risk of residual confounding since only baseline variables related to CfC's logic model were included in regression models.

Overall assessment: low quality.

The study

Bittman, B., L. Dickson & K. Coddington (2009): "Creative Musical Expression as a Catalyst for Quality-of-life Improvement in Inner-city Adolescents Placed in a Court-referred Residential Treatment Program". *Advances in Mind-body Medicine*, 24(1), p. 9-19.

Study objectives

To assess the effectiveness of a recreational music making protocol involving drumming exercises on at-risk youth outcomes in Pennsylvania, USA.

Intervention focus

The intervention 'HealthRHYTHMS' is based on music therapy theory and focuses on non-verbal and verbal personal expression, group support and quality of life enhancement. The intervention targets high-risk adolescents in a staff-secure residential treatment facility and consists of six consecutive weekly one hour sessions run by a trained facilitator. Sessions were designed so as to create a safe and supportive environment allowing each participant to be heard and acknowledged.

Sessions cover drumming exercises as non-verbal expression in response to a designated series of questions (2 questions per session) intended to promote non-verbal and verbal disclosure. Drumming sessions were followed by discussion. A tactile conditioning component was included in some sessions using symbolically coloured crystals that were meant to encourage participants to think before acting. Drumming sessions enable non-pressured creative musical expression that reflects individual as well as group strengths and inspires non-verbal disclosure as a catalyst for self-reflection and verbal disclosure. Discussions processed these disclosures to build self-esteem, respect and acceptance.

Sample

The sample for this study consists of n=52 adolescents 12-18 years with a mean age of 14.5 years and 42.3% male. Participants had a range of different mental health disorders, 90.4% reported past abuse and neglect, 44.2% reported sexual abuse. Intervention and control groups are not further described, but were used in a cross-over design so that the two groups participating in the study (6-12 participants in each) were used as

each other's controls. During control periods, participants participated in normal structured facility routines.

Results

At six weeks follow-up, there were no significant changes in reactive anger. However, instrumental anger scores and other outcomes presented significant changes favouring the intervention group.

Design

Randomised cross-over controlled trial using dependent and independent samples t-tests. While group A received the intervention, group B did not, whereas when group B subsequently received the intervention, group A did not. Group A and B serve as each other's controls. Data derive from youth self-report questionnaires.

Quality assessment

Small sample size without attrition. Intervention and control groups are not described and outcome measurements are conducted at different times for the two compared groups creating false counter-factual conditions. There was no attempt at control for confounding. Missing data are not described.

Overall assessment: low quality.

The study

Crooks, C.V., K. Scott, W. Ellis & D.A. Wolfe (2011): " Impact of a Universal School-based Violence Prevention Program on Violent Delinquency: Distinctive Benefits for Youth with Maltreatment Histories". *Child Abuse & Neglect: The International Journal*, 35(6), p. 393-400.

Study objectives

To determine if participation in a school-based violence prevention program in the 9th grade continued to provide a buffering effect on engaging in acts of violent delinquency for maltreated youth in Ontario, Canada after two years of follow-up.

Intervention focus

The intervention 'The Fourth R' is a school-based violence prevention program that uses a best practice approach to target violence in different forms (bullying, dating and peer violence, group violence). The intervention comprises a class-room based curriculum supplemented by peer, school and parental components. These focus on developing knowledge, awareness and skills related to personal safety in relationships, sexual health and substance abuse.

The classroom curriculum consists of 21 75-minute lessons across three themes: (1) Personal safety and injury prevention; (2) Healthy growth and sexuality; and (3) Substance use and abuse. These are taught by class teachers using a set of complete lesson plans, video resources, rubrics, hand-outs and gender-specific role-play exercises that break complex skills down into manageable segments. Non-curriculum components include a Youth Action Committee that conducts school-wide awareness campaigns and prevention activities, as well as extensive teacher training and parent information. The intervention was universal but maltreated youths were the specific target group in the current study.

Sample

The sample for this study was drawn from twenty high schools in western Ontario, Canada. 1722 students in 81 mostly gender-segregated classrooms provided baseline data when they were in grade 9 (age 14-15 years) with n=1520 providing follow-up data two and a half years later. 88% of the sample were White and 9.6% had previously engaged in violent behaviour. Over a fifth had experienced maltreatment during childhood with the most common maltreatment being moderate or severe neglect (21%), followed by emotional abuse (16%), domestic violence (12%), sexual abuse (11%) and physical abuse (7%). The intervention group (n=865) was 50% male while the intervention group (n=655) was 43% male and received standard curriculum in safety and violence prevention in lieu of The Fourth R.

Results

After two and a half years follow-up, maltreated children in the intervention group had significantly reduced risk of violent delinquent behaviour compared to maltreated youth in the control group. Where each type of experienced maltreatment increased risk of engaging in violent delin-

quency by 46% in the control group, the maltreated children in the intervention group had a negligibly reduced risk of violent delinquency for each type of maltreatment experienced.

Design

Cluster-randomised controlled trial (randomisation blocked by school) using regression analysis controlling for gender, violent behaviour in grade 9 and maltreatment. Data derive from youth self-report questionnaires filled out online.

Quality assessment

Adequate sample size with just 12% loss to follow-up though this is not accounted for through attrition analysis leading to risk of selection bias. Missing data is not reported and the possibility of children changing schools during or after the intervention is not accounted for and could thus bias the analysis of school-level predictors. Outcomes of delinquency and childhood maltreatment are self-reported (and retrospective in the case of maltreatment) which could introduce bias, though this would presumably be non-differential. Teachers report a high level of adherence to intervention protocol.

Overall assessment: high quality.

The study

Curran, J. & R. Bull (2009): "Ross Program: Effectiveness with Young People in Residential Childcare". *Psychiatry, Psychology and Law*, 16(Suppl 1), p. S81-S89.

Study objectives

To assess the effectiveness of the Ross Program in lowering anti-social behaviour in adolescent boys living in residential care in Scotland using waiting list comparisons as control group.

Intervention focus

The Ross Program is an intervention program for youth with anti-social behaviour that has brought them under the supervision of specialised schools, social services or juvenile justice agencies. The approach is based on cognitive behavioural therapy and focuses on problem-solving, consequential thinking, social skills, balance, emotional competence, val-

ues, conflict resolution and rational thinking. As part of their school curriculum, participants are taught skills and values required for pro-social competence and antagonistic to anti-social behaviour through motivational interviewing techniques. The intervention is given to groups of 2-4 pupils, but more information about intensity, duration, or organisation is not reported.

Sample

Twenty-eight boys attending an education and care centre in Scotland were recruited for the study. Boys were 13-14 years, attending their third year of secondary school and rated high on the YLS/CMI risk scale. The intervention group (n=14) were compared to an equal number of their class mates who were put on waiting list for the Ross Program and acted as control group (n=14). The intervention group had significantly lower scores on an avoidance style scale than the control group. This is the only *reported* difference between groups.

Results

The intervention group presented significantly lower levels than the control group on total risk (20.93 versus 27.07 measured on the YLS/CMI scale) and parent-reported conduct problems (3.43 versus 5.85 using the Rutter screening instrument).

Design

Randomised controlled trial using independent and paired sample t-tests for analyses of differences between groups and differences within groups over time. Data derive from screening instruments measuring risk in different domains, conduct problems, and social problem-solving (either youth self-report or parental report).

Quality assessment

Very small sample size. Bonferroni correction of alpha-level used to limit Type 1 error due to multiple comparisons. Despite randomisation, it is doubtful whether groups were comparable on all relevant baseline characteristics. These were not reported and due assessment is not possible. It's a question whether appropriate analytical tool was used, since the two groups could not be said to be independent [Authors use independent sample t-test to assess difference between groups, but groups per-

tained to the same school class-room and their behaviour must be assumed to be highly dependent on each other].

Overall assessment: low quality.

The study

Currie, M. & M. Startup (2012): “Doing Anger Differently: Two Controlled Trials of Percussion Group Psychotherapy for Adolescent Reactive Aggression”. *Journal of Adolescence*, 35(4), p. 843-853.

Study objectives

To assess the efficacy of a school-based percussion therapy program in reducing reactive aggression among youth with high levels of aggression in New South Wales, Australia.

Intervention focus

The intervention ‘Doing Anger Differently’ uses percussion exercises to manage reactive aggression among highly aggressive youth. The intervention runs over ten weeks with twenty sessions in total covering seven focus areas that each last two to three sessions: (1) meeting anger, (2) mapping anger, (3) what’s true and what’s not?, (4) standing up for yourself, (5) standing up to anger, (6) after anger, and (7) fixing it. Lessons incorporate a series of structured percussion exercises, guided psycho-education and discussion. Participants in addition kept an anger diary and were provided weekly supervision with assessment and suggestions of interventions.

Sample

The sample for this study was recruited from five rural schools in areas of low socio-economic status in New South Wales, Australia. 65 students in grades 7 to 10 participated in the study. Participants had a mean age of 13.8 years and 52% lived in families with two biological parents. The intervention group (n=33) was compared to a waitlist control group (n=32).

Results

At six months follow-up, no difference between intervention and control group was found in self-reported trait or outward anger, although registered misbehaviour was significantly reduced in the intervention group

(mean aggressive misbehaviour score equals 0.4 in the intervention group versus 2.5 in the control group).

Design

Randomised controlled trial conducting analysis using mixed effects, likelihood based, repeated measures models as per the intention to treat approach. Data derive from youth self-report questionnaires and school behaviour reports.

Quality assessment

Small sample size with 27.7% lost to follow-up, though these were equally distributed across groups. While analyses were conducted according to the intention to treat principle, no attrition analysis was conducted and no control was attempted for between-group differences at baseline.

Overall assessment: medium quality.

The study

Down, R., P. Willner, L. Watts & J. Griffiths (2011): "Anger Management Groups for Adolescents: A Mixed-methods Study of Efficacy and Treatment Preferences". *Clinical Child Psychology and Psychiatry*, 16(1), p. 33-52.

Study objectives

To compare two different group-based anger management interventions (one based on cognitive behavioural therapy and one based on personal development theory) with a control group receiving standard services from Child and Adolescent Mental Health Services in the UK.

Intervention focus

The cognitive behavioural therapy (CBT) group intervention focused on teaching adolescents more personally adaptive information processing and coping skills, while the Personal Development (PD) group intervention focused on addressing issues of motivation, self-esteem and identity to enable the adolescents to make more effective use of self-control techniques. Both CBT and PD anger management group sessions followed a similar format covering ten 90-minute sessions that included a warm-up exercise, review of the previous week's experiences, projective and creative exercises around themes like 'framing the problem, motiva-

tion to change, skills enhancement, and social support. While the PD intervention extensively used games and exercises to enhance self-esteem and motivation to change, the CBT intervention was based on monitoring (via log-books) and assessment of anger incidents, skills training, impulse control and anger management with extensive use of group problem-solving and role plays. Sessions were conducted within the auspices of local Child and Adolescent Mental Health Services.

Sample

Thirty-three adolescents participated in the study, though only 25 provided quantitative data for analysis. The CBT intervention group (n=9) were 67% male and had a mean age of 13.02 years. The PD intervention group (n=9) were also 67% male but with a mean age of 13.7 years. These groups were compared with n=7 controls who were 57% male and had a mean age of 13.79 years and did not receive group therapy but usual child and adolescent mental health services (not described further).

Results

Post-intervention, a non-significant reduction in anger expression for both intervention groups compared to a slight increase in the control group was observed. Effect sizes for both CBT and PD interventions were large. Young participants (12 years of age) did not benefit from CBT - perhaps due to cognitive immaturity. Participants younger than 14 years were assessed to benefit most from the PD intervention, while those who were 14 years and older benefited more from the CBT intervention.

Design

Randomised controlled trial using ANOVA and controlling for age and gender. Data derive from youth self-report and parent-report questionnaires using validated psychometric instruments.

Quality assessment

Very small sample size with 24% attrition and no attrition analysis leads to high risk of selection bias. Protocol fidelity unknown.

Overall assessment: low quality.

The study

Kumpfer, K.L., J. Xie & R. O'Driscoll (2012): "Effectiveness of a Culturally Adapted Strengthening Families Program 12-16-Years for High-Risk Irish Families". *Child & Youth Care Forum*, 41(2), p. 173-195.

Study objectives

To explore the effectiveness of the strengthening families program in an Irish setting.

Intervention focus

The intervention 'Strengthening Families Program' is based on a social ecological model of adolescent substance abuse. It draws on social cognitive theory and resilience framework theory to support development of behavioural skills, self-efficacy and behaviour change. The intervention focuses on family skills training including family bonding, parental supervision, communicating positive family values, self-efficacy, behaviour change and positive adaptation to adversity. Weekly sessions for fourteen weeks including follow-up phone calls and led by staff that are gender balanced and ethnically matched to participating families. The target group was at-risk youth and their families from urban, rural and peri-urban settings.

Sample

The sample for this study was composed of an intervention group which received SFP adapted to the Irish setting and the SFP 12-16 national norm data was used in lieu of a comparison group. The intervention group consisted of 250 families with at-risk youth aged 12-16 years. Youths were 57% male and 95% Irish/White with a mean age of 14 years, which was similar to the SFP national norms except for the ethnicity variable in which the SFP norm presents with 39% White. 17% of fathers participated in the intervention group versus 25% in the SFP norm.

Results

Post-intervention, a very small but significant effect of SFP in the Irish setting was found on criminal behaviour, whereas the effect size of overt aggression was large ($d=0.5$) and also significant. The results compare an

international sample and the Irish sample - both receiving SFP, so the control group is not really counterfactual.

Design

Quasi-experimental repeated measures, pre-and post-test retrospective questionnaire design with post hoc comparisons using SFP norm data. Data derive from questionnaires filled out by parents.

Quality assessment

Adequate sample size with low loss to follow-up and little missing data, since families with >10% missing data were excluded from the analysis. Pre- and post-test given at the same time creates risk of recall bias and there is inadequate control for confounding (the differences in ethnicity are not accounted for). Absence of a real counterfactual comparison group hampers assessment of actual program impact.

Overall assessment: medium quality

The study

Rodney, L.W., P. Rameshwar & D.L. Johnson (2008): "A Series of Culturally Relevant Models to Prevent School-age Youth Violence: A 4-year (2001-2005) Family and Community Violence Prevention Study". In: Miller, T.W.: *School Violence and Primary Prevention*. New York: Springer, p. 407-429.

Study objectives

To assess effectiveness of a multi-site multi-component school-based violence prevention intervention, The Family and Community Violence Prevention Program, on reducing youth involvement in violence and assessing the association of academic performance, school engagement, and violence exposure with violence perpetration.

Intervention focus

The intervention 'Family and Community Violence Prevention' (FCVP) Program was run by participating colleges and universities across the US during the period 2001-2005. It has six different components that focus respectively on: academic development, personal development, family bonding and improved parenting, enhancing recreational activities, improving cultural awareness and improving career development. The pro-

gram targets at-risk ethnic minorities in elementary-, middle-, and high-school.

The academic development component is designed to improve cognitive skills, study skills and other techniques leading to achievement of desired academic goals. The personal development component consists of a series of activities to promote social, emotional, physical, and spiritual well-being focussing on resolving problems, reducing interpersonal aggression and developing capacity to negotiate experiences important to quality of life. Family bonding activities were geared toward improving family relationships, parenting skills and coping techniques that lead to enhanced family stability and increased social support networks.

Cultural development activities were provided to promote awareness and cultural expression of one's own heritage, traditions, values and norms as well as those of other diverse populations. Recreational enhancement activities promoted recreation and leisure, healthy lifestyles and interpersonal skills by exposing individuals and groups to various games and activities designed to promote critical thinking, teamwork, cooperation, relaxation and good health. Career development provided youth with skills necessary for job readiness, promoted skills and knowledge through exploration of career fields in an attempt to identify career options.

Intervention duration as well as the setting in which the intervention was provided is not specified.

Sample

The sample used for this study is unclear since authors report a variety of numbers that do not add up. Youth were ethnic minorities from low- to moderate-income families across the US. Approximately 840 youth in the intervention group were compared with 651 matched controls. Matching was done on demographic and risk factor characteristics which are not further specified.

Results

After four years follow-up post baseline, children aged 12 years or older who had received the intervention had lower violence risk scores than peers in the control group. The difference between groups for children under the age of 12 years was small and insignificant. FCVP improved

academic performance and results showed that academic performance (here measured via spelling and arithmetic) was inversely correlated with youth involvement in violence.

Design

The design of this study is unclear from the available material but employs a pre- and post-test assessment for both intervention and control groups. Method of analysis is similarly not specified. Data derive from youth self-report questionnaires using a *Violence Risk Assessment Inventory*.

Quality assessment

Due to lack of information about study design, this study cannot be adequately quality assessed.

The study

Secer, Z. & H.G. Ogelman (2011): "Analysis of the Effect of a Social Problem-solving Program on the Aggression of Children". *Australian Journal of Guidance and Counselling*, 21(2), p. 142-153.

Study objectives

To assess whether a social training program reduces students' scores on physical aggression, verbal aggression, anger, hostility and indirect aggression measures immediately post-intervention and at 3 months follow-up in Konya, Turkey.

Intervention focus

The intervention 'The Social Problem-Solving Training Program' focuses on improving children's anger management-, problem solving-, and pro-social skills. Training was given to a group of 15 participants in the school setting after the normal school day for 9 weeks with 65-90 minute lessons weekly. Lessons explored the following topics: Identification of feelings in ourselves and others, exploring anger feelings, anger-coping techniques, perspective-taking and empathy skills, effective problem-solving steps, and building pro-social skills. The final session integrated learning from the previous lessons.

Sample

The sample for this study consist of 30 8th graders in an urban primary school, who scored high (over 110) on the Aggression Questionnaire. Students were all from low-income families. The intervention group (n=15) were 73.3% female and 14-15 years old, while the control group (n=15) had the same age and gender distribution and no significant differences in aggression outcomes at pre-test.

Results

Immediately post-intervention, significant differences between intervention and control groups were measured for physical aggression score, anger, hostility and indirect aggression score, where there had been no differences prior to the intervention. However, a positive change in the intervention group from pre- to post-test was only seen for anger and total aggression; other significant differences were due to changes in the control group (who increased on physical aggression, hostility and total aggression score over the training period). There was no change from post-test to 3 month follow-up in the intervention group, whereas the control group experienced lower levels of physical aggression, but higher levels of hostility and total aggression.

Design

Quasi-experimental pre- and post-test design using Mann-Whitney U-test to test differences between pre- and post-test results and between groups. Data derive from youth self-report questionnaires.

Quality assessment

The procedure for allocation to intervention and control group is not specified in this study. Sample size is small and intervention and control participants seem to be somehow matched, but this is not described in the methods section. Comparability of the groups is therefore difficult to assess. There is no control of potential confounders (except baseline values of outcome variables). The analytical method does not account for dependence among observations within the sample.

Overall assessment: medium quality.

The study⁴

Simon, T.R., R.M. Ikeda, E.P. Smith, L.E. Reese, D.L. Rabiner, S. Miller, D.M. Winn, K.A. Dodge, S.R. Asher, A.M. Horne, P. Orpinas, R. Martin, W.H. Quinn, P.H. Tolan, D. Gorman-Smith, D.B. Henry, F.N. Gay, M. Schoeny, A.D. Farrell, A.L. Meyer, T.N. Sullivan & K.W. Allison (2009): "The Ecological Effects of Universal and Selective Violence Prevention Programs for Middle School Students: A Randomized Trial". *Journal of Consulting and Clinical Psychology*, 77(3), p. 526-542.

Study objectives

To examine relative effects of (a) a school-based universal prevention program focused on individual-level skills and school norms related to aggression and violence, (b) a school-based selective intervention focused on family management of the child and school functioning for high-risk youth, and (c) a combination of these two interventions versus (d) a control condition in four communities across the USA.

Intervention focus

The 'Responding in Peaceful and Positive Ways' (RPPW) combined with the 'Guiding Responsibility and Expectations in Adolescents Today and Tomorrow' (GREAT) program is rooted in developmental-ecologic theory. The universal intervention (RPPW) comprises both student and teacher components. The student component involves a curriculum based on a social-cognitive framework promoting problem-solving skills, motivation and self-efficacy as well as addressing school norms against the use of violence and aggression. The intervention consists of 20 sessions with behavioural repetition and mental rehearsal of skills, small-group activities, experiential learning techniques, and didactic modalities. The teacher component consists of a twelve hour workshop and ten consultation/support group meetings focusing on increasing teacher awareness of aggression and associated risk factors, developing aggression prevention strategies, improving classroom management skills and helping students who are victims of peer aggression.

The selective intervention (GREAT) was implemented with sixth-grade students identified by teachers at the beginning of the school year as having high levels of both aggression and peer influence. The

4. This study is both a primary and secondary prevention intervention.

intervention was parent-focussed and included training in basic parenting skills, emerging adolescent relationships and school and educational issues and community related issues. The GREAT Families program consisted of a 15-week intervention conducted in groups of 4–8 high-risk students and their caregivers. Sessions included role plays and other activities designed to engage parents and students in interactive practical tasks related to common real-life family matters, thereby providing opportunities to develop and practice new skills. Meetings end with an assignment for families to complete prior to the next session.

Sample

37 schools provided participants recruited in 6th grade to the study. 75% of eligible participants were recruited for the study (n=5,625) with 5,581 providing data at at least one wave. The sample was 49% male, 18% White, 48% Black and 23% Hispanic. 35% of youth were living in single-parent households. The universal intervention (n=1,439) and the selective intervention (n=1,491) were compared to a combined intervention (n=1,329) and a control group (n=1,322) not receiving any intervention. Groups differed significantly on race, youth-reported victimisation and school safety problems.

Results

After a two year follow-up, analyses produced very mixed results not favouring any one group. While universal intervention schools presented lower rates of victimisation, they had higher rates of aggression than control schools. At selective intervention schools, there were lower levels of aggression than in control schools. No synergy was found in combined universal and selective intervention schools; Youth who initially had low risk scores were found to have more adverse outcomes than youth assessed to be at high risk at baseline.

Design

Cluster-randomised controlled trial blocking by school. Analyses using random regression models accounted for nesting of individual observations, within student and nesting of students within schools. Data derive from youth self-report and teacher questionnaires.

Quality assessment

Adequate sample size though randomisation blocked by schools selected pre-randomisation hampers assessment of potential selection bias. Missing data and attrition analyses show that these should not impact findings. However randomisation is really poorly maintained due to both attrition and lack of consent as well as differences in number of student- and teacher assessments available. While intervention fidelity was high for the classroom-based curriculum, it was very variable (54-97%) for the teacher component. Analyses controlled for baseline values of outcome measures and were conducted as per the intention to treat approach.

Overall assessment: medium quality.

The study⁵

Sundell, K., K. Hansson, C.A. Löholm, T. Olsson, L.H. Gustle & C. Kadesjö (2008): "The Transportability of Multisystemic Therapy to Sweden: Short-term Results from a Randomized Trial of Conduct-disordered Youths". *Journal of Family Psychology*, 22(4), p. 550-560.

Study objectives

To assess whether multisystemic therapy works better than traditional services in Sweden for youth with behavioural problems and whether its effect can be ascribed to program fidelity, program maturity or other variables.

Intervention focus

The intervention 'Multisystemic Therapy' (MST) is informed by cognitive-behavioural therapy and pragmatic family therapy approaches. MST focuses on the total environment of the youth under treatment to prevent re-offending and out-of-home placement by supporting pro-social development and decreasing delinquent behaviour. Services are provided according to the family's needs both in the home and in the community and involve parents, teachers and others the youth may be in contact with. Therapists are available to families by phone call around the clock and length of treatment usually ranges 4-6 months. The intervention was conducted as per the MST guidelines.

5. This is both a secondary and tertiary prevention intervention.

Sample

The sample for this study consists of 156 youth 12-17 years of age with clinically diagnosed conduct disorder. Mean age was 15 years, 61% of the sample were male, 67% had been arrested previously while 32% had been placed outside the home at some point in the six months prior to baseline. 61% of families were recipients of social welfare and 47% were not of Swedish heritage. The intervention group (n=75) spent an average of 145.8 days in multisystemic therapy. The control group (n=77) received treatment as usual by social services including individual counselling, family counselling, mentor programs, out-of-home care and other interventions. Intervention and control group did not differ significantly on demographic or psycho-social variables except for mental health problems in the parents of which the intervention group had higher levels.

Results

After 24 months of follow-up there was no significant difference in self-reported delinquency or police records of arrests was found between intervention and control group with both decreasing equally in problem behaviour.

Design

Randomised controlled trial with a mixed factorial design and analyses applying both repeated measures ANOVA and regression models. Data derive from youth self-report and police arrest records.

Quality assessment

Adequate sample size with adequate assessment of loss to follow-up. Missing data (1-3%) was imputed for most variables using the mrkov chain monte carlo method. Protocol fidelity was less than in other studies but similar across sites. Maintenance of randomisation was high with analyses conducted as per the intention to treat approach and attrition analysis showing no differences on baseline characteristics.

Overall assessment: high quality.

The study

Walton, M.A., S.T. Chermack, J.T. Shope, C.R. Bingham, M.A. Zimmerman, F.C. Blow & R.M. Cunningham (2010): "Effects of a Brief Intervention for Reducing Violence and Alcohol Misuse among Adolescents: A Randomized Controlled Trial". *JAMA*, 304(5), p. 527-535.

Study objectives

To assess the effectiveness of two different types of brief emergency-department based intervention (therapist or computer-based intervention) on reducing risk of subsequent violence in Flint, Michigan, USA.

Intervention focus

The interventions are part of the so-called 'SafERteens' project and consist of a therapist-led and a computer-based intervention. The interventions take place in an emergency department in a relatively impoverished mid-western town and target youth who present (with an adult guardian) to the emergency department for any injury or illness other than self-harm, sexual assault, altered mental state or with medical instability. Both interventions are based on principles of motivational interviewing but also involve normative resetting and alcohol refusal- and conflict resolution skills practice. They are designed so as to be culturally relevant for urban youth and include sections on goals, personalized feedback for alcohol, violence, and weapon carriage, a decisional balance exercise for the potential benefit of staying away from drinking and fighting, five tailored role plays in anger management, conflict resolution, alcohol refusal and not drinking and driving.

Both the therapist and the computer program focus on problem recognition, motivation and self-efficacy in aligning behaviour to achieving desired goals. Therapists (research social workers) also use computer tablets to provide tailored feedback and prompt conversation content. The computer program in the computer-based intervention is an interactive animated program with touch screens and audio provided with headphones to ensure privacy. An animated character guides participants through the intervention components using audio feedback on youths' decision-making that focuses on tipping the decisional balance away from risk behaviours. The entire computer program is an interaction, and is not passively viewed. For example, during the role-play scenarios,

participants have to interact with peers and make behavioural choices about drinking and fighting.

Sample

The sample for this study consists of 726 14-18 year old adolescents presenting to an emergency department who screened positive for use of alcohol and perpetration of violence within the past year. The therapist-led intervention group (n=254) was 45% male and had a mean age of 16.8 years. 38% were White and 56% African American with 6.7% identifying as Hispanic. 58.7% of families received some form of public assistance and 7.5% had dropped out of school while 2.9% reported being involved with gangs. Half the group screened positive for alcohol misuse while 82.7% reported having perpetrated severe violence in the past 12 months. The computer-based intervention group (n=237) and the control group (n=235) did not differ significantly on these characteristics except for school drop-out being twice as high in the computer-based intervention group. Controls received only a pamphlet on available community resources related to alcohol and violence prevention.

Results

At 3 months post intervention, the therapist group reported a reduced occurrence of aggression towards peers than did the control group (OR 0.74 [0.61-0.9]), but the difference lost significance at 6 months follow-up (OR 0.85 [0.68-1.06]). There were no differences between groups in frequency of peer aggression at either 3 or 6 months. The computer intervention did not prove to be effective as compared with the control group.

Design

Block-randomised (on age and gender) controlled trial with analyses controlling for baseline difference in drop-out rates. Data derive from youth self-report questionnaire.

Quality assessment

Good sample size with adequate power, tolerable attrition (13.8%) and very low levels of missing data. Attrition was non-differential. Analyses took account of nesting and baseline differences between groups and imputed values for intention to treat analyses. Intervention protocol fi-

delity is measured and must be assumed to be acceptable though this is not in fact reported.

Overall assessment: high quality.

The study

Wheatley, A., R. Murrhy, J. van Kessel, V. Wuthrich, L. Remond, R. Tuqiri, M. Dadds & A. Kidman (2009): "Aggression Management Training for Youth in Behaviour Schools: A Quasi-experimental Study". *Youth Studies Australia*, 28(1), p. 29-36.

Study objectives

To assess the effectiveness of group cognitive behavioural therapy-based aggression management for behaviour school students in New South Wales, Australia.

Intervention focus

The intervention draws on a social cognitive model of aggression using cognitive-behavioural therapy to modify thoughts and actions that maintain problem behaviour. It targets students in urban behaviour schools who have been expelled or suspended from the mainstream school system. The intervention lasts 16 weeks with twice weekly training sessions delivered in a workshop-style format by two experienced psychologists. Sessions use role modelling, rehearsal, feedback, provision of information and interactive discussion. The intervention focuses specifically on enhancing motivation and engagement through social problem-solving, assertiveness training, goal-setting, psychological education around anger and aggression, challenging of unhelpful thoughts and biases, conflict resolution, self-control strategies and confidence-building. Monthly newsletters were written for parents and teachers to reinforce strategies taught in the program.

Sample

The sample for this study consists of 8 behaviour school students: one female and seven male. Students were 13-15 years of age. Participants are used as their own controls with control measurements taken in the 60 day period prior to intervention.

Results

The number of suspensions during the intervention period was half the number during the control period. There was a reduction in conduct disorder and oppositional defiant disorder scores in the intervention period (mean 5.5 versus mean 6.5).

Design

Quasi-experimental study using participants as their own controls using a control period 2 months prior to the intervention. Sample size was too small to conduct anything but descriptive statistics.

Quality assessment

Very small sample size. As participants are used as their own controls the need for control of confounding variables is avoided. The risk of carry-over effects from first to second assessment period is small. However, changes in behaviour, suspensions, etc. cannot be attributed to the intervention, as they may have occurred over time, intervention notwithstanding. Intervention protocol fidelity not assessed.

Overall assessment: low quality.

The study

Williams, E., J.L. Johnson & C.A. Bott (2008): "Evaluation of a Program for Reduction of Childhood Aggression". *Psychological Reports*, 103(2), p. 347-357.

Study objectives

To evaluate the effectiveness of a school-based aggression reduction program on aggression among school children in Virginia, USA.

Intervention focus

The intervention 'Peaceful Alternatives to Tough Situations' (PATTS) draws on cognitive behavioural theory to focus on enhancing conflict resolution skills. The program targets school children from Kindergarten till high-school with three different age-relevant curricula and is implemented in the school setting. Classes are taught by local counsellors who have received 8 hours of program-specific training for nine weeks with one-hour weekly sessions. All three curricula are highly interactive with role plays, games and skill review. They involve developing cognitive

strategies to manage conflict and resist negative peer influence, identifying and verbalizing affect and recognizing and expressing forgiveness. Some applied techniques are positive communication skills, calming techniques, learning how to recognise triggers of anger, and accepting responsibility for behaviour. The middle-school curriculum includes the focus of saying no to peers, while the high school curriculum additionally focuses on the longer-term consequences of violence. Training of teachers also makes up a component of the program, as does involvement of families through a 'parent night'.

Sample

The sample for this study is drawn from seven public schools in urban and rural communities, one alternative school (for maladjusted youth) and juveniles from the local juvenile court system. The complete sample size is 106 5-18 year old children. 74% of these were male and 69% were African American while 31% were European American. The intervention group (n=71) were selected by school counsellors or court personnel based on prior aggression in the school setting. The control group (n=35) was drawn from a waitlist of youth court-mandated to receive the PATTS intervention. The intervention group scored significantly lower on self-reported instances of aggression and physical assault and higher on level of forgiveness compared with controls.

Results

Overall, the intervention group scored lower on aggression and assault at post-test (controlling for pretest differences) than the comparison group (14.3 vs 21.3 and 19.3 vs 27.5 respectively). However, the control group is not necessarily a valid comparison in terms of age and risk factors and this is not accounted for in the analysis. Youth who participated in PATTS through the juvenile court system (n unknown) had 17% recidivism compared to 36% for other juvenile offenders in the system, but the comparability of this as a comparison group is not proved (i.e. there may be significant unaccounted for risk factors). The intervention group for the grades 3-5 and middle- and high-school curricula had a significant reduction of 24% number of fights in school they had been apprehended for compared with controls.

Design

Quasi-experimental pre- and post-test design with a non-equivalent control group. Analyses were conducted using MANOVA and do not control for relevant confounding factors including demographic and risk characteristics. Data derive from youth self-report and from court records for a juvenile offender subset of the sample.

Quality assessment

Intervention and control groups are not comparable in this study and important differences (age, sex, history of previous offending as well as other risk factors) are not controlled for in the analyses. Amongst other things, this means that results of 5-8 year olds are compared with results from juvenile offenders. Authors do not specify missing data, loss to follow-up, intervention protocol fidelity and do not report results for each intervention curriculum independently.

Overall assessment: low quality.

The study

Wodarski, J.S. (2010): "Prevention of Adolescent Reoccurring Violence and Alcohol Abuse: A Multiple Site Evaluation". *Journal of Evidence-Based Social Work*, 7(4), p. 280-301.

Study objectives

To assess the effectiveness of a multiple component alcohol abuse and violent behaviour prevention strategy in reducing levels of aggression among youth with conduct disorder and alcohol abuse histories in up-state New York, USA.

Intervention focus

The intervention 'Teams-Games-Tournaments' (TGT) is based on social learning theory and targets young males aged 16-21 years who with substance abuse and conduct disorder are enrolled in a treatment program. The approach focuses on helping adolescents identify the environmental events that control behaviour and learn to make the changes necessary to produce and maintain their desired behaviour. A seven week curriculum covers anger management and alcohol and substance abuse education. The anger management unit includes skills training focussing on communication, feelings, and assertiveness. Assertiveness training provides

adolescents with the skills necessary to express their anger appropriately. After each session a tournament is conducted where participants compete against each other in instructional games that reinforce the week's curriculum.

Sample

The sample for this study was purposively selected and included 210 16-21 year old males enrolled in a substance abuse out-patient treatment program. Half the sample was African-American while the other half was White. No other characteristics are known about the sample nor intervention versus control group.

Results

Not described.

Design

Controlled trial with one control and 6 purposively selected intervention groups. Analysis method unknown. Data derive from questionnaires filled out by parents and youth respectively.

Quality assessment

Adequate sample size. No specification of intervention versus control groups, method of analysis or results. It is not possible to assess selection bias, confounding, intervention protocol fidelity or impact of missing data.

Overall assessment: low quality.

The study

Wolf, E.M. & D.A. Wolf (2008): "Mixed Results in a Transitional Planning Program for Alternative School Students". *Evaluation Review*, 32(2), p. 187-215.

Study objectives

To assess whether Strategies for Success was a more effective transitional program than other programs for alternative school students returning to the mainstream school system in Syracuse, New York, USA.

Intervention focus

The intervention 'Strategies for Success' is a program focussing on easing the transition from alternative school back into the mainstream school system in order to divert participants from the so-called 'school to prison pipeline' by reducing the likelihood of further suspensions and by improving engagement in school. The intervention targets 7-9th grade students who have been suspended from mainstream schools for anti-social disruptive behaviour and therefore attend alternative schools. Individualised services provided by transition planners cover systematic student support, leadership skills training, developing technical and creative skills, improving relationships between students and caring adults, counselling and referrals and peer support groups. Contact with parents is maintained through regular meetings with transition planners.

Sample

Three cohorts of 7-9th graders assigned to alternative school in Syracuse make up the sample for this study. Participants spent at least two months at an alternative school. The intervention group (n=225) elected to receive the intervention whereas the control group (n=117) elected not to receive strategies for success due to either lack of caregiver consent or prior commitment to receive other agency programs. Controls were selected from a larger pool of alternative school students using nearest neighbour propensity score matching. The same individual could be used as control for more than one participant in the intervention group. Intervention and control groups differed significantly at baseline on disciplinary problems on several dimensions.

Results

Contrary to expectation, the intervention group had increased risk of re-suspension and being re-assigned to alternative school, mainly during the first year post-enrolment and for pupils still actively engaged in strategies for success.

Design

Quasi-experimental design with self-selection to the intervention group and controls selected based on propensity score matching. Regression analyses were conducted including baseline characteristics in the models. Data derived from school records.

Quality assessment

Adequate sample size with negligible missing data and no loss to follow-up minimising risk of selection bias, though generalizability is hampered due to self-selection to intervention. Appropriate control for confounding albeit risk of residual remains on unmeasured personal background variables. Nearest neighbour matching with replacement reduces risk of bias but increases imprecision due to low number of controls.

Overall assessment: high quality.

TERTIARY PREVENTION INTERVENTIONS

The study

Behrens, C. (2009): Evaluating the effectiveness of Moral Reconciliation Therapy (MRT) with the juvenile offender population. Ames: Iowa State University. Ph.d. thesis.

Study objectives

To test the effectiveness of moral reconciliation therapy in reducing recidivism in juvenile offenders in Oregon, USA.

Intervention focus

The intervention 'Moral Reconciliation Therapy' (MRT) is based on cognitive behavioural therapy with a treatment program drawing on learning theory, Kohlberg- and Piaget-based concepts and stages of moral development, Erikson's ego and identity concepts, Maslow's hierarchy of needs, as well as concepts from Carl Jung. The approach focuses on increasing moral reasoning and positive self-image and identity in juvenile offenders while imposing sanctions if rules are not obeyed. Treatment is conducted in one hour weekly group sessions in the residential facility where the participant is staying and treatment consists of 12 steps. Upon discharge, treatment can be continued in a community-based centre. The program includes educational training, outings with focus on peer and relational skills, life skills training in group sessions and individual and family mental health therapy.

Sample

The sample for this study consists of 750 youths involved with a County Juvenile Department. The intervention group (n=375) receiving MRT were compared to a control group (n=375) receiving other services but not MRT. The intervention group was 78.7% male, 59.7% White and 31.7% Hispanic with a mean age of 13.34 years. Only 77 completed the MRT program. The control group were randomly selected from the State database. They were 85.6% male, 60.3% White and 27.7% Hispanic with a mean age of 14.09 years.

Results

At twelve months follow-up, no significant difference in risk of referrals to juvenile justice system or convictions in the adult court system were present between intervention and control group. This finding was not influenced by how many steps of MRT had been completed by participants.

Design

Quasi-experimental trial with self-selected intervention group participants and control group participants randomly selected from the juvenile department database. Recidivism was analysed using regression models and controlled for number of MRT steps completed and age as well as including interaction terms for gender and race. Data derived from juvenile and adult offense records within the state.

Quality assessment

Adequate sample size with no reported loss to follow-up (though this does not take into account participants who may have moved out of the state). Analyses controlled for potential confounding on demographics but there is a risk of residual confounding from unmeasured variables.

Overall assessment: medium quality.

The study

Bergseth, K.J. (2010): Youth Characteristics, Intervention, and Recidivism: The Case of Aftercare for Youth Returning from Placement. Fargo: North Dakota State University of Agriculture and Applied Science; Ph.d. thesis.

Study objectives

To assess the effectiveness of an after-care program involving transition counselling for youth returning to the community after out-of-home placements compared to youth who only received probationary services in Clay County, Minnesota.

Intervention focus

The after-care intervention focuses on youths' transition to community after out-of-home placement. Trained transition counsellors provide support to youth and their families, work with probation officers to enhance supervision (e.g. through the use of drug tests), and identify and coordinate community-based services for the youth and family. Another component of the intervention is mentoring with transition counsellors spending time with youth doing leisure activities, assisting in educational and vocational pursuits, building problem-solving skills and supporting youth in resolving adjustment issues. The program targets high-risk youth (12-19 years of age) who are returning to a small community after a period of at least three weeks in out-of-home placement. Transition coordinators work with youth during their placements and six months following and the program is provided in addition to normal probation supervision.

Sample

The sample for this study consists of 241 youths with a mean age at release from placement of 16.38 years. 77% of the sample were male, while 77.6% were Caucasian, 21.2% were Hispanic, 17% were Native American and 3% were African American. 59.8% lived in an urban setting. On average, participants had experienced 4.28 previous contacts with the juvenile justice system. 62.7% had a history of substance abuse while 42.3% had mental health problems. The intervention group (n=137) were roughly matched on gender and type of placement to a control group (n=104) that received probation supervision but no-after care program.

Results

A minimum of one year of follow-up data was available for all participants, but follow-up times varied. After-care did not impact risk of any measure of recidivism (occurrence of re-offense, time till re-offense,

number of re-offenses and severity of re-offense). Rather, recidivism was determined by age at first official contact, ethnicity, a non-violent offense history, having been recently placed outside the home and exhibiting risk in multiple domains of life. Authors look into the impact of various aspects of the after-care program and find that youth who received more frequent contact with a transition counsellor had significantly lower risks of re-offense and time till re-offense. However, being provided more services was related to increased recidivism conceivably because more services are offered to youth at higher risk.

Design

Quasi-experimental post-test comparison group design using multiple regression analyses for the different types of recidivism variables while controlling for gender, race, offense history, highest risk domain, time in restrictive placement during follow-up. Data derive from probation and after-care case records of youth experiencing placement over a multiple-year period.

Quality assessment

Adequate sample size with no known loss to follow-up since outcomes were based on official records. However, these records do not capture recidivism conducted outside the state. Authors control appropriately for confounding and assess a large number of potentially mediating effects. The high number of significance tests applied is a concern with regard to interpretation of significance tests. Risk of community changes or cohort effects over time due to long intake period are not considered and there is no description of group characteristics at baseline to allow assessment of potential confounding but control for confounding is comprehensive. *Overall assessment:* medium quality.

The study

Bichal, N., S. Ellison & I. Sinclair (2011): "Intensive Fostering: An Independent Evaluation of MTFC in an English Setting". *Children and Youth Services Review*, 33(10), p. 2043-2049.

Study objectives

To assess whether the MTFC model adapted to the UK context reduces the risk of re-arrest.

Intervention focus

The American MTFC model known as 'Intensive Fostering' in the UK is rooted in social learning theory and focuses on providing a consistent reinforcing environment in which young people who have engaged in serious and persistent offending are mentored and encouraged. Throughout a one year foster care placement with specially trained families youth are provided clear structure, boundaries and consequences for behaviour. They are under close supervision at all times and efforts are made to divert them from anti-social peers while fostering positive social skills and relationships with more positive peers. The intervention operates at several levels concurrently: the youth him- or herself, the biological parents, the foster family and the social environment (school and leisure time) of the youth.

Sample

The sample for this study included 47 serious and persistent offenders facing an imminent custodial sentence and having significant social relations and life style problems. The intervention group (n=23) receiving Intensive Fostering was compared to a control group (n=24) who met the eligibility criteria for Intensive Fostering, but who were either sentenced to custody or a community-based intensive supervision and surveillance program. 83% of the sample was male, and the mean age was 14.9 years in the intervention group and 15.5 years in the control group. Groups were comparable except for index offense more often being 'violence against the person' in the control group than in the intervention group. Other differences were insignificant. The control group was followed up either one year after release from custody or one year after adjudication to the community-based supervision and surveillance program. The intervention group was followed up one year after ending their foster care placement.

Results

The intervention group had a significantly reduced risk of reconviction during their year in foster care, where they were under close and constant supervision (39% in the intervention group vs. 75% in the control group). However, this difference disappeared after one year's follow-up (post placement), where 74% of the Intensive Fostering group were reconvict-

ed and had similar rates of reconviction as well as seriousness of offense as the control group.

Design

Prospective quasi-experimental design using logistic regression. Data derive from judicial records and as such there is no loss-to-follow-up, unless youth have moved out of the country. It is unclear to what extent the study controls for potentially confounding factors.

Quality assessment

The study uses a small sample size (based on available spaces in Intensive Fostering) which reduces power for tests of statistical significance. This is relevant both in the assessment of group comparability and outcome significance. Lack of clarity about analytical procedure leads to uncertainty about the adequacy of control for confounding.

Overall assessment: medium quality.

The study

Bliesener, T. & L. Riesner (2012): "Evaluation der Polizeilichen Kriminalprävention bei Mehrfach- und Intensivtätern in NRW". *Forensische Psychiatrie, Psychologie, Kriminologie*, 6(2), p. 111-118.

Study objectives

To assess the effectiveness of four different police crime prevention programs in terms of reducing recidivism among persistent youth offenders in North Rheinland Westphalia, Germany.

Intervention focus

There are four different interventions (four different areas) under study in this evaluation:

6. Konzept zur Bekämpfung von Intensivtätern der Kreispolizeibehörde Bochum (BO)
7. 2Interventionsprogramm JIT – junge Intensivtäter – Kreispolizeibehörde KPB Mönchengladbach (MG)
8. Bekämpfung jugendlicher Intensivtäter Kreispolizeibehörde KPB Warendorf (WAF)

9. Bergische Intensivtäterkonzept der Kreispolizeibehörde Wuppertal/Remschied/Solingen (WRS)

The interventions are not clearly described but have in common that they all intensify the contact to and regular control of youth participating in the programs. The aim is to cut off the juvenile from his or her negative social environment and thereby to reduce criminal activities. At the same time, the programs aim to improve the cooperation between schools, youth welfare office, the police, prosecution and the court by standardized proceedings and through the development of a multiple offender database. The four programs contain the following interventions:

10. Centralization of law enforcement activities: to improve the flow of information at the Public Prosecution Service and to ensure an accelerating of processing
11. Establishment police internal database containing multiple offenders
12. A better coordination and cooperation among institutions involved in youth work: to improve the flow of information and the implementation of programs
13. Endangers speeches: the police officers inform the young multiple offenders about their enrollment in the program. Furthermore they inform the juvenile about the consequences of their action, which leads to an increasing control
14. Inclusion of legal guardian: In cases of under aged multiple offenders, the parents have also to be informed about the enrollment of their child. Furthermore they are informed about the legal consequences of a re- offending
15. Acceleration of the procedures: to reduce the time interval from the criminal reaction and the introduction of judicial response
16. Concentration of police control: increase the density of police control activities at relevant focal areas (with increased criminal activities).

The time line is twelve months before entering the program, twelve months after entering the program, twelve months before leaving the program and twelve months after the program.

Sample

The sample for this study consists of n=837 persistent youth offenders with a mean age of 16.1 years (range 13-21 years). 92.4% were male and 77.5% were of Germany ethnicity. The intervention group (n=297) was matched to a control group (n=540) on age and gender, offense severity, police district and time of offense. However, severity of offense was lower for the control group despite matching. The intervention group received a mean of 451 days of intervention. Only 47 (15.8%) of the intervention group and 94 (17.4%) of the control group had complete data at pre- and post-intervention measurements.

Results

One year post-intervention, there was a substantial reduction in offense load index score for both intervention and control groups. An initial difference between intervention and control group (favouring the intervention group) disappeared completely upon control for age differences between groups.

Design

Quasi-experimental pre- and post-intervention design with a non-equivalent comparison group, though it was matched on gender, age, police district and offender type. ANOVA/ANCOVA were used for analysis controlling for age and gender. Data derive from police records.

Quality assessment

Good sample size, but the sample is variable across sites and are not always included in analysis due to not living up to inclusion criteria. Loss to follow-up was very high and no attrition analysis is conducted. This raises a concern for selection bias. Residual confounding possible since analyses only control for age and gender. The report indicates different implementation in the four cities due to different understanding of roles in the process of working and dealing with young multiple offenders. There is no differentiation between the programs and it is therefore not possible to assess which intervention a potential effect could be ascribed. Furthermore there is very low number of observations in separate analyses, which raises concerns about the validity of statistical testing.

Overall assessment: low quality.

The study

Borduin, C.M., C.M. Schaeffer & N. Heiblum (2009): "A Randomized Clinical Trial of Multisystemic Therapy with Juvenile Sexual Offenders: Effects on Youth Social Ecology and Criminal Activity". *Journal of Consulting and Clinical Psychology*, 77(1), p. 26-37.

Study objectives

To compare the efficacy of multisystemic therapy versus usual community services in reducing levels of re-arrest and incarceration of high-risk juvenile sex-offenders in Missouri, USA after ca. 9 years of follow-up.

Intervention focus

The intervention 'Multisystemic Therapy' is supplemented with three primary adaptations for treating juvenile sex offenders. Multisystemic therapy (MST) is informed by cognitive-behavioural therapy and pragmatic family therapy approaches. MST focuses on the total environment of the youth under treatment to prevent re-offending by supporting pro-social development and decreasing delinquent behaviour as well as developing caregiver parenting competencies. Services are provided according to the family's needs both in the home and in the community and involve parents, teachers and others the youth may be in contact with. Therapists are available to families by phone call around the clock. The present intervention targeted youth arrested for a serious sexual offense who had no evidence of psychosis or retardation and were currently living with at least one parent figure. Mean duration of treatment was 30.8 weeks with approximately three hours of intervention per week.

Sample

The sample for this study consists of 48 youth and their families. The mean age of youths was 14 years. They had on average experienced 4.33 previous arrests. They were 95.8% male, 72.9% White, 27.1% Black and 2.1% Hispanic with 54.8% living in families of lower socioeconomic status. 31.3% lived with just one parental figure. The intervention group (n=24) were compared to a control group (n=24) receiving on average 30.1 weeks of community services. There were no differences between intervention and control groups on demographic variables or criminal history.

Results

After an average of 8.9 years of follow-up, the intervention group had 83% fewer arrests for sexual crimes and 70% fewer arrests for other crimes than controls. MST participants also spent 80% fewer days in detention facilities than did controls (and overall did better on each and every covariate count). By the end of 8.9 years, 45.8% of controls had been arrested at least once for a sexual crime and 58.3% had been arrested for a nonsexual crime, compared with 8.3% and 29.2%, respectively, of MST participants.

Design

Randomised controlled trial using a pretest–posttest control group design with an 8.9 year follow-up and tobit regression and survival analysis. Data derive from youth and adult criminal arrest data.

Quality assessment

Small sample size with differential risk levels of intervention and control groups (intervention group had higher risk) but no control for confounding. Analyses were conducted as per the intention to treat approach and no participants were lost to follow-up (unless they had moved out of the State).

Overall assessment: high quality.

The study

Brugman, D. & M.D. Bink (2011): “Effects of the EQUIP Peer Intervention Program on Self-serving Cognitive Distortions and Recidivism among Delinquent Male Adolescents”. *Psychology, Crime & Law*, 17(4), p. 345-358.

Study objectives

To investigate the effect of a multi-modal, multi-component training program on degree and timescale of recidivism and assess whether a decrease in self-serving cognitive distortions results in a decrease in recidivism for youth in high-security correctional facilities in the highly urbanised part of the Netherlands.

Intervention focus

The intervention 'EQUIPPing Youth to Help One Another' (EQUIP) is a training program for male juvenile delinquents placed in high-security juvenile correctional facilities. The program draws on the peer-helping approach and on cognitive behavioural therapy and focuses on reducing cognitive distortions, improving social skills and stimulating moral development. Youth are placed in groups of 6-8 participants which meet for EQUIP meetings three times a week for 3 months. Each meeting follows a lesson plan and there are 30 EQUIP. Meetings are also supplemented by sporadic mutual help meetings and a positive peer group to create a positive atmosphere. Meetings are structured around anger management, social skills and social decision-making (i.e. moral education). Lessons draw on Aggression Replacement Training and the Positive Peer Culture model.

Sample

The sample for this study consists of 77 male delinquents who were either incarcerated in one of four high-security correctional facilities in the Netherlands for violent robbery, murder, rape or drug dealing or were subject to a supervision order. The average length of confinement was 10 months. The intervention group (n=57) had a mean age of 16.3 years and 72% were from minority group backgrounds. The control group (n=31) had a mean age of 16.7 years and 66% were from minority group backgrounds. There was no difference between groups on mean detention time, mean age, age at first offense, number of offenses committed, total number of penalties imposed by the courts or percentage with minority background. However, the intervention group had significantly lower IQ scores than the control group (86.4 vs. 95.8).

Results

At 24 months post-release, there was no statistically significant difference between intervention and control groups on occurrence of recidivism though there was a trend towards a higher occurrence in the intervention group (86.2% vs. 65%). Survival analysis showed that time till first re-offense on average was 140 days less for the intervention group than for the control group, though this result was also not statistically significant. Neither did the intervention group have less serious recidivism than the

control group, though it did have fewer repeat instances of re-offending. Egocentric bias was shown to reduce time to re-offense.

Design

Quasi-experimental pre- and post-test design with a varying follow-up period using survival analysis and hierarchical regression analysis that controls for age at release, and observation period post-release. Data derive from the Ministry of Justice Criminal Records service for recidivism data and from youth self-reported questionnaire for covariates

Quality assessment

Authors present results from only a subset of available recidivism data which gives a small sample size and unclear selection bias effects thus limiting the generalizability of the findings. Missing data are not specified and loss to follow-up (53.6%) is noted (but not proved) to be non-differential. Authors convey distrust of protocol fidelity/adherence. Residual confounding is possible due to lack of control for relevant variables and differences in baseline characteristics. Regression analysis takes account of nesting effects and survival analysis takes differing follow-up times into account.

Overall assessment: medium quality.

The study

Burraston, B.O., D.J. Cherrington & S.J. Bahr (2012): "Reducing Juvenile Recidivism with Cognitive Training and a Cell Phone Follow-up: An Evaluation of the Realvictory Program". *International Journal of Offender Therapy and Comparative Criminology*, 56(1), p. 61-80.

Study objectives

To test the effectiveness of a combination of cognitive training and mobile phone follow-up in reducing the risk of recidivism in juvenile offenders in the State of Utah, USA.

Intervention focus

The intervention "The RealVictory Program" draws on cognitive transformation theory, life course theory and a character development model developed by Cherrington and Cherrington (2000) that explains the internal change processes that lead to desistance from crime for juvenile

offenders. The approach focuses on cognitive training and subsequent reinforcement of this training through automated mobile phone messages. The cognitive training consists of six weeks of 90 minute sessions that teach individuals to examine their principles and beliefs, explore how these influence their behaviour and realign behaviour with personal goals. Sessions included discussion, video clips, exercises, examples and homework. The mobile phone component consisted of youth being called up every day for a year post training with a pre-recorded message designed to remind them of their cognitive training. The message consisted of three basic questions that could be answered by typing in a number.

Sample

The intervention group (n=39) with a mean age of 16.1 years and 89.3% male was compared to a control group not receiving the RealVictory program (n=31, mean age 15.7 years; 87.1% male). Control group participants were matched on age, race, gender, risk category and type of index offense. Participants had between 1 and 28 prior arrests and varied in the level of risk they had been assigned by the juvenile justice system. Of the intervention group, eleven participants received only cognitive training but no mobile phone intervention, while 28 received both.

Results

One year after cognitive training, the intervention was shown to have a good effect for boys though less so for girls. Risk of re-arrest was smaller for the intervention group (training + mobile phone follow-up), as was time till re-arrest. The intervention group had 51% fewer re-arrests and 2.6 as many days till re-arrest compared with the control group. There was no significant difference in the two different intervention groups but any difference may not have been captured due to small sample size.

Design

Prospective controlled trial part randomised, part non-randomised. After initial randomisation, the court ordered that subsequent selection of participants could not be random. Data derived from official court records and were analysed using survival analysis and poisson regression. Matching was done on age, gender, race, risk category and type of offense and all analyses adjusted for number of prior arrests, risk score and gender.

Quality assessment

Randomisation was only possible for part of the sample thus inviting selection bias. However, matching intervention and control groups and adjusting in all analyses for those variables found to differ between groups attenuates the risk of selection bias. Authors report high fidelity to intervention protocol. Sample size was small.

Overall assessment: medium quality

The study

Butler, S., G. Baruch, N. Hickey & P. Fonagy (2011): "A Randomized Controlled Trial of Multisystemic Therapy and a Statutory Therapeutic Intervention for Young Offenders". *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(12), p. 1220-1235.

Study objectives

To assess the effectiveness of multisystemic therapy (MST) as opposed to treatment as usual by youth offending teams in the U.K. for reducing recidivism among youth with serious anti-social behaviour.

Intervention focus

Multisystemic Therapy is an intensive intervention for deviant youth that targets the total environment of the youth in question with the aim of avoiding out-of-home placement and re-offending. The program follows a social-ecological approach to intervention by engaging in intensive contact with youth and their families about family relations, school functioning, peer group relations as well as youth individual adaptation, parenting skills and parental engagement. As such it blends cognitive behavioural therapy, behaviour management training, family therapies and community psychology. The intervention takes place in the local community and in the home with thrice weekly visits by therapists over 11-30 weeks (in the present study). Therapists are available to families by phone twenty-four hours a day throughout the week.

Sample

The sample for the study included 108 13-17 year olds living at home who had received a court order. Youth came from socially disadvantaged backgrounds and had an average of 2.5 convictions behind them. The intervention group (n=56) had a mean age of 15.2 years, 85.6% were

male with 49.1% having European-British ethnicity and 27.3% Black African/Afro-Caribbean ethnicity. The control group (n=52) did not receive MST but rather usual youth offending team services, which are similarly extensive with multiple components. The control group were 80.8% male with 25.5% British/European and 39.2% Black African/Afro-Caribbean.

Results

There was no observable difference in recidivism (number of reconvictions) before 18 months of follow-up. At 18 months follow-up, however, risk of conviction and non-violent offenses were significantly reduced in the MST group (8% vs. 34% in the control group), which concurrently had markedly lower risk six months post baseline of parent-reported aggressive behaviour and self-reported delinquency compared with the control group.

Design

Randomised controlled trial applying the intention to treat approach to analysis and using multilevel mixed-effects Poisson regression models for frequency outcomes and mixed-effects logistic regression for binary outcomes. Primary outcome data derive from police records (convictions) while questionnaires (6 months post baseline) were used for parental assessment and youth self-report of aggressive and delinquent behaviours. It is not possible to assess whether analyses controlled for potential confounders.

Quality assessment

Randomisation balanced for type of offending (violent vs. nonviolent), gender and ethnicity and data were analysed as per the intention to treat approach. However, the small sample size means that non-significant differences in baseline characteristics between intervention and control groups may denote lack of group comparability. There was less than 5% missing data and very little loss to follow-up which strengthens against selection bias. However, recruitment bias (> 100 potential participants did not provide consent) limits generalizability of findings.

Overall assessment: high quality.

The study

Cho, Y. (2008): Analysis of the Automated Voiceprint Recognition Supervision program in Korea. New York: The City University of New York, Ph.d. thesis.

Study objectives

To examine the effectiveness of an automated voiceprint recognition supervision program and investigate essential predictors of recidivism among youth offenders in Seoul and Su-Won, South Korea.

Intervention focus

The intervention 'Automated Voiceprint Recognition Supervision' (AVRS) entails curfew monitoring through automated phone calls with voiceprint technology. Drawing on rational choice theory and the situational crime prevention approach, the intervention seeks to deter illegal night time activities among youth by making random phone checks on the whereabouts of the youth combined with voice recognition software that verifies that it is, in fact, the youth in question who is answering the call. The program targets high-risk juvenile probationers under 20 years of age who are placed under house arrest and referred to the intervention by a judge.

Voiceprints of program participants are recorded by probation officers at referral. During the probation period, phone calls generated by a computer program are made at random times during the night (10pm-6am) to the home of the youth more than three times a week. Since the youth is under curfew, he/she is required to be home during the night. When the random phone call is made, the system automatically chooses questions, such as the program participant's name, social security number, and address in order to verify his or her voiceprints. There are more than ten types of questions with regard to personal information.

The program allows for six different types of supervision: Type A: Sequential Double Verification System in which the youth has to make a return call 5 minutes after receiving the automated call; Type B: Simultaneous Double Verification System in which the youth has to make a return call to a different number after five minutes; Type C: Simple One-Way Verification System in which the youth simply has to answer the questions posed; Type D: Non-Random Verification System where the youth knows at what time they will receive the call (this is the

most lenient supervision type); Type E: Text Message Transmit System in which the youth is called up on his/her mobile phone and must call the system back from their home phone (this is in order to minimize inconvenience to other household members); and finally Type F: Random Style Phone Call for which the system can combine any and each of the above-mentioned supervision call types. For this study, probation periods lasted between 3 and 12 months.

Sample

The sample for this study consists of 375 high-risk juvenile probationers. The intervention group (n=130) was matched to a control group (n=245) receiving regular probation using propensity scores based on age, gender, prior crime histories, employment, housing status, and types of offenses. Sample characteristics are only given for a larger sample which is not used for analyses and are therefore not described here. Groups differed significantly on housing tenancy (owned, rented long-term, or rented short-term) and type of crime committed.

Results

The AVRS program did not significantly affect the risk of recidivism (occurrence of re-offense) in the one year follow-up period, though re-offense was reduced approximately 22% in the intervention group compared to controls and time till re-offense was longer in the intervention group than the control group (315.1 vs. 283.6 days). However, AVRS participants had 2.6 times higher odds of having their probation status revoked. The lower risk of recidivism in the intervention group was not due to the intervention but rather caused by baseline differences in demographic and criminal history variables despite propensity score matching. As soon as the intensive supervision by AVRS disappeared, youth in the intervention group were arrested at a higher rate than youth in the control group.

Design

Quasi-experimental design using propensity score matching (based on age, gender, prior crime histories, employment, housing status, and types of offenses) for selection of intervention and control group. Analyses were conducted using logistic regression and survival analysis while controlling for propensity score (demographic and crime history variables).

Data derive from two official databases: (1) Probation and Integrated Information System (PIIS) and (2) Crime History Data (CHD).

Quality assessment

Good sample size presumably without loss to follow-up or missing data though this is not specified. Potential selection bias due to adjudication patterns are reduced through propensity score matching on demographic variables and criminal history. There seems to be appropriate control for confounding, though because sample characteristics are not given, it is not possible to assess adequately. The intervention is not uniform across participants since youth receive one of six different AVRS supervision programs. This may obscure individual differences in program effect; one type was shown to have adverse effects.

Overall assessment: medium quality.

The study

Clark, H.G., S.R. Mathur & B. Holding (2011): “Transition Services for Juvenile Detainees with Disabilities: Findings on Recidivism”. *Education & Treatment of Children*, 34(4), p. 511-529.

Study objectives

To assess the effect of enhanced transition services on the risk of re-arrest of juveniles in a detention centre in Arizona, USA, compared to basic transition services.

Intervention focus

A model for enhanced transition services was developed to support youth with either learning or social-behavioural disability transition back into the community after release from a juvenile detention centre. Services covered pre-release planning, availability of community services addressing special needs of 12-17 years age-group, locating housing and services in the youth’s community, ensuring access to mental health and substance abuse treatment, providing structured workforce preparation, employment and school attendance, and insuring better use of youth’s leisure time. Services are provided by a transition specialist who meets regularly with youth and recognizes that youth have diverse needs. Enhanced services are provided in addition to normal transition services.

Duration, frequency and the setting in which services are provided are not described.

Sample

The sample for this study consisted of 144 youths with some type of disability who were detained in two county-level juvenile detention centres. The intervention group (n=68) were 91.8% male. 54.4% had a learning disability while 45.6% had a social-behavioural disability. The control group (n=76) were 93.4% male; 47.4% had a learning disability and 50% had a social-behavioural disability. The average length of stay in the detention centre was 37 days for the intervention group and 43 days for the control group.

Results

The intervention group had 64% less risk of returning to detention during the first month after release, but the difference was no longer observable at 1.5 months nor at 4 months follow-up.

Design

Randomized, single blind, quasi-experimental study. Data derive from transition specialist records and were analysed using logistic regression modelling. It is unclear which parameters were included in the modelling and how and whether appropriate control for confounding was achieved. Participants with too much (not defined) missing data were excluded from the analysis.

Quality assessment

It is not possible to assess the maintenance of randomisation in this study, since there is no further specification of the fact that participants with 'too much' missing data were excluded from the analysis without analysing selection. Follow-up time is short (4 months) and there was no monitoring of intervention fidelity. Auto-correlation of outcome measures is not addressed. The convenience sampling method of this study opens for potential recruitment bias and limits generalizability of the study.

Overall assessment: medium quality

The study

Dunham, J.B. (2009): *Examining the effectiveness of functional family therapy across diverse client ethnic groups*. Bloomington: Counseling and Educational Psychology Department, Indiana University. Ph.d. thesis.

Study objectives

To assess the effectiveness of Functional Family Therapy across different client ethnic groups on mental health needs and prevention of juvenile delinquency among youth offenders in Miami, USA.

Intervention focus

The intervention 'Functional Family Therapy' (FFT) is a relational, family-focussed intervention building on strengths and risk factors to increase functionality of the families of at-risk youth. There are three specific intervention phases: Engagement and Motivation, Behaviour Change, and Generalization.

The first phase focusses on engaging the family in committing to treatment, and motivating them toward change. The therapists work on shifting the family's definition of the problem from being one individual's problem (usually the adolescent's) to the family's shared problem. This involves reducing negativity and blame among family members and forming a balanced alliance with all family members, and increasing hope.

The second phase focusses on increasing behaviour change among family members following a behaviour change plan and introduces relational skill-building. The final phases aims to prevent relapse and maintain treatment gains by helping the family generalize new skills to new situations, training relapse prevention techniques, and linking them with relevant community resources. The form and structure of provided FFT services followed the clinical treatment manuals and were closely supervised.

Sample

The sample for this study consists of 222 youth offenders with a mean age at the beginning of treatment of 15.13 years. 69.4% were male, with most (48.6%) being Hispanic, 38.7% African American, 5.4% Haitian and 4.5% Caucasian. The intervention group (n=111) was compared to a control group (n=111) receiving traditional probation services that were

not family-focussed. The control group was matched to the intervention group on inclusion criteria and were supposed to be matched on ethnicity, gender, age and criminal history. However, there were significant differences between groups on gender (63.1% male in the intervention group versus 75.7% in the control group), ethnicity (there was a high proportion of African Americans in the intervention group and a higher proportion of Hispanics in the control group) and pre-treatment crime severity index score (FFT group had higher severity score than the control group).

Results

At twelve months follow-up, there were no differences between intervention and control group with regard to recidivism (occurrence of re-offense) or re-offense severity when controlling for baseline differences in crime severity. This finding did not depend on youth ethnicity. Overall, therapists exhibiting higher protocol fidelity were associated with lower rates of youth recidivism and lower crime severity. The impact of protocol fidelity was significant only for African American youth (not for Hispanic youth, while other ethnicity groups were not tested due to insufficient sample sizes).

Design

Quasi-experimental study using significance testing and regression analysis with inadequate confounder control. Data derive from Juvenile Services Division records and Institute for Child and Family Health records.

Quality assessment

Adequate sample size but with no specification of loss to follow-up or missing data. Due to baseline differences in demographic variables and crime history that are not adequately controlled for in analyses, there is a high risk of results being affected by residual confounding. Adherence to intervention guidelines was measured to be average.

Overall assessment: medium quality.

The study

Edelen, M.O., M.E. Slaughter, D.F. McCaffrey, K. Becker & A.R. Morral (2010): "Long-term Effect of Community-based Treatment: Evidence from the Adolescent Outcomes Project". *Drug and Alcohol Dependence*, 107(1).

Study objectives

To assess the effectiveness of a specific residential therapeutic community treatment program compared to other programs on reducing substance abuse, improving mental health, levels of unemployment, crime and institutionalisation among juvenile substance abusers in LA, USA.

Intervention focus

The Phoenix Academy offers specialised substance abuse treatment in a residential setting. The program targets 12-17 year olds in the LA juvenile probation system and covers comprehensive treatment services, individual and group counselling, family therapy, art and music therapy, cultural and recreational activities and life skills training. Length of stay varies according to need.

Sample

The sample consisted of 449 youths between 12 and 17 years corresponding to a recruitment rate of 78%. 412 participants were included in the analysis at 72 months follow-up. Mean age at baseline was 15.5 years, 86% were male, 54% were Hispanic/Latino, 17% White and 15% African American. 89% initiated drug use before age 15 with 78% presenting at baseline with substance abuse and 55% with substance dependence. The intervention group (n=175) differed significantly from the control group (n=274) only in terms of gender (80% male in the intervention group vs. 93% male in the control group). The intervention group were provided treatment at the Phoenix Academy while controls were treated in one of 6 other treatment facilities. These facilities did not specialise per se in adolescent substance abuse management like the Phoenix Academy.

Results

After 102 months (8.5 years) of follow-up, there was no significant difference in self-reported criminal activity over the past 90 days between intervention and control groups. Such a difference had been present at 12 months follow-up but was not sustained long-term.

Design

Quasi-experimental design with a non-random control group matched on weighted distributions of 88 pre-treatment characteristics using propensity score weighting. Data derived from interviews with youth at baseline and 3, 6, 12, 72, 87 and 102 months follow-up.

Quality assessment

Adequate sample size. 1.1% missing data were imputed and long-term follow-up was achieved with an 87% response rate. Differences between intervention and control groups were controlled by propensity score weighting. Risk of selection bias is small.

Overall assessment: high quality

The study

Erickson, C.J. (2008): *The Effectiveness of Functional Family Therapy in the Treatment of Juvenile Sexual Offenders*. US: Counseling and Educational Psychology Department of the School of Education, Indiana University, Ph.d. thesis.

Study objectives

To investigate the effectiveness of Functional Family Therapy in the treatment of juvenile sex offenders compared to traditional treatment in small urban/rural Washington State, USA.

Intervention focus

The intervention 'Functional Family Therapy' (FFT) focusses on the family relational system with an emphasis on the multiple domains of client experience (cognition, emotion, and behaviour) and the multiple perspectives within and around a family system (individual, family, and contextual/multi-systemic). This intervention targeted juvenile sex offenders and participants were offered 12-16 sessions of FFT in their home over 3-4 months with weekly sessions lasting 60 minutes. Thera-

pists were certified juvenile sex offender treatment providers with extensive training in the FFT model.

FFT consists of three phases of therapeutic intervention: Firstly, therapists aim to engage and motivate families. The focus is on building alliances between therapist and family and between family members, reducing blame and negativity, developing a shared focus and building hope and expectation of change. The second phase focusses on behaviour change and changing individual and family risk patterns through focus on communication, problem solving, and conflict management. The third phase aims to generalise changes made in the second phase to other areas of family functioning that have not been specifically addressed so as to maintain changes. The focus is on relapse prevention and enabling access to community resources.

The length and specific content and form of each phase are tailored to the needs and context of the family. The original FFT clinical model was not changed for use on a sex offender population, but the generalization phase of therapy was typically longer and consisted of more booster sessions over the course of parole than is usually conducted with general juvenile delinquents.

Sample

The sample for this study consists of 78 juvenile sex offenders assessed on the Sex Offender Screening Tool to be at low to moderate risk of recidivism. Prior to enrolment in this study, youth had been adjudicated residential care and were beginning a two-year parole period post-residential care (no further information on residential care is available). The intervention group (n=40) were 97.5% male and with an ethnic composition as follows: 72.5% White, 12.5% Asian/Pacific Islander, 7.5% Hispanic, 5.1% Black. The control group (n=38) received traditional standardised juvenile sex offender treatment with a multi-modal cognitive behavioural approach and an emphasis on psycho-education. Controls were all male, 84.2% White, 13.2% Black, 2.6% Hispanic. Control treatment lasted for the duration of the parole period, while intervention treatment lasted 3-4 months. The mean age of the sample at baseline was 15.3 years. Intervention and control group did not differ significantly on age, criminal history score, risk score, number of prior felony or misdemeanour adjudications. Mean age at first offense was 13 years and 29.5%

had a previous non-sexual criminal history. 79.5% of youths' victims were children under the age of twelve.

Results

Two years after the start of parole, no participants in either intervention or control group were sentenced for sexual offenses. However 40% of the intervention group committed non-sexual offenses vs. 21.1% in the control group though a statistically significant difference between groups was found only for misdemeanor crime (27.5% vs. 5%) when controlling for criminal history. There was no difference between groups on individual symptoms.

Design

Quasi-experimental control group design using logistic regression analysis that controlled for criminal history. Data derive from official youth records (questionnaires, criminal records, treatment records) obtained from the Juvenile Rehabilitation Administration and the Washington State Institute for Public Policy.

Quality assessment

Small sample size with no reported loss to follow-up or missing data on within state recidivism. Authors check confounding potential of some variables (age, type of victim and criminal history), but potential risk of residual confounding remains such as that related to family risk factors, length of treatment, therapist differences, etc. There is risk of selection bias due to inclusion criteria requiring active involvement of parents for intervention group but not for control group. Intervention protocol fidelity is unknown but therapists are experienced in the model.

Overall assessment: medium quality.

The study

Fowles, T.R. (2010): *Preventing Recidivism with Cell-phones: Telehealth Aftercare for Juvenile Offenders*. US: Department of Psychology, Salt Lake City. University of Utah. Ph.d. thesis.

Study objectives

To test the use of computerised calls as an effective aftercare tool for youth offenders having already participated in diversion programs in urban Utah, USA.

Intervention focus

The intervention 'Victory Seeker' is an interactive voice-response system that calls participants and asks them about their progress towards pre-stated goals. Youth are also asked about how much effort they put into various sub-goals, and whether those sub-goals helped them achieve their desired result. The specific content and frequency of calls (minimum requirement once per day) is determined in collaboration with youth themselves and tailored to their wishes and goals. The time of the daily call is similarly decided by youth themselves. When goals are not achieved, participants are prompted to leave a voice-message explaining why (to engage the youth in self-reflection). Youth also had to identify people whose encouragement would be motivational for them. These people pre-recorded encouraging or congratulatory voice mails to be played according to response patterns. The intervention lasted six months and should be seen as a *component* of aftercare not as a full program per se.

Sample

The sample for this study consists of 68 male offenders volunteering to participate in the study after completion of the Salt Lake Early Intervention program (a juvenile diversion program). The mean age of participants was 15.49 years, 47.1% identified as Latino while 33.8% identified as Caucasian. The intervention group (n=31) was compared to a control group (n=37) that did not receive the intervention. There were no significant differences between the groups on demographic variables or criminal history.

Results

After six months of intervention, there was no significant difference on either executive functioning, self-reported offending or drug use. The intervention group had lower levels of recorded delinquency and lower offense severity but the difference was not statistically significant. The same pattern was seen for time to first re-offense. The only significant

difference between groups was the risk of committing a felony during the 6 month period. The intervention group conducted no felony crimes, while the control group conducted five.

Design

Randomised controlled trial using ANOVA as method of analysis. Since groups did not differ significantly on demographic or crime history variables, no control for such variables was necessary. Data derive from youth self-report and from official state juvenile justice system records.

Quality assessment

Small sample size with a high loss to follow-up (up to 40%). Attrition analysis not conducted and imputation of missing data is done using regression results. This leaves a fair risk of selection bias. The authors report low intervention protocol fidelity with only one third of all planned phone calls actually being received by the intervention group. Self-selection of youth into the study impedes generalisation of results.

Overall assessment: low quality.

The study

Freudenberg, N., M. Ramaswamy, J. Daniels, M. Crum, D.C. Ompad & D. Vlahov (2010): "Reducing Drug Use, Human Immunodeficiency Virus Risk, and Recidivism among Young Men Leaving Jail: Evaluation of the REAL MEN Re-entry Program". *Journal of Adolescent Health*, 47(5), p. 448-455.

Study objectives

To assess the effectiveness of an intervention project compared to usual services provided by a community-based organisation on reducing drug use, risky sexual behaviour and criminal activity among youth released from jail in the city of New York, USA.

Intervention focus

The intervention 'Returning Educated African-American and Latino Men to Enriched Neighborhoods' (REAL MEN) was based on empirical experience with juvenile delinquent intervention programs and used an array of approaches to achieve reduced recidivism and improved health behaviour. The intervention was initiated in jails before offenders were

released into the community and included a mix of individual and group sessions of psycho-educational education focussing on avoiding substance abuse and sexually transmitted infections as well as staying out of jail. Individual-level intervention focussed on helping participants identify their strengths, learn skills, and find resources to protect their health and stay out of jail. The groups provided support for healthy behaviour and critical examination of the social and political context impacting their lives. 18 hours of sessions were conducted within jails and 12 hours of sessions after youth were released into high-crime New York neighbourhoods. Home visits and meetings with family members were conducted, referrals to other activities were made as well as individual case management through a partner organisation in the community.

Sample

The sample consisted of 552 incarcerated young men (16-18 years, mean age 17.99 yrs) without psychiatric illness and planning to return to high-crime areas upon release within 12 months. 55.8% were Black while 38.1% were Latino. 37% were in jail due to violence-related offenses, 29% were drug-related, 9% were property-related while 17% were violation of probation status and 16% other categories. The intervention group (n=277) was compared with a control group (n=275) that received only a single jail-based discharge planning session, though community-based organisation services were also available to them upon release outside of the REAL MEN program. Of the 552 study participants, 397 completed a one year follow-up interview.

Results

At one year of follow-up, no discernible difference in risk of re-arrest or re-incarceration could be discerned between intervention and control group, though there was a significant risk of alcohol and hard drug use (though not use of marijuana) in the intervention group. REAL-MEN participants who were re-incarcerated spent about 29 fewer days in jail upon re-incarceration than the control group.

Design

Randomised control trial using the intention to treat approach to analysis and controlling for baseline differences between intervention and control groups that existed despite randomisation in logistic regression models.

Data derive from follow-up interviews one year post-release and a 72% follow-up rate was achieved.

Quality assessment

Appropriate sample size, but 28% attrition leading to potential selection bias in outcome measures, since all outcomes were based on self-report. Since all analyses were controlled for differences in baseline characteristics in the lost-to-follow-up group, selection bias need not be a problem. Analyses conducted as per intention to treat in order to maintain randomisation and sensitivity analyses conducted with participants attending four or more sessions.

Overall assessment: high quality.

The study

Gillis, H.L., M.A. Gass & K.C. Russell (2008): "The Effectiveness of Project Adventure's Behavior Management Programs for Male Offenders in Residential Treatment". *Residential Treatment for Children & Youth*, 25(3), p. 227-247.

Study objectives

To compare an adventure-based behaviour management program with outdoor therapeutic camping programs and standard Youth Development Centre programs in the state of Georgia, USA.

Intervention focus

The intervention 'Projekt Adventure' is a court-adjudicated program that uses adventure-based behaviour management through adventure (BMtA) for juvenile offenders. The approach focuses on group and individual development through problem-solving activities and challenge course experiences that require skills such as patience, listening, seeing another's point of view, leading, following, planning, and experiencing the consequences of actions.

Juveniles in the BMtA program reside in group homes in the community, spending a minimum of 40 hours a week on campus. A typical program day includes household responsibilities, practicing good hygiene, meal preparation, setting group and individual goals, a group discussion of the evening and morning spent in the group home, academics, adventure activities, and evaluating group and individual goals.

Duration of stay in the program is dependent on court order; for the present study, only individuals who spent at least 30 days in the program were included in the analysis.

Sample

The intervention group (n=347) was compared with two sets of controls randomly selected among youths participating in two different types of programs, namely an outdoor therapeutic program (n=347) and a 90 day specialized treatment program organized by the State of Georgia's Youth Development Center (n=347). Only males were included in the study. The average age at first offence for the entire sample was 14.47 years and the youths spent on average 114.46 days in treatment. The intervention group consisted of 347 male youth, 50.7% of which were White and 49.3% African American. The intervention group differed significantly from the control groups both in terms of ethnic make-up, age at first offence and duration of treatment.

Results

The intervention group had somewhat lower rates⁶ of re-arrest at one, two and three years of follow-up than both comparison groups and there were statistically significant differences between time from release until re-arrest (23.43 months for the intervention group vs. 20.84 and 17.71 months for the outdoor therapy group and the youth development centre group respectively).

Design

Retrospective quasi-experimental study using non-randomized, non-equivalent intervention and control groups. No control was attempted for confounding variables. Data derive from the Georgia Department of Juvenile Justice database.

Quality assessment

Due to lack of randomization and control for potential confounders as well as the demonstrated significant baseline differences between intervention and control groups, this study cannot be said to analyse comparable groups. That being said, the methods used in the study are clear

6. Measured as a low effect size using Cohen criteria.

and documented, there is no loss to follow-up and an appropriate characterization of the intervention in question.

Overall assessment: medium quality.

The study

Gillis, H.L. & M.A. Gass (2010): "Treating Juveniles in a Sex Offender Program Using Adventure-based Programming: A Matched Group Design". *Journal of Child Sexual Abuse*, 19(1), p. 20-34.

Study objectives

To examine the effectiveness of a behaviour management model using adventure programming with juvenile sex offenders (JSOs) by comparing male juveniles who participated in this program with similar juveniles who participated in two other programs in Georgia, USA during the same time period.

Intervention focus

The intervention 'Legacy' is an adventure-based behaviour management program targeting 12-16 year old male sex offenders in a residential setting. The approach uses therapeutic group therapy to confront inappropriate behaviours and reinforce appropriate ones. In addition to therapy, the residential program includes household responsibilities, practicing hygiene, setting group and individual goals, academics, and adventure experiences. The goal of the program is to eliminate sexually inappropriate thoughts and behaviour and foster sexually appropriate behaviours as well as to develop healthy sexual roles and equal relationships with same-sex and opposite-sex peers. There is a strong focus on promoting social skills, responsibility for one's behaviour and fostering self-control through adventure-based activities. As such, therapy is designed using action-oriented experiences instead of passive therapeutic analysis where youth are forced to use positive problem-solving abilities to complete the adventure-based activities.

Sample

The intervention group (n=95) was matched on race, most serious offense and age at first offense to a control group (n=95) receiving other specialised treatment and another control group (n=95) who were incarcerated in youth development centres. Participants were between 12 and

16 years of age, 65.3% White and 34.7% Black with a mean age at first offense of 13.75 years.

Results

Upon one, two and especially three-year follow-up, the Legacy (intervention) group presented a relatively large reduction in risk of re-arrest ($d=0.63$ at three year follow-up). Similarly, a reduction in the number of days till re-arrest was seen for the Legacy group though the effect was smaller and insignificant ($d=0.29$).

Design

Post-hoc quasi-experimental trial of an intervention and two control groups matched on age of first offense, the most serious offense type, and race. Analyses were conducted on difference in means of recidivism and survival analysis. Data derived from the database of the Georgia Department of Juvenile Justice and did not include other relevant variables to characterise the sample.

Quality assessment

Adequate sample size, but potential loss to follow-up not assessed (such as youth moving out of the State). Group allocation is by court adjudication and data records do not allow for adequate assessment of selection bias or control of potential confounders, leaving risk of residual confounding high. Intervention protocol fidelity is unknown. No missing data.

Overall assessment: medium quality.

The study

Glisson, C., S.K. Schoenwald, A. Hemmelgarn, P. Green, D. Dukes, K.S. Armstrong & J.E. Chapman (2010): "Randomized Trial of MST and ARC in a Two-level Evidence-based Treatment Implementation Strategy". *Journal of Consulting and Clinical Psychology*, 78(4), p. 537-550.

Study objectives

To assess the effects of a) an organizational intervention for implementing effective community-based mental health services, b) multisystemic therapy and c) combining multisystemic therapy with the organizational

intervention on problem behaviour among youth in a poor, rural area of Tennessee, USA.

Intervention focus

The intervention 'ARC' (for availability, responsiveness, continuity) is an organizational intervention for improving implementation of mental health services. The intervention includes manual-guided activities in action groups of service providers. A total of twelve components are implemented in three stages that consist of 1) identifying and addressing service barriers such as poor cooperation between institutions, lack of access and inefficient referral processes, 2) introducing principles of effective service systems, and 3) developing collaboration, participation and innovation in service providers.

Multisystemic therapy (MST) is informed by cognitive-behavioural therapy and pragmatic family therapy approaches. MST focuses on the total environment of the youth under treatment to prevent re-offending and out-of-home placement by supporting pro-social development and decreasing delinquent behaviour. Services are provided according to the family's needs both in the home and in the community and involve parents, teachers and others the youth may be in contact with. Therapists are available to families by phone call around the clock. The target group for this intervention was poorly functioning repeat offending adolescents living in fourteen poor, rural counties of Tennessee who had a diagnosed behavioural or mental health disorder requiring treatment. Youth received MST services for a mean duration of 105.22 days.

Sample

Fourteen counties participated in this study, of which six were randomised to the ARC condition while eight did not receive ARC. There was no difference between ARC and non-ARC counties on population, mean income and child poverty variables. The youth sample (n=615) consists of low-functioning but not mentally disabled or psychotic adolescents referred to juvenile court who were living at home and eligible for social welfare (Medicaid) and had experienced several previous court referrals. Mean age was 14.9 years, 69% were male, 91% were White and 53% had two or more mental health diagnoses. Youth assigned to the MST condition (n=316) received MST for an average of 105.22 days. The control

group (n=299) received usual services with a mean duration of 186.6 days. Youth assigned to usual services received inpatient (24%) and outpatient (90%) mental health services, and family- and parent-focused mental health treatment (50%) from a wide variety of providers.

Results

Youth who received MST in the ARC counties had better 6-month treatment outcomes measured as problem behaviour than the youth who received MST in non-ARC counties. However, this effect began to flatten in the 6- to 18-month follow-up period. The differences in behaviour problem levels were eliminated by the end of the 18-month follow-up period between the MST plus ARC (55.85), ARC (55.30), MST (56.75), and control (57.30) conditions.

Design

Randomised controlled trial with a 2x2 factorial design using hierarchical linear regression analysis. Data derive from questionnaires filled out by the primary care givers of youths.

Quality assessment

Good sample size. Loss to follow-up not assessed. Adherence to intervention protocol similar across communities, but level is not reported. Missing data analysed as non-differential.

Overall assessment: high quality

The study

Henggeler, S.W., M.R. McCart, P.B. Cunningham & J.E. Chapman (2012): "Enhancing the Effectiveness of Juvenile Drug Courts by Integrating Evidence-based Practices". *Journal of Consulting and Clinical Psychology*, 80(2), p. 264-275.

Study objectives

To test the effectiveness of incorporating evidence-based family engagement and contingency management interventions in juvenile drug court programs as compared to usual juvenile drug court services on youth substance use and criminal behaviour in South Carolina, USA.

Intervention focus

The CM-FAM (contingency management and family engagement) component of juvenile drug court draws on caregiver engagement interventions used within multisystemic therapy and a newly development contingency management protocol. The intervention was given in addition to usual services for four months on average to substance abusers referred to juvenile drug court by juvenile justice, social services or family court. Weekly office-based youth group and family sessions focus on defining problems, setting goals, and implementing interventions to meet those goals. Sessions become less frequent after the initial 16 weeks.

The contingency management component involves a contingency contract where youth get sanctions or rewards based on weekly drug screen status.

Sample

The sample for this study consists of 104 economically disadvantaged 12-17 year olds. Participants were 83% male, 57% White, 40% African American and had a mean age of 15.4 years. 14% lived with both biological parents. 65% had a concurrent psychiatric disorder in addition to substance abuse. The intervention group (n=63) received the enhanced services, while the control group (n=41) received usual services by juvenile drug court. There were no significant baseline differences in group characteristics.

Results

Up until six months post-recruitment, self-reported general delinquency was at similar levels in the intervention and control groups. From six to nine months post-recruitment, the risk of delinquency decreased (by 53%) in the intervention group while increasing (by 14%) in the control group. Similar but enhanced effects were seen for personal and property offenses respectively.

Design

Randomised controlled trial using Poisson regression models for analysis adjusting for nesting of youth within drug courts. Data derive from youth self-report questionnaires.

Quality assessment

Tolerable sample size with no loss to follow-up or missing data. Analyses were conducted as per the intention to treat approach and there was adequate control for potential confounding.

Overall assessment: high quality.

The study

Henggeler, S.W., E.J. Letourneau, J.E. Chapman, C.M. Borduin, P.A. Schewe & M.R. McCart (2009): "Mediators of Change for Multisystemic Therapy with Juvenile Sexual Offenders". *Journal of Consulting and Clinical Psychology*, 77(3), p. 451-462.

Study objectives

To examine mediators influencing antisocial behaviour and sexual problems in juvenile sex offenders in multisystemic therapy vs. best-practice treatment as usual in the Midwest of the USA.

Intervention focus

The intervention 'Multisystemic Therapy' is supplemented with three primary adaptations for treating juvenile sex offenders. Multisystemic therapy (MST) is informed by cognitive-behavioural therapy and pragmatic family therapy approaches. MST focuses on the total environment of the youth under treatment to prevent re-offending by supporting pro-social development and decreasing delinquent behaviour as well as developing caregiver parenting competencies. Services are provided according to the family's needs both in the home and in the community and involve parents, teachers and others the youth may be in contact with. Therapists are available to families by phone call around the clock. The target group for the present intervention was 11-17 year old non-psychotic sex offenders in a large mid-western city who had been adjudicated specialised treatment. The average duration of treatment was 7.1 months.

Sample

The sample for this study comprised 127 youth and their caregivers who had been adjudicated to specialised treatment due to sexual offenses including sexual assault, sexual abuse and other. 97.6% of youth were male, 54% were Black and 44% were White while 31% classified themselves as

Hispanic. Youth were 11-17 years old with a mean age of 14.6 years. For 64% of youth, the primary caregiver was the mother, while for 15% it was the father. Overall, family socioeconomic status was relatively low (based on educational attainment of caregivers). The intervention group (n unknown) was compared to a control group (n unknown) receiving best-practice treatment as usual consisting of weekly group-based treatment and family counselling.

Results

At twelve months post-recruitment, the intervention group showed a significant decrease in externalising symptoms, delinquency, substance use, youth- and caregiver-reported sexual deviance and risk-taking. Reported delinquency was reduced by 60.2% in the intervention group versus 18.2% in the control group. The reduction was consistent across measurement instruments and youth versus parent report. Significant improvement in caregiver discipline practices and youth association with deviant peers which were again linked to youth delinquency were also seen.

Design

Randomised controlled trial using permuted stratified randomisation and a two-level mixed-effects regression model for analysis. Data derive from validated questionnaires filled out by youth and primary caregivers respectively.

Quality assessment

Tolerable sample size with low loss to follow-up and analyses conducted as per the intention to treat approach. Analyses control for differences in deviant peer involvement and parenting styles.

Overall assessment: high quality.

The study

Holmqvist, R., T. Hill & A. Lang (2009): "Effects of Aggression Replacement Training in Young Offender Institutions". *International Journal of Offender Therapy and Comparative Criminology*, 53(1), p. 74-92.

Study objectives

To assess the effectiveness of aggression replacement therapy combined with token economy on recidivism measured as number and type of re-offense compared to the effect of relational treatment programs for youth offenders in Sweden.

Intervention focus

The intervention ‘Aggression Replacement Therapy’ (ART) combined with token economy of sanctions for misbehaviour focuses on reducing risk of relapse in violent behaviour among youth referred to treatment at residential care units. The intervention consists of training in social competence, teaching morals and aggression control. These three themes are taught twice a week with guided instruction and role play for a period of ten weeks. Sanctions for misbehaviour consist of limiting personal freedom and are instated if youth they do not behave according to pre-defined standards. Participants received several courses of 10 weeks training.

Sample

A 67.1% recruitment rate resulted in 57 participants making up the sample for this study. On average, participants were 17.2 years of age and spent 436 days in treatment. The intervention group (n=26) were admitted to two institutions using aggression replacement therapy, while controls (n=31) were admitted to two institutions using relational therapy. Participants had an average of three prior sentences for theft or assault but there were significant differences across the four participating institutions as regards severity of previous sentences and number of police reports. Demographic characteristics are not reported.

Results

ART did not prove to have greater effectiveness than relational therapy in reducing recidivism.

Design

Quasi-experimental design using non-equivalent comparison groups. Four institutions were compared with different risk profiles and different follow-up times. Weighting was achieved using an effect size index while the influence of different follow-up periods was assessed independently.

Data derive from youth self-report questionnaires as well as court records of convictions and police records of reported suspicions.

Quality assessment

Small sample size and relatively low recruitment rate. Pre-allocation to intervention and control groups and lack of reporting baseline characteristics precludes assessment of possible selection bias. Protocol fidelity not assessed. Lack of control for potential confounders other than differing follow-up times and duration of treatment.

Overall assessment: low quality.

The study

Hornsveld, R.H.J. & F.W. Kraaimaat (2011): “Group Treatment of Violent Adolescents at a Forensic Psychiatric Clinic: First Results. [Een groepsbehandeling van gewelddadige adolescenten op een forensisch psychiatrische polikliniek; eerste resultaten]”. *Tijdschrift voor Psychiatrie*, 53(6), p. 333-342. (*A group treatment of violent adolescents in a forensic psychiatric outpatient clinic; initial results*)

Study objectives

To evaluate the effectiveness of an aggression management therapy program for violent adolescents attending a forensic psychiatric outpatient- and day-clinic in Rotterdam, the Netherlands.

Intervention focus

The therapy provided by ‘het Dok’, a forensic psychiatric out-patient clinic, draws on Aggression Replacement Training and focuses on anger management, social skills, moral reasoning and self-regulatory skills. The program targets violent youth who have been court-mandated to treatment and consists of 15 weekly sessions lasting 1.5 hours and three follow-up meetings after each consecutive five weeks in the program. Therapy is group-based with groups consisting of maximum eight patients. Therapists work from a script and the patients are given homework assignments to do in a workbook. Some adjustments to the script were made for the module about social skills due to prior experience of homework assignments for this theme being too extensive. In the current program, the participants were asked to choose one skill and practice it in their lives. They also did not have to design a program for new

behaviour and execute that program. Based on practical examples, participants discussed how to achieve goals by focusing on appropriate intermediate steps.

Sample

The sample for this study was 123 male adolescents between 15-21 years old. The intervention group served as their own controls, with control data collected during four weeks prior to commencement of treatment. Participants were convicted to mandatory treatment at the forensic psychiatric clinic Het Dok in Rotterdam with an oppositional defiant conduct disorder as primary diagnosis on Axis I or, if they are 18 years or older, an antisocial personality disorder on axis II of the DSM-IV (American Psychiatric Association 1994). Their average age was 17,35 years. 56,52% were of non-Dutch ethnicity. The intervention group (n=62) consists of those patients that provided information on pre-and post-treatment questionnaires, while the control group (n=73) are the patients who additionally provided information at study intake. Authors also report outcome measures for a non-comparable control group of school students. This 'control group' is not included in the present assessment as it is not a valid comparison group.

Results

From pre- to post-treatment, there was a significant decrease in self-reported physically aggressive behaviour in the intervention group (effect size $d=0.28$). The corresponding reduction in the waiting list control group was very small. The difference between the intervention and control periods in measured reduction of physical aggression is not specified and it is as such not possible to assess the effect of the intervention. Importantly, the control period does correspond to the treatment period and therefore results provide a misleading estimate of program effect.

Design

Quasi-experimental design using (1) a non-equivalent control group (school students) and (2) participants as their own controls. Data derived from youth self-report questionnaires to be completed at study intake, just prior to treatment, and post-treatment. Analyses use t-tests to compare groups and the B-Y method false discovery rate to establish alpha-

values for significance testing, but do not control for potential confounders.

Quality assessment

This study measures intervention and control conditions for different lengths of time (4 weeks control vs. 15 weeks intervention). This means that changes over time for the control condition cannot be compared with changes over time for the intervention condition. However, this is exactly what the authors do. The second control group (school students) are an even poorer comparison group, since there is no doubt that a high degree of selection bias influences results. Due to the poor ability of control groups to provide a counterfactual condition, the effects of the intervention cannot be adequately assessed in this study. The use of participants as their own controls obviates the need to control for confounding (other than time between test measures). Protocol fidelity was assessed to be adequate.

Overall assessment: low quality.

The study

Jeong, S., E.F. McGarrell & N.K. Hipple (2012): "Long-term Impact of Family Group Conferences on Re-offending: The Indianapolis Restorative Justice Experiment". *Journal of Experimental Criminology*, 8(4), p. 369-385.

Study objectives

To test the long-term effect of Family Group Conferences on recidivism and time to first re-offense for first-time adolescent offenders and assess the mediating effect of gender, race and offense type on recidivism in Indianapolis, USA.

Intervention focus

The intervention 'Family Group Conferences' is a juvenile diversion program drawing on restorative justice theory that targets young (age < 15 years) first-time offenders charged with battery/assault, trespass, mischief, shoplifting (criminal conversion) and other types of (intended) theft who admitted committing the offense. A coordinator organises a family group conference between the offender and the victim and their respective families and possible other resource persons. During the con-

ference, participants discuss the offense and together determine an appropriate reparation agreement to make amends. The coordinator encourages active participation and involvement in the decision-making processes by everyone attending. Victims are given the opportunity to confront the offender with their feelings of anger and hurt and provide input into the reparation agreement. Attention is given to improving the understanding of what happened, who was involved, how the offense affected the victim and the community and the responsibility for the offense. Conferences typically lasted less than one hour and followed a particular model developed in New South Wales, Australia.

Sample

The sample for this study consists of 782 first-time offenders 14 years of age or younger. The intervention group (n=400) were 65% male and 43% White. Initial offenses were person offenses (27.8%), property offenses (36.3%) or other (72%). 322 (80.5%) intervention group participants actually completed family group conferences. The control group (n=382) were 59% male and 36.4% White. They were assigned to one of 23 other juvenile diversion programs in Indianapolis and 61% actually completed their programs. Intervention and control groups differed significantly on gender, but not on race or initial offense type.

Results

There were no statistically significant differences in prevalence of and time to re-offending between intervention and control groups after 12 years of follow-up, contrary to 24month follow-up results reported in an earlier study.

Design

Randomised controlled trial using logistic and Cox regression models to ascertain risk of recidivism occurrence and time to re-offense respectively as per the intention to treat approach. Models reportedly controlled for program completion, though this was not apparent in output descriptions. All models controlled for gender, race and initial offense type and their potentially interacting effects to assess mediation. Data derive from official court records pertaining to one county.

Quality assessment

Good sample size with no known loss to follow-up due to data deriving from official court records. However, any offense committed outside the county would not be assessed by the data collection, thus leading to risk of underestimating re-offense rates. Intention to treat analyses uphold randomisation but involve underestimating program effect due to attrition and the impact of this is difficult to assess as attrition was differential across intervention and control groups. Fidelity to intervention protocol is not specified.

Overall assessment: medium quality.

The study

Krebs, C.P., P.K. Lattimore, A.J. Cowell & P. Graham (2010): "Evaluating the Juvenile Breaking the Cycle Program's impact on Recidivism". *Journal of Criminal Justice*, 38(2), p. 109-117.

Study objectives

To assess whether an individualised treatment program reduced risk of re-arrest for young substance abusers in Oregon, USA.

Intervention focus

The 'Juvenile Breaking The Cycle' (JBTC) program identifies, provides, and coordinates individualized services from local juvenile justice, social service, and educational systems to impact individual outcomes for high-risk, drug-involved delinquent youth. This requires a high degree of inter-agency coordination. Services are provided for a period of twelve months with varying intensity, duration, content and supervision format. Mechanisms include court monitoring, drug testing, sanctions, incentives and rewards. JBTC ensures provision of access to substance abuse treatment and provides mental health services, educational services, and family and social services.

Sample

The intervention group (n=149) were 69.8% male and 71.8% White with a mean age of 15.48 years. The intervention group differed from the control group (n=157) on many parameters including age (mean age 15.48 versus 15.02 yrs), race (71.8% versus 79.6% White) and risk scores (intervention group members had significantly higher average risk scores

than controls). Similarly, intervention group presented as being more at risk based on variables including housing, school enrolment, family problems, self-reported violence, history of arrest and substance abuse.

Results

The intervention group had higher risk and frequency of re-arrest at six but not at 12 months post baseline. Taking into consideration the differential starting points of intervention and control groups this indicates that a reduction in risk occurred over time in the intervention group (from 43% six months post-baseline to 22% twelve months post-baseline) but not in the control group (constant at 18%). A similar reduction was seen in number of arrests during past six months.

Design

Quasi-experimental design with a non-equivalent comparison group using multiple regression in analysis but not controlling for all relevant baseline characteristics in an attempt to increase power. Data derive from structured interviews and arrest records.

Quality assessment

Adequate sample size but not ascertainment of loss to follow-up through youth moving out of the state. Risk of selection bias due to major differences in baseline characteristics, but these were found to be not related to primary outcome. Analyses controlled for some potential confounders. *Overall assessment:* medium quality.

The study

Lancaster, C., R.S. Balkin, R. Garcia & A. Valarezo (2011): "An Evidence-based Approach to Reducing Recidivism in Court-referred Youth". *Journal of Counseling & Development*, 89(4), p. 488-492.

Study objectives

To assess the effectiveness of a university-driven psycho-educational program compared to community probationary programs in reducing risk of recidivism among juvenile delinquents in the southern USA.

Intervention focus

The intervention is a university-operated counselling program for juvenile delinquents which is psycho-educational and multisystemic in nature. Seven weekly two-hour sessions focussing primarily on life skills training employ approaches such as modelling, role play, verbal feedback, reinforcement and education. Session content is organised so as to be analogous to the life aspects of the target group covering topics such as identifying feelings, triggers to anger and other emotions, healthy coping skills, stress management, healthy communication, familial patterns, building self-esteem and substance abuse. Sessions take place in a counselling centre in an impoverished inner-city neighbourhood.

Sample

The sample consisted of 240 youth adjudicated by court to participation in counselling programs. The intervention group (n=120) received and completed the university-operated psycho-educational counselling program, while the control group (n=120) were assigned to community probation. In the intervention group, 45.8% were male and 83.3% Latino. Mean age was 14.38 years. The control group was matched to the intervention group on demographic variables and type of first offense and were 50.8% male and 91.7% Latino with a mean age of 14.14 years. Differences in matching variables between groups were not statistically significant.

Results

Intervention group youth had a significantly reduced risk of re-appearance at court within the two year follow-up period than had the control group (60% versus 45.8% did not reoffend). This corresponds to a small to moderate effect size of psycho-educational counselling compared to community probation.

Design

Non-randomised post-hoc effect analysis using a posttest-only control group design. Data derived from the juvenile justice database, which means much information pertinent to confounder control was not available. While intervention and control groups could be (and were) matched on age, gender, ethnicity and type of offense, socio-economic, education, family background etc. variables were not available.

Quality assessment

Adequate sample size. Control group matched on important predictors of recidivism, but risk of residual confounding remains due to unmeasured variables and not controlling for matching variables.

Overall assessment: high quality.

The study

Loughran, T. (2009): "Estimating a Dose-response Relationship between Length of Stay and Future Recidivism in Serious Juvenile Offenders". *Criminology* 47(3), p. 699-740.

Study objectives

To estimate future recidivism risk for youth placed under institutional care and to assess the dose-response relationship between length of institutional stay and recidivism in Arizona and Philadelphia, USA.

Intervention focus

The placing of juvenile offenders in secure confinement is based on blending punishment with deterrence theory with the argument that such a placement will deter juveniles from re-offending and longer placements will have a larger effect.

Sample

The sample for this study consists of 921 serious juvenile offenders aged 14-17 years. 86% were male with 44% African-American and 29% Hispanic. On average, participants in the sample had had two prior court petitions. The intervention group (n=419) comprised those youth who were adjudicated institutional placement. They had a mean length of stay of 11 months. The control group (n=502) were on community probation. Group comparability at baseline is not assessed but outcome analysis is weighted by propensity score stratification based on 66 variables measured at baseline.

Results

After four years of follow-up, unadjusted analyses show markedly increased rates of re-arrest and self-reported offending for youth placed in institutions as opposed to youth placed on probation. However, the dif-

ferences disappear upon control for baseline confounding. Similarly, length of institutional stay is not associated with rates of re-arrest.

Design

Quasi-experimental design using propensity score stratification to adjust for baseline differences between groups. Data derive from FBI arrest records and youth self-report questionnaires.

Quality assessment

Good sample size. Loss to follow-up and missing data not specified. Control for confounding and selection bias was conducted using propensity score stratification with this score based on baseline measurements of 66 potential confounders.

Overall assessment: high quality.

The study

Onifade, E., J. Wilkins, W. Davidson, C. Campbell & J. Petersen (2011): "A Comparative Analysis of Recidivism with Propensity Score Matching of Informal and Formal Juvenile Probationers". *Journal of Offender Rehabilitation*, 50(8), p. 531-546.

Study objectives

To assess whether the formal or informal judiciary system is more effective at preventing recidivism among adolescent offenders in Midwestern USA.

Intervention focus

The informal probation system diverts youth offenders (under 18 years of age) away from the formal judiciary leaning on a risk-need responsiveness approach which is considered best practice in the juvenile justice system. In a Midwestern industrial county, youth who were informally processed were required to compose a letter of apology, complete community service, and pay restitution to successfully complete informal probation, whereas the formal system engaged the offender in a court of law system with probation penalty or institutionalisation outcomes. The duration of informal probation was approximately 30 days compared to an average of five months for youth on formal probation.

Sample

The intervention group (n=502) was informally processed and compared to a control group (n=502) of formally processed youth. Participants were 9-18 years of age, 70% male, 44% White, 39% Black and 9% Latino. Intervention and control group were matched using propensity scores based on risk profiles, offense type and demographic variables. As such groups were close to comparable, though race and gender differed insignificantly.

Results

After 24 months of follow-up, no difference in recidivism rates between informal and formal processing was observable.

Design

Quasi-experimental post-hoc trial using propensity score matching to ensure comparability of intervention and control groups. Data derived from juvenile court records.

Quality assessment

Propensity score matching based on risk level, offense type, race and gender ensured group comparability on those variables, but residual confounding is possible. No adjustment was made for potential differences in age nor was there any other confounder control. Due to the post-hoc use of court records, there was no loss to follow-up, however – the study does not control for youth moving out of the State leaving a potential risk of underreporting on outcomes.

Overall assessment: medium quality.

The study

Sawyer, A.M. & C.M. Borduin (2011): “Effects of Multisystemic Therapy through Midlife: A 21.9-Year Follow-Up to a Randomized Clinical Trial with Serious and Violent Juvenile Offenders”. *Journal of Consulting and Clinical Psychology*, 79(5), p. 643-652.

Study objectives

To assess long-term effectiveness of multisystemic therapy participation on recidivism risk of serious and violent youth after ca. 21.9 years of follow-up in Missouri, USA.

Intervention focus

The intervention 'Multisystemic Therapy' (MST) is informed by cognitive-behavioural therapy and pragmatic family therapy approaches. MST focuses on the total environment of the youth under treatment to prevent re-offending and out-of-home placement by supporting pro-social development and decreasing delinquent behaviour. Services are provided according to the family's needs both in the home and in the community and involve parents, teachers and others the youth may be in contact with. Therapists are available to families by phone call around the clock. The intervention targeted serious or violent offenders and address individual cognitive factors and systemic (family, school, peer) factors associated with youth antisocial behaviour.

Sample

The sample for this study consists of 176 serious or violent youth offenders with an average of 3.9 prior arrests. The sample was 69.3% male, 76.1% White and 22.2% African-American. Mean age was 14.5 years. 56.8% lived with two parent figures and 63.4% were from families of lower socioeconomic status. Mean age at first arrest was 11.7 years. The mean age at follow-up for this study was 37.3 years. The intervention group (n=92) received MST for a mean of 20.7 hours and was compared with controls (n=84) who received individual therapy. There were no differences between intervention and control groups in pre-treatment criminal histories or demographic characteristics.

Results

After an average 21.9 years of follow-up, felony recidivism rates were significantly lower for MST participants than for controls (34.8% vs. 54.8%, respectively). Also, the frequency of misdemeanour offending was five times lower for MST participants. In addition, the odds of involvement in family-related civil suits during adulthood were twice as high for the control group compared with the intervention group.

Design

Randomised controlled trial with long-term follow-up. Survival and poisson regression analyses were conducted as per the intention to treat approach. Data derived from court system records within the State of Missouri.

Quality assessment

Adequate sample size with 15.9% lost to follow-up since they did not continue to reside in the state. Loss to follow-up did not create selection bias as per demographic or criminal history variables. No missing data due to use of court system records only. Protocol fidelity is high, though 25% dropped out before the 7th step of MST intervention. These were analysed as per intention to treat and the randomisation of groups was thus maintained.

Overall assessment: high quality.

The study

Schuster, R.A. (2011): *Examining Treatment Outcomes for Hmong American Youth with Delinquency Problems*. Counseling and Educational Psychology Department, University of Indiana. Ph.d. thesis.

Study objectives

To compare the effectiveness of Functional Family Therapy with residential care for minority youth offenders of Hmong American background in a Midwestern county in the USA.

Intervention focus

The intervention 'Functional Family Therapy' (FFT) is a relational, family-focussed intervention building on strengths and risk factors to increase functionality of the families of at-risk youth. In this study, the intervention targets minority youth (Hmong ethnicity) who have been adjudicated treatment for criminal offenses. The intervention is delivered according to the Blueprint program manual by master's level therapists who themselves have Hmong backgrounds and who work as counsellors in a local community-based mental health agency. Treatment is given over a period of approximately three months with 8-12 weekly hour-long sessions.

There are three specific intervention phases: Engagement and Motivation, Behaviour Change, and Generalization. The first phase (3-5 sessions) focusses on engaging the family in committing to treatment, and motivating them toward change. The therapists work on shifting the family's definition of the problem from being one individual's problem (usually the adolescent's) to the family's shared problem. This involves reducing negativity and blame among family members and forming a

balanced alliance with all family members, and increasing hope. The second phase (3-5 sessions) focusses on increasing behaviour change among family members following a behaviour change plan and introduces relational skill-building. The final phases (2-4 sessions) aims to prevent relapse and maintain treatment gains by helping the family generalize new skills to new situations, and linking them with relevant community resources.

The comparison intervention 'residential care' is a multi-modal (individual, group, family) treatment program focussing on behaviour modification which uses a variety of evidence-based approaches including Aggression Replacement Training, interpersonal process groups, psycho-educational groups and token economy. Treatment lasts in general between 6-12 months and is thus of a markedly longer duration than FFT.

Sample

The sample for this study consists of 153 urban Hmong American youth adjudicated to either FFT or residential care treatment. The intervention group (n=86) were 59.3% male and had a mean age of 15.49 years, while the comparison group (n=67) were all (100%) male and had a mean age of 16.4 years. In addition to the differences in gender and age composition, the comparison group had a significantly higher level of pre-treatment risk as measured by the YLSI index.

Results

At twelve months post-intervention, there was no significant difference in recidivism (occurrence of adjudicated re-offense in the past 12 months) between intervention and comparison groups when controlling for age and pre-treatment risk level. Similarly, no difference between groups was observed with regard to crime severity in those that did re-offend within the follow-up period.

Design

Quasi-experimental post-test comparison group design using logistic regression (for re-offense occurrence) and ANCOVA (for severity of re-offense) and controlling for age and pre-treatment risk score. Differences in treatment duration and gender were not adequately controlled

for. Data derive from county juvenile delinquency records and youth self-report (for the pre-treatment risk scores).

Quality assessment

The study has a tolerable sample size, but baseline differences between groups demand control for confounding requiring a larger sample size. There is thus a high risk of residual confounding since only pre-test risk score is controlled for along with age. The impact of gender is not appropriately assessed. Missing data are imputed based on group averages, which is not necessarily a very sensitive estimate. Potential loss to follow-up is not assessed (i.e. crimes committed outside the county). Intervention protocol fidelity is assumed by the author to be high.

Overall assessment: medium quality⁷.

The study

Sehlin, S. (2009): *Förebygger medling återfall i brott bland unga gärningsmän? En återfallsstudie av medlingsverksamheterna i Hudiksvall & Örnsköldsvik*. Umeå: University of Umeå Sociologiska institutionen.

Study objectives

To assess the effect of mediation on prevention of re-offense among youth offenders in two districts of Sweden.

Intervention focus

The intervention 'mediation' draws on re-integrative shaming and restorative justice theories by forcing youth offenders to meet the victims of their offense and be faced with the consequences of their actions. The mediation interventions under study vary in form and content from case to case depending on the type of offense, who the victim is, how the victim has been affected, and who the offender is.

In general, mediation starts with pre-meetings held for the victim and for the offender (and guardian) respectively in which the mediator (a social services employee) prepares the offender and victim for the mediation meeting: what will happen, what they should say, etc. The vic-

7. The author of this study reports results and interpretations that are methodologically unsound and the magnitude of effects is therefore not repeated in this review. The results presented here are restricted to those results that are methodologically sound.

tim starts by telling his version of events and the consequences incurred by the offense. It could also be the offender who starts, but the important thing is that neither is interrupted. Each party then poses questions to the other. Questions to the perpetrator could be about their motivation to commit the offense, context surrounding it, attitude towards what happened, reactions of family. Questions to the victim could revolve around their perception of the offense and the consequences it entailed for them. Other questions taken up go into what happens now or in the future, when perpetrator and victim next meet? Next, other participants may contribute their say for instance parents or social workers.

A written or verbal agreement is made and the parties decide on a suitable compensation. The meeting is ended in a positive manner, perpetrator and victim shake hands, and the perpetrator apologises. The mediator later checks up on whether the agreement has been upheld. In the current study, the target group was youth offenders who took personal responsibility for their offenses and volunteered to participate in mediation. 80 mediations were group mediations since several youth committed the same crime.

Sample

The sample for this study consists of 1194 8-18 year olds accused or convicted of offenses including theft, robbery or other acquisition crime (67.5%), vandalism (15.4%), crimes against freedom and peace (6.7%) and person crimes (crimes against life and health) (6.2%). The intervention group (n=693) had a mean age of 15.2 years and were 67.4% male, while the control group (n=501) who did not receive mediation had a mean age of 15.3 years and were 74.5% male. The groups did not differ significantly on gender, ethnicity, offense type or offense history.

Results

Three years post-mediation, 27.6% of the intervention group and 42.9% of the control group had re-offended. When controlling for age, gender, ethnicity, and crime history. Odds ratio for re-offense was 2.1 for the control group compared to the intervention group. Males were at 3.9 times higher risk of recidivism than females, while age and ethnicity did not significantly impact risk. Mediating was more effective at reducing

recidivism among girls than among boys. Mediation proved to be effective for all types of crime (person crimes, property crimes, etc.).

Design

Quasi-experimental control group design using logistic regression analysis controlling for sex, ethnicity, age, administrative area, group mediation, compensation, criminal history, and plaintiff status. Data derive from mediation protocols available through police registers and Crime Prevention Council registers.

Quality assessment

Good sample size presumably without loss to follow-up or missing data due to use of official records. The author controls for confounding appropriately, though unmeasured factors like familial characteristics and socioeconomic characteristics are unaccounted for and could introduce residual confounding.

Overall assessment: high quality.

The study

Sexton, T. & C.W. Turner (2010): "The Effectiveness of Functional Family Therapy for Youth with Behavioral Problems in a Community Practice Setting". *Couple and Family Psychology: Research and Practice*, 24(3), p. 339-348.

Study objectives

To assess the extent to which inclusion in a functional family therapy program reduces risk of reconviction compared to standard probation in the western USA.

Intervention focus

Family Focussed Therapy is a relational, family-focussed intervention focussing on strengths and risk factors relevant to (in this case) reducing recidivism in youth sentenced to probation. Twelve sessions of family therapy taking place in the home of the youth over a period of three to six months cover themes such as engagement in and motivation to change, relational/interpersonal assessment, and behaviour change.

Sample

The study included 917 13-17 year olds sentenced to probation. 79% were male, 78% were White and 10% African-American. The majority of participants presented with substance abuse (85.4%). Most participants had been convicted of a felony crime (56.2%) or misdemeanour offense (41.5%) with problem behaviour such as crimes including the use of weapons, gang involvement, out-of-home placements and a history of running away from home. Almost half had dropped out of school. Age at first offense was primarily between the ages of 12-14 years, though 13.1% started before the age of 12. Intervention and control groups are not described.

Results

Treatment carefully adhering to the Family Focussed Therapy model resulted in 30-35% reduction in serious crime and violent crime and a 20% reduction in less serious crime after one year's follow-up post-conviction. Where the model was not strictly adhered to no difference between intervention and standard probation was observed.

Design

Randomised controlled trial using logistic regression analysis with all models controlling for baseline characteristics that differed between intervention and control group (age, gender and initial risk level). Data derived from structured interviews, criminal records, and records maintained by therapists for each Functional Family Therapy session.

Quality assessment

The study used a large sample with negligible loss to follow-up. However, there was no specification of intervention vs. control group on either size or characteristics, whereas logistic regression models were purportedly adjusted for variables differing between groups at baseline. The study tested difference in adherence to treatment protocol.

Overall assessment: high quality.

The study

Stewart, M.J. (2010): *An Outcomes Study of Juvenile Diversion Programs on Non-serious Delinquent and Status Offenders*. US: Case Western Reserve University, Cleveland. Ph.d. dissertation

Study objectives

To explore the impact of a restorative justice approach in juvenile diversion programs on non-serious delinquent and status offenders' risk of recidivism in Ohio, USA.

Intervention focus

The East Cleveland community diversion program (CDP) is a juvenile diversion program that focuses on reintegration of delinquent youths into the community with particular emphasis on a restorative justice approach. The target group is first-time juvenile offenders who acknowledge responsibility for their offense. The program draws on reintegrative shaming theory and reintegration efforts include mentoring, job shadowing, neighbourhood centre activities, writing letters of apology, written assignments, and a 'rites of passage' youth empowerment program. The program has a large focus on education and is operated by a neighbourhood centre in conjunction with the community agencies that provide services to youth in the program.

Sample

The intervention group (n=208) were 60% male and 86% Black with a mean age of 14.24 years. 85% were charged with an offense while 15% were status offenders. The control group (n=325) were 68% male and 82% Black with a mean age of 14.93 years. 91% were charged with an offense while 9% were status offenders. While the intervention focussed on reintegration and education, the community diversion program for the control group was more traditional and punitive in nature.

Results

One year after program completion, the intervention group did not present decreased risk of recidivism or offense escalation compared with controls and there was no influence on these results depending on whether participants were delinquent or status offenders.

Design

Quasi-experimental post-hoc design using data from juvenile diversion system records. Regression analysis controlled for age, gender, race, type of offense and offense level and took into account program completion.

Quality assessment

Adequate sample size with no loss to follow-up on recidivism outcomes (except if youth have moved out of the State and offended there). 5% excluded from analysis due to missing data. Appropriate control for confounding, though residual confounding could occur due e.g. to unmeasured family and individual characteristics.

Overall assessment: high quality.

The study

Stickle, W.P., N.M. Connell, D.M. Wilson & D. Gottfredson (2008): "An Experimental Evaluation of Teen Courts". *Journal of Experimental Criminology*, 4(2), p. 137-163.

Study objectives

To test the effectiveness of Teen Court in reducing recidivism among low-risk adolescent offenders in Maryland, USA.

Intervention focus

Teen courts are a juvenile diversion program to avoid formal processing in the juvenile justice system for low-risk adolescent offenders 12-17 years of age who acknowledge responsibility for their offense. As an intervention, teen courts focus on reintegration rather than retribution and in most instances involves peer assessment and victim confrontation with sanctions such as community service and future jury assignment, apology letters, substance abuse evaluations, counselling, and educational projects. Teen courts take place in real courtrooms where youth volunteers act as peer juries, attorneys, and judges. While the format of teen courts may vary from place to place integral to the intervention is that youths avoid a criminal record and stigma associated with contact with the official juvenile justice system.

Sample

The intervention group (n=56) were 74.1% male, 57% White with a mean age of 14.89 years; they were compared to a control group (n=51) who were 67.3% male, 73% White with a mean age of 14.94 years and who were formally processed in the juvenile justice system.

Results

Self-reported delinquency was higher in the intervention group than the control group at four months post-baseline. Similarly, at 18 months follow-up offense records showed that the intervention group had higher rates of offending than the control group.

Design

Randomised control trial with non-equivalent comparison group potentially due to attrition post randomisation. Data derive from youth self-report four months post-baseline and from juvenile justice records 18 months post-baseline.

Quality assessment

Small sample size with differential and large attrition yields low power. Control of potential confounders is appropriate as is the sensitivity analysis testing impact of high rates of attrition. Sensitivity analyses provided results in line with main analysis.

Overall assessment: medium quality.

The study

Van Ryzin, M.J. & L.D. Leve (2012): "Affiliation with Delinquent Peers as a Mediator of the Effects of Multidimensional Treatment Foster Care for Delinquent Girls". *Journal of Consulting and Clinical Psychology*, 80(4), p. 588-596.

Study objectives

To evaluate the effects of multidimensional treatment foster care program on reducing delinquency among girls in Oregon, USA, and assessing the mediating effect of delinquent peer affiliation on this relationship.

Intervention focus

The 'Multidimensional Treatment Foster Care' (MTFC) program places at-risk youth in highly trained foster families in order to enhance positive interactions between youth and caregivers, monitor youth's whereabouts, activities and friends, and reinforce pro-social behaviour. The program uses behaviour management methods tailored to the child in question. Foster families receive 20 hours of training in MTFC modus operandi with daily telephone consultations with program staff and weekly group supervision and support meetings.

Staff is on-call for support to foster and biological parents 24 hours a day. The current intervention targeted girls who were court-mandated to community-based out-of-home care due to problems with chronic delinquency and who were not pregnant at time of recruitment. Girls receive individualised in-home, daily point-and level programs and individual therapy (including psychiatric consultation as needed). Their school attendance is closely monitored, as is their school performance and homework completion.

The aftercare placement families (i.e. either biological or adoptive families) receive family therapy focusing on parent management strategies. All foster family, peer and school setting interventions are closely coordinated. The program has a strong focus on strength building and positive reinforcement. Girl-specific adaptations include: providing girls with reinforcement and sanctions for coping with and avoiding social/relational aggression; working with girls to develop and practice strategies for emotional regulation; helping girls develop peer relationship building skills; teaching girls strategies to avoid and deal with sexually risky and coercive situations and; helping girls understand their personal risks for drug use, incl. priority setting using motivational interviewing and provision of incentives for abstinence from drug use monitored through random urinalysis.

Sample

The sample for this study consists of 166 12-17 year old girls court-mandated to out-of-home community-based placement due to persistent offending. Girls had at least one criminal referral in the previous twelve months. 74% were European-American 2% were African American, while 7% were Hispanic, 4% Native American, 1% Asian and 13% were of mixed heritage. The mean age was 15.31 years. 61% lived in single-

parent families and 32% of families earned less than USD 10,000. The intervention group (n=81) received a median of 190 days of intervention, while the control group (n=85) received a median of 115 days in one of 35 programs based in Oregon. The control group did not differ significantly from the intervention group on service duration, nor on age, sex, race or number of previous placements as well as rates and types of pre-baseline offenses and documented maltreatment.

Results

After a follow-up period of two years, MTFC exhibited a significant direct effect on recorded referrals (1 vs. 2 in intervention and control group respectively) and self-reported days in locked settings (median: 13.5 days in the intervention group vs. 47.5 days in the control group), but not on self-reported general delinquency (mean 0.5 in the intervention group vs. 0.62 in the control group). Also, MTFC significantly reduced deviant peer affiliation at 12 months, which in turn significantly reduced delinquency at 24 months.

Design

Randomised controlled trial using structural equation models controlling for baseline delinquency and delinquent peer affiliation as well as age. Authors took account of nesting in sensitivity analysis, which did not alter the results. The mediating effect of deviant peer association is assessed with temporality allowing causal inference.

Quality assessment

Adequate sample size with small loss to follow-up and randomly distributed missing data suggests that randomisation is acceptably maintained, since analyses are conducted as per the intention to treat method. Protocol fidelity is assumed to be high, since foster parents received daily phone calls to check. Analyses control for potential confounders (baseline differences in outcome variables and age) though risk of residual confounding remains.

Overall assessment: high quality.

The study

Walsh, M.A. & K.C. Russell (2010): "An Exploratory Study of a Wilderness Adventure Program for Young Offenders". *Ecopyschology*, 2(4), p. 221-229.

Study objectives

To assess whether a wilderness adventure program positively impacted self-efficacy, hope for the future, and resilience and through these pathways the risk of recidivism in first time youth offenders in Minnesota, USA.

Intervention focus

The intervention 'Wilderness Endeavors' is a wilderness adventure program that seeks to reduce recidivism among first time youth offenders by increasing self-efficacy, hope and resilience through challenges experienced during a 21 day wilderness trip where youth are supported in discovering and developing tools for change and personal growth. Wilderness group activities include backpacking, canoeing, cross-country skiing and rock climbing. In addition, participants engage in a four day solo experience honing cognitive skills, finalizing goals and personal reflection. A therapy component aids participants in processing and transferring their Wilderness Endeavors experiences to real-life situations.

Sample

Participants were allocated to the intervention group (n=43) or control group (n=43) by virtue of court sentence. The intervention group were 76.7% male, 60% White and 40% non-White. Mean age was 15.8 years. The control group was matched to the intervention group on these variables and age at first offense and did not attend an adventure-based program but some other community-based program or probationary sanctions.

Results

After six months follow-up, there was no difference between intervention and control group in risk of recidivism (44% versus 42% were rearrested within six months in the intervention and control group respectively). However, the intervention did demonstrate an effect on levels of

self-efficacy and resilience, but not on hope for the future, though this characteristic seemed related to reduced risk of recidivism.

Design

Quasi-experimental, matched-pair design using pre, post and follow-up assessments with a nonrandomised control group matched on demographic variables and age at first offense. Analyses were adjusted for gender, age at first offense, risk scores, education, and employment. Recidivism data derived from interviews with probation officers regarding probation status while covariate data derived from youth self-reported questionnaires.

Quality assessment

Small sample size with authors not taking into consideration a gender difference in intervention content. Inability to assess influence of missing data and loss to follow-up generates concern of selection bias, though control for confounding was found to be appropriate. Potential recall bias due to data based on 12 month self-report not assessed.

Overall assessment: medium quality

The study

Westermarck, P.K., K. Hansson & M. Olsson (2011): "Multidimensional Treatment Foster Care (MTFC): Results from an Independent Replication". *Journal of Family Therapy* (1), p. 20-41.

Study objectives

To evaluate the effectiveness of Multidimensional Treatment Foster Care in reducing symptoms among youth with a conduct disorder diagnosis in Sweden.

Intervention focus

The intervention 'Multidimensional Treatment Foster Care' (MTFC) is a community-based multi-modal treatment program that draws on social learning theory and family system theory to address antisocial behaviour among youth who are at imminent risk of out-of-home placement. Youth are placed in highly trained foster families that provide a structured, therapeutic living environment. Foster parents are trained to engage in enhancing positive interactions, monitor youths' whereabouts,

activities and friends, and reinforce pro-social behaviour. The intervention consists of a formalized cooperation between a treatment team and the youth's birth parents, foster parents, school and social agencies. Case managers working full time with a small caseload (six families each) supervise the clinical team (family therapists, individual therapists and skills trainers) and the foster family. Foster parents must complete the parent daily report checklist and report on the young person's performance on the point and level system daily.

Youths' biological parents participate in family therapy and are involved in developing the treatment plan. The goal for the parents is to be more effective at supervising, encouraging, supporting and following through with consequences with their child. The case manager is available 24 hours per day. Home visits are an integral part of the reunification and start at about 3 weeks after placement. The visits are for the parents to demonstrate to their child that they are a part of the treatment. MTFC aims to prepare for the reunion of the family when the young person has completed the treatment program which lasts at least 10 months of weekly family therapy sessions.

Sample

The sample for this study consists of 35 youth with diagnosed conduct disorder who were in either court-ordered (37.1%) or voluntary (62.9%) out-of-home placement. The intervention group (n=20) were compared to a control group (n=15) who received treatment as usual in a variety of forms (i.e. the control condition was not uniform). The total sample had a mean age of 15.4 years at referral. A little over half (51.4%) were male and 74.3% were ethnically Swedish, while 25.7% were ethnic minorities. Most youth lived in single-parent households (77.1%). 45.7% of youths had at least six previous placements. The intervention and control groups did not differ significantly on any of the above-mentioned variables nor on outcome variables (symptom load) at baseline.

Results

Two years after baseline, there were significant decreases in externalising subscale scores (and other subscales not reported here) of the Youth Self Report (YSR) instrument and Child Behavior Check-List (CBCL) (parent-report) across time in both intervention and control groups. The effect was stronger in the intervention group (effect size $d = -0.33$). Be-

tween-group differences were significant for the YSR and marginally significant for the CBCL. When measuring clinical significance (at least 30% reduction), results mainly favoured the MTFC intervention.

Design

Randomised controlled trial with pre-test post-test design using generalised linear models and ANOVA for analyses and an intention to treat approach with data imputed by last observation carried forward. Data derive from youth self-report questionnaire and parental report questionnaire.

Quality assessment

Small sample size but with little loss to follow-up and data imputed by last observation carried forward. The use of intention to treat analysis retains initial randomisation, thus minimising selection bias. Due to the small sample size, there is potentially some risk of residual confounding from unmeasured baseline variables. Treatment protocol fidelity is high.

Overall assessment: high quality.

The study

Worling, J.R., A. Litteljohn & D. Bookalam (2010): "20-Year Prospective Follow-up Study of Specialized Treatment for Adolescents who Offended Sexually". *Behavioral Sciences & the Law*, 28(1), p. 46-57.

Study objectives

To examine the long-term effects of specialized treatment for juvenile sex offenders in Toronto, Canada.

Intervention focus

The program 'Sexual Abuse: Family Education and Treatment' (SAFE-T) is a community-based specialised treatment program for young sex offenders which combines cognitive-behavioural and systemic approaches and is individually tailored to each youth and their family. Treatment is guided by clinical and psychometric assessment and includes topics such as improving insight into and feelings of responsibility towards previous offenses, development of sexual-offense-prevention plans, improving understanding of victim impact, improving social and family relations, increasing accountability for sexual offenses, enhancing healthy sexual interests, developing a support network, enhancing self-esteem etc. The

intervention runs for 16-24 months and includes both individual, family and group sessions.

Sample

The sample included 148 youths, 93.9% of whom were male, who were convicted of or acknowledged having committed a sexual offense. The intervention group (n=58) (91.4% male, mean age 15.5 years) participated in at least 10 months of the SAFE-T program and on average for 24.43 months. Control group (n=90) (95.6% male) either received other treatment (67%) or refused or dropped out from SAFE-T treatment.

Results

Long-term follow-up (12-20 years) revealed considerable reduction of risk of re-offense measured as sexual re-offense, nonsexual violent re-offense, nonviolent re-offense, or any criminal re-offense.

Design

Quasi-experimental design with a non-randomised control group. Data derived from official re-offense statistics and psychometric assessments and were analysed using survival analysis. Intervention and control groups not assessed to differ significantly at baseline.

Quality assessment

The quality of this study is difficult to assess since confounding and bias related information was only available in an earlier article (see Worling 2000). Though intervention and control group were not assessed to differ significantly at baseline on measured variables, unmeasured variables may have led to unmeasured confounding and insignificant differences may have been due to small sample size rather than non-existent differences. No control for confounding was attempted. Sample size is relatively small.

Overall assessment: medium quality.

STUDY MAPPING

The 72 studies under review cover a broad variety of interventions with multiple different foci, target groups and content. Some of the studies are concerned with the same intervention, but may use different samples or study locations in their test of its effectiveness. Conversely, the same intervention may be studied using the same sample population but at different time periods. In such cases, we include only the latest available study. In this section, we map the studies in an attempt to achieve greater clarity as to their overall composition in terms of the country in which the study is conducted, the preventive level of the intervention under study, intervention target group, intervention characteristics including delivery mode, primary focus and content as well as direction of effect.

We map both the total number of studies and the number of studies that have been assessed to be of high or medium quality, since only high or medium quality studies are included in the analysis in the next chapter (see methods section for quality assessment criteria).

GEOGRAPHICAL ORIGIN OF STUDIES

Experimental and quasi-experimental effectiveness evaluations of social interventions are more common in the United States than elsewhere and

this is clearly reflected in the current review. Two thirds of the studies were conducted in the U.S. while just over a fifth were conducted in Europe. In Scandinavia, only four studies were identified all of which were from Sweden⁸, while three studies were conducted in The Netherlands. The remaining European studies were from Great Britain or Germany. This is despite a specific focus in the review on retrieving Scandinavian, Dutch and German-language literature in addition to English-language studies.

TABLE 4.1
Geographic distribution of studies.

Implementation country	Number of studies	High or medium quality studies
USA	48 (67 %)	40 (71%)
Scandinavia	4 (6%)	3 (5%)
Other European countries	12 (17%)	6 (11%)
Other countries	8 (11%)	7 (13%)

PREVENTIVE LEVEL OF THE INTERVENTIONS

TABLE 4.2
Preventive level of interventions.

Preventive level	Number of studies	High or medium quality studies
Tertiary	39 (54%)	34 (61%)
Secondary	19 (26%)	10 (18%)
Primary	19 (26%)	16 (25%)

Note: A few interventions are both primary and secondary or secondary and tertiary prevention interventions simultaneously. As such, they count in both categories.

Just over half of the studies investigate tertiary prevention interventions while secondary and primary prevention interventions respectively make up a little over a quarter of the total sample. The break-down is similar when looking only at high or medium quality studies, though the proportion of good quality secondary prevention interventions is somewhat lower, while the proportion of good quality tertiary and primary prevention interventions is somewhat higher.

8. A single study from Denmark on the social norms approach to prevention has subsequently been identified. This study is not reflected in the mapping or analysis despite its relevance, since it was identified only after the completion of the review.

TARGET GROUPS

Further specifying the target groups of the interventions (see Table 4.3) allows a more nuanced understanding of who the recipients are than just ‘general, at-risk and criminal youth’ corresponding to the three preventive levels. Just over a fifth of the interventions target general youth. These are generally school-children in interventions that are school-based or youth living in particular communities in community-based interventions.

TABLE 4.3
Intervention target groups.

Target group	Number of studies	High or medium quality
General youth	18 (22%)	15 (25%)
First time offenders or minor offenses	5 (7%)	4 (7%)
In-between offenders (not assessed as high risk but not first-time offenders)	10 (14%)	9 (16%)
High-risk offenders (persistent or at risk of criminal career path)	14 (19%)	11 (20%)
Mental health problems or disability	3 (4%)	3 (5%)
Sex offenders	5 (7%)	5 (9%)
Youth with aggression antisocial behaviour or conduct disorder or substance abuse	12 (17%)	6 (11%)
Alternative school children	3 (4%)	1 (2%)
Others	3 (4%)	3 (5%)

Another group are those who have diagnosed conduct disorders, substance abuse or some kind of anti-social behaviour. Studies targeting these youth comprise 17% of the total number of studies, while children who have been suspended from mainstream schooling due to violation of student codes of conduct are the focus of another three interventions.

7% of studied interventions target first-time offenders or those who have conducted only minor offenses, while 19% target serious or persistent offenders or those who are deemed at high risk of a criminal career path. Another ten studies (14%) focus on e.g. ‘juvenile delinquents’, ‘youth offenders’ or ‘youth involved in the juvenile justice system’. As such their level of offending is difficult to assess and this group of studies may comprise a mix of risk or offense levels. Subgroups of offenders are sex offenders (7% of studies) and those with mental health issues or intellectual disabilities (4% of studies).

To assess age-specific interventions, we have chosen to categorize three types: (i) those that target a specific age-group younger than 15 years, (ii) those that target a specific age-group older than 15 years, and (iii) those that target a mixed age-group with ages younger and older than 15 years. The age of 15 was chosen as the cut-off point, since this is the age of criminal responsibility in Denmark.

TABLE 4.4
Age-groups targeted in interventions.

Age-group	Number of studies	High or medium quality studies
Specific age-group younger than 15 years of age	21 (29%)	17 (30%)
Mixed age-group (covering younger and older than 15 years)	45 (63%)	38 (68%)
Specific age-group older than 15 years of age	5 (7%)	1 (2%)

Many of the interventions targeting a specific age-group younger than 15 years were implemented in middle-schools or assessed children in specific grades. However, some interventions are classified as targeting a mixed age-group even though the intervention was implemented in e.g. middle- and high-school in the U.S. because the ages of ‘middle- and high-school’ children span across 15 years of age.

The mixed age-group interventions are often those that target all juvenile offenders within the juvenile justice system or all youth who have been referred to a specific treatment intervention. Most frequently, youth are between 12 and 17 years of age, though some studies include youth up till age 21 and as low as age 7.

There are very few interventions specifically targeting youth older than 15 years. Those that do are all group-based and unfortunately mostly low-quality studies.

INTERVENTION CHARACTERISTICS

Several parameters can be used to characterise the interventions. With a view to presenting information that is important with regard to implementing interventions in a Danish context we focus on delivery mode, primary focus and primary components of the intervention.

Delivery mode has to do with the form through which the intervention is delivered. The interventions under review have a variety of delivery modes. 24% of them are group-based interventions with therapists or facilitators using techniques such as psychosocial education, cognitive resetting, skills training, or moral development.

Family-based interventions (10% of studies) include training parents in family management practices and parenting skills as well as enhancing their engagement and motivation for behaviour change and maintenance.

School-based studies comprise 18% of studies. These are generally interventions with pre-designed curricula taught in classrooms or sometimes in smaller groups. Techniques range from imparting knowledge and modifying attitudes to training skills, moral development and conflict resolution.

TABLE 4.5
Intervention delivery mode.

Intervention delivery mode	Number of studies	High or medium quality studies
Individual interventions	5 (7%)	4 (7%)
Family-based	7 (10%)	7 (13%)
Group-based	17 (24%)	10 (18%)
School-based (classrooms)	13 (18%)	9 (16%)
Community-oriented	3 (4%)	3 (5%)
System-oriented	6 (8%)	6 (11%)
Multiple delivery forms	19 (26%)	17 (30%)
Other (Boot camp and not specified)	2 (3%)	0 (0%)

Individual interventions (7% of studies) range from interventions imposing curfews and stringent surveillance of individuals to therapeutic interventions focussing on cognitive resetting, expressive writing, skills training and motivating towards behaviour change. Others focus on transition planning and re-integration when youth offenders return to their communities.

Only three studies describe community-oriented interventions and six studies describe system-oriented interventions. The characteristics of community-oriented interventions depend greatly on the specific risk characteristics of the community in question and we will therefore not attempt to encapsulate them here. System-oriented interventions are those that have to do with the way in which youth offenders are man-

aged in the justice system. The six studies focussing on the justice system assess the effectiveness of interventions such as informal teen court processing, juvenile diversion programs, institutional care and probation practices.

A large proportion of studies (26%) evaluate interventions that use multiple delivery modes. These interventions combine e.g. individual-, family- and community-based (or other) delivery modes to provide more comprehensive and encompassing interventions targeting different dimensions of the youth's social environment.

For the purpose of this mapping, we distinguish between two types of intervention foci: those that emphasise building up resources in youth, families or communities, and those that focus on reducing problems. These are two fundamentally different approaches, though similar techniques may be used in both types and some interventions may incorporate elements of both.

TABLE 4.6

Primary focus of interventions.

Intervention focus	Number of studies	High or medium quality
Problem-oriented	17 (24%)	9 (16%)
Resource-focussed	25 (35%)	22 (39%)
Mixed	16 (22%)	14 (25%)
Unclear	14 (19%)	11 (20%)

Most interventions seem to take an approach that builds on resources (35% of studies) through working with e.g. life skills training or parenting skills, communication and interfamilial or peer relationships. Conversely, 24% of studies focus more or less exclusively on dealing with youth problems, through e.g. anger management, imposing curfews and surveillance, and cognitive therapy. Another 22% of studies describe interventions that incorporate building up resources as well as reducing problems. There is an almost equally large proportion of studies for which the primary focus is unclear (19% of studies). The interventions in this category include those which do not fit either category; for instance interventions like expressive writing or drumming, transition services and system-oriented interventions including mediation, but also those for which it is simply unclear whether the cognitive training or skills training applied in the intervention is resource- or problem-focussed.

There is a wide variety of intervention components across the reviewed studies. Some interventions focus on changing attitudes, values and norms, some provide information while others focus on skills training and enhancing self-efficacy in relation to behaviour change. Others again address the social environment around the youth in question either aiming to improve the familial, school or broader environment.

Categories are not mutually exclusive and the percentages given in Table 4.7 on the next page sum up to over a hundred since many interventions include multiple components.

38% of the studies describe interventions that include fostering a more pro-social environment for the target group youth. This may be through family intervention to improve parenting, inter-relational communication or pro-social peer involvement. This dimension also contains components that address the broader environment, schools and service provision in the community as well as neighbourhood characteristics.

The second largest dimension (32%) focuses on individual level attributes such as knowledge, attitudes, beliefs, norms and values and includes psycho-social education, cognitive re-setting, personal development and individualised therapy as well as values training. These are all factors which are relevant to address in order to develop a motivation for change in the target group. Another ten per cent work directly with motivating youth to act differently.

Improving self-efficacy is another dimension (25% of studies). This is addressed mainly through skills training including drug refusal skills, conflict resolution skills and general life skills. There is probably quite some overlap between this category and the behaviour change category (24% of studies) which includes components such as anger management, social competence and behavioural competence. Such factors may both be construed as the final goal of interventions and as instruments towards a further goal depending on the preventive level of the intervention (primary, secondary or tertiary).

TABLE 4.7

Intervention content – components and component categories.

Categories	Components	Number of studies	High or medium quality
Understanding of the self	awareness, moral competence, emotional competence, thriving, feeling of responsibility, personal identity, self-determination, cultural awareness, resilience	12 (17%)	9 (16%)
Knowledge, beliefs, attitudes, values, perceived norms	knowledge, psychosocial education, cognitive resetting, competence, insight, personal development, character education, values training, (CBT and therapy), victim empathy	23 (32%)	16 (29%)
Pro-social environment and resources	group support, familial engagement, familial bonding, parent-child communication, family management skills, improved parenting, relationship skills, pro-social involvement / networks, school resources and policies, service provision, neighbourhood characteristics, foster care	27 (38%)	22 (39%)
Deterrent factors	curfew monitoring, surveillance, sanctions and rewards	6 (8%)	5 (9%)
Alternatives to crime	planning, job-shadowing, mentoring, beliefs in the future, hope, alternative leisure activities	11 (15%)	10 (18%)
Self-efficacy	self-management, skills training, drug refusal skills, self-efficacy, conflict resolution skills	18 (25%)	15 (27%)
Motivation	motivation and motivation maintenance	7 (10%)	6 (11%)
Behaviour change	anger management, behavioural competence, social competence, behaviour change, behaviour management, behaviour change maintenance	17 (24%)	11 (20%)
Others	adventure program, football training, rites of passage, restorative justice, re-integrative shaming, non-verbal and verbal expression, expressive writing, academic development, written assignments, informal probation, institutional care, mediation, neighbourhood centre activities	20 (28%)	18 (32%)
Unclear	components not specified	4 (6%)	4 (7%)

Other dimensions have to do with factors that build up a person's understanding and sense of identity (17% of studies) and providing youth with a sense that there are alternatives to crime or anti-social behaviour for instance through life planning, focussing on career options, enhancing hope and belief in the future and providing alternative leisure activi-

ties (15% of studies). Finally, a small proportion of studies (8%) describe interventions that focus on deterring unwanted behaviour through imposing curfews, surveillance and sanctions and rewards programs for unwanted and desired behaviour respectively.

EFFECT OF THE INTERVENTIONS

In this section we attempt a broad categorisation of studies according to the effect of the intervention reported in the study. However, this is a challenging exercise since most studies evaluate using more than one parameter and may thus achieve demonstrable results on one parameter but not on another. Also, the statistical significance of differences between intervention and control group is dependent not only on an actual effect of the intervention but also on the sample size used in the study and of course the control condition (what service or treatment the comparison group is actually exposed to).

As such, the results given in the Table 4.8 should be seen as a crude estimate of effect and serves only to supplement the more comprehensive description of results given in the description of studies section.

TABLE 4.8

Direction of intervention effects.

Effect	Number of studies	High or medium quality
Positive effect	32 (44%)	24 (43%)
Tendency towards positive effect (non-significant)	6 (8%)	4 (7%)
No effect	21 (29%)	18 (32%)
Tendency towards negative effect (non-significant)	2 (3%)	2 (4%)
Negative effect	4 (6%)	4 (7%)
Unclear or mixed results	7 (10%)	4 (7%)

Close to half the studies report a positive intervention effect with a reduction in anti-social behaviour (or related outcome), while about a third report no effect (no difference between intervention and control group) and 6% show an increase in negative behaviours for the intervention group. In 10% of studies the results are either mixed (showing both positive and negative or no effects) or unclear.

SUMMARY OF STUDY MAPPING

As the above mapping shows, the studies identified in this review are mostly conducted in the U.S. and mostly target youth who have already committed offenses (tertiary prevention interventions). The frequent focus on tertiary interventions is likely promoted by the inclusion and exclusion criteria employed in the literature search strategy, where studies using samples of younger children who might otherwise be the target groups of primary prevention interventions are excluded. Similarly, the outcome variable criteria relating to crime and disruptive behaviour with the exclusion of studies using pre-behavioural variables as outcome tend to favour tertiary prevention studies. For every primary or secondary prevention intervention in this review, there are two tertiary prevention interventions.

Most tertiary prevention interventions target high-risk youth rather than low-risk youth, while many interventions or studies do not differentiate between different characteristics of youth offenders including differentiating by age.

When it comes to delivery mode, there seems to be a preference for group-based interventions or interventions with multiple delivery modes (individual, family, school, community). Conversely, very few interventions focus on changing aspects of the community or the judicial system. Individual and school-based approaches come somewhere in between.

It is most common for interventions to take a resource-oriented approach focussing on building up youth, family or community resources. About a fifth of studies combine resource and problem focus while a similar proportion focuses primarily on combatting the problem, i.e. reducing the exposure to risk factors through various means. The more specific components of the interventions vary greatly. About a third of the interventions focus only on one dimension of change determinants, while the majority target more than one dimension (for instance 'beliefs, attitudes, norms', 'a pro-social environment', 'self-efficacy', etc.). The most commonly addressed dimensions are (i) the youth social environment, (ii) youth beliefs, attitudes and norms, as well as (iii) youth self-efficacy, i.e. their ability (focussing on skills) to achieve their desired behavioural outcomes.

About half the studies demonstrate a positive effect of their described intervention while a third demonstrate no effect. The remaining have either mixed or unclear results, while some tend in either one or the other direction but are less convincing mainly due to methodological issues.

ANALYSIS

The analysis builds on the intervention mapping conducted in the previous chapter and includes only those studies that have been assessed to be of medium or high quality⁹. Primary, secondary and tertiary prevention interventions will be analysed separately and interventions that cover more than one preventive level (primary and secondary or secondary and tertiary) will be included in the analysis for each level and are thus double-counted. For each preventive level, we will analyse how intervention delivery mode is related to (1) other intervention characteristics, and (2) reported intervention effects. We take intervention delivery mode as point of departure since we expect form of delivery to be of high interest to implementation practitioners¹⁰. At the end of the chapter, we present a discussion of the analysis findings that draws out the similarities across preventive levels for different delivery modes and highlights key findings that may be relevant for intervention implementation in the Danish context.

9. We include both medium and high quality studies, but not low quality studies as this was requested in the project outline by the DCPC.

10. See Methods section for a further discussion of analytical approach.

PRIMARY PREVENTION INTERVENTIONS

Of the 19 total primary prevention interventions identified in the review, 16 (84%) are of high enough quality to be included in the analysis. These cover a variety of delivery modes though school-based interventions are the most common followed by community-oriented interventions.

SCHOOL-BASED INTERVENTIONS

Eight different school-based interventions at the primary preventive level were identified. These are shown in Table 5.1.

TABLE 5.1

School-based interventions (primary preventive level).

Intervention name	Intervention aim
JobFit-Training	Developing social skills and reducing/preventing aggressive or anti-social behaviour.
Youth Crime Watch (YCW)	Provide crime-free, drug-free environments through a youth-led movement; instilling positive values, fostering good citizenship, and building self-confidence in children; enhancing school safety
EQUIP for Educators	Equipping youth to think and act responsibly and training social skills, anger management and moral education
G.R.E.A.T. (Gang Resistance Education and Training)	Developing skills to avoid gang involvement
Positive Adolescent Training through Holistic Social Programs (Project PATHS)	Promoting positive development and reducing problem behaviours
Gender violence prevention: (1) an interaction-based curriculum and (2) a law and justice curriculum	Reducing gender violence / sexual harassment
Building Resiliency and Vocational Excellence (BRAVE) Program.	Improving social skills across social contexts (i.e., school, family, and community); strengthening resilient behaviour
Expressive Writing	Reducing aggressive behaviour

TARGET GROUPS

Unsurprisingly, these interventions all target general youth (most commonly below 15 years of age), though some specifically choose settings in which risk factors such as socio-economic status or ethnicity suggest the youth are more at risk than youth in general. For instance, the EQUIP for Educators intervention is carried out in a vocational secondary school in the Netherlands which is the lowest form of secondary education possible. Similarly, the BRAVE program is conducted in an impoverished inner-city neighbourhood school where 99% of students are

African-American, while the Expressive Writing intervention is carried out in schools in high-crime areas.

STRUCTURE

As suggested in Table 5.1, there is quite some variety in the aims and thereby the focus and contents of the interventions. However, the structure and organization is quite similar with interventions usually following a predesigned curriculum taught in class during lessons lasting either 40 or 90 minutes. Only the Expressive Writing and the Youth Crime Watch intervention differ in that they do not involve a curriculum. The Expressive Writing intervention is carried out for just twenty minutes, twice a week, while the Youth Crime Watch intervention covers a variety of activities that may vary from school to school. The curriculum-based interventions last between 5 and 16 weeks with sessions generally once per week. The BRAVE program is more intense than the others with 90 minute sessions two to three times weekly and an additional seven months of weekly individual mentoring.

In six of the eight interventions, sessions were conducted by an external instructor with specific training in the intervention: law enforcement officers (GREAT program and Youth Crime Watch), senior staff at a sexual assault crisis centre (for the gender violence curriculum) and certified instructors who were students taking relevant university degrees (BRAVE program, JobFit Training and Expressive Writing). The only intervention in which classroom teachers provided the curriculum was the EQUIP for Educators intervention. This distribution indicates that most school-based interventions identified in our search do not use instructors or intervention providers who are known to the children beforehand.

CONTENT

Content-wise, the interventions are diverse with about half taking a resource-oriented approach and the other half taking a problem-oriented approach. Five involve an emphasis on self-efficacy and skills training focussing on either general life skills, behaviour management skills, or specific skills required for avoiding e.g. gang involvement. Three include an emphasis on the youths' self-understanding with components such as moral and emotional competence, sense of responsibility and self-

determination. Three address knowledge, beliefs, attitudes, values and pro-social norms.

Given the chosen setting of these interventions, it is interesting that only one intervention actively addresses the school environment itself, namely the Youth Crime Watch intervention which attempts to create a safer school environment through patrolling and other activities. All other interventions focus on either individual-level cognitive factors or individual-level self-efficacy related factors. Several also combine the cognitive and identity-related aspects with skills training and behaviour change. Interventions in this category are the JobFit training program, the gender violence prevention curricula and the EQUIP for Educators intervention and the Project PATHS. In contrast, programs like BRAVE and GREAT focus primarily on skills training with little consideration of e.g. attitudes or norms.

EFFECTS

Only two of the school-based primary prevention interventions are shown to have a positive effect, namely the JobFit Training (on teacher assessed conduct problems 6 months after the intervention) and the Project PATHS interventions (on self-reported violence 2 years after the intervention). One intervention actually seemed to increase negative outcomes (the gender violence prevention curricula), while four had no demonstrable effect and the effect of the Youth Crime Watch intervention is mixed. There are no clear characteristics to explain the positive effect of the two interventions relative to the others.

COMMUNITY-ORIENTED INTERVENTIONS

Three studies describe community-oriented interventions, but two of these are evaluations of the same intervention using two different samples. This leaves two actual interventions, which are presented in Table 5.2.¹¹

11. Some interventions that include a community focus have more than one mode of delivery and are as such covered in the 'multiple delivery modes' section.

TABLE 5.2

Community-oriented interventions (primary preventive level).

Intervention name	Intervention aim
Moving to Opportunity (MTO)	Moving public housing families out of areas of high poverty and into areas of low poverty
Communities that Care	Developing healthy, positive behaviours in young people by focussing on immersing youth in family, school, community, and peer environments that consistently communicate healthy beliefs and clear standards for behaviour and that youth with strong bonds to caring individuals are more likely to mirror these beliefs and standards.

TARGET GROUPS

By definition, community-oriented interventions target whole communities and thereby all youth living in those communities irrespective of their level of risk. However, the Moving to Opportunity (MTO) intervention specifically targets high-poverty areas, where youth may be assumed to be at higher exposure to family- and environment-related risk factors.

STRUCTURE AND CONTENT

The two interventions described here take very different approaches. Where the MTO intervention quite simply pulls youth and their families out of high-risk (high poverty) areas (based on a voluntary and subsidised re-housing scheme), the Communities That Care intervention builds on the resources available in the community to establish a community board that develop a community risk profile and select a set of appropriate intervention responses. This makes the Communities that Care intervention ‘an umbrella’ for implementing specific and more targeted interventions relevant to the given community. The specific actions undertaken vary in terms of both structure and content from community to community according to need and inclination.

Where the MTO intervention requires participants to remain in their new neighbourhood for at least 12 months, the Communities That Care intervention provides expert guidance to the community board for 6-12 months. They can thus be assessed to be of similar duration though intensity varies greatly from providing aid to families in only the beginning of the intervention period (MTO) to providing consistent input,

feedback and supervision across the entire intervention period (Communities that Care)

EFFECTS

Only the Communities That Care intervention was shown to have a positive effect (on self-reported delinquency 4-5 years post-intervention), while the MTO intervention had no discernible effect (on self-reported delinquency and behaviour problems 5 years post intervention) for those who actually complied with the intervention criteria of remaining in the new neighbourhood at least a year. One could surmise that the inability of the MTO intervention to address family-related risk factors might be related to the lack of positive results, since the intervention only addresses the environmental risk-factors associated with high-poverty neighbourhoods.

INTERVENTIONS WITH MULTIPLE DELIVERY MODES

TABLE 5.3

Interventions with multiple delivery modes (primary preventive level).

Intervention name	Intervention aim
Aban Aya: 1) SDC (social development curriculum in classroom); 2) SC (school/family/community) taskforce intervention	(1) Helping youth avoid violence, provocative behaviour, school delinquency, drug use, and unsafe sexual behaviours; (2) Improving parental support, school climate, and community partnership in addition to (1)
(a) Responding in Peaceful and Positive Ways (RPPW); (b) RPPW GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) Families Program	(a) Promoting individual level protective factors in students; promoting of school-related protective factors; improving teacher management of student aggression; (b) improving parenting practices and family relationships

Note: Aban Aya is an intervention that consists of two components, the SDC (primary prevention component) and the SC (secondary prevention component). These components were evaluated separately and combined. Responding in Peaceful and Positive Ways similarly consists of two components: the universal RPPW and the additional secondary prevention component GREAT. The evaluation examined the universal component separately and the universal and secondary prevention component (GREAT) combined.

Two interventions are school-based but also address individual-level factors, parenting practices, teacher practices, school environment, and community partnerships in selective components of an otherwise universal intervention.

The two interventions thus classify as both primary and secondary interventions, but in this section only the primary components are analysed.

TARGET GROUPS

The primary prevention components of these two interventions both target general youth in middle schools. The Aban Aya intervention focusses on African-American youth specifically and is implemented in a school-district that is predominantly (99%) African-American. Given the US origin of this study, it is worth noting that research in the US often uses race as a risk factor, where Danish research would more frequently use socio-economic position.

STRUCTURE

The two interventions have both differences and similarities. While Aban Aya is a four year intervention implemented throughout the years of middle school attendance, the Responding in Peaceful and Positive Ways (RPPW) is implemented in the sixth grade only. They consist of 20 and 21 sessions yearly, which makes the Aban Aya intervention four times longer and with four times as many sessions as the RPPW program. On the other hand, the RPPW program combines the student-focussed instruction with a teacher-focussed training that includes a 12 hour workshop in strategies to reduce children's aggressive behaviour in school with ten subsequent teacher support group meetings.

Both interventions are conducted by external instructors who are specifically trained in the intervention. Training of instructors for the Aban Aya intervention is intensive with two hour trainings prior to every lesson conducted. The training for the RPPW intervention consists of a 36 hour training course.

Overall, it is clear that many more resources go into the Aban Aya program compared to the RPPW program both as regards the student-focussed curriculum and the training of instructors. However, the RPPW program has more focus on creating changes among teaching staff as well as among children.

CONTENT

Content in the two interventions is similar. Both focus on developing individual resources of the students, but where the RPPW focusses generally on social-cognitive problem-solving, the Aban Aya intervention

focusses strongly on African-American identity and communal values in the promotion of cognitive-behavioural skills. The teacher-oriented components differ with the Aban Aya intervention being more resource-oriented, while the RPPW focusses on training teachers in reducing problem behaviour among students.

EFFECTS

The Aban Aya intervention had a positive effect (on violent behaviour 0-4 years after the intervention (varying follow-up times), while the universal RPPW intervention had a mixed effect (increasing aggression but reducing victimisation two years post intervention). The additional resources required for the Aban Aya program thereby seems to have paid off, but with only one study as comparison, it is not possible to assess whether the differences in results are related to the differences in intervention characteristics.

FAMILY-BASED INTERVENTIONS

Only one family-based primary prevention intervention of high or medium quality was identified, namely the Family Check-Up intervention (evaluated in two separate studies).

TABLE 5.4

Family-based interventions (primary preventive level).

Delivery mode	Intervention name	Intervention aim
Family-based	Family Check-Up	to forestall the escalation of adolescent problem behaviour by promoting and motivating skilful parenting through the transition to high school

TARGET GROUP

The Family Check-Up is similar to the Aban Aya and the RPPW in that it consists of a universal intervention with selective components for at-risk youth and their families. The universal components target middle school students.

STRUCTURE

Though implemented partly within schools, this intervention differs from the school-based interventions and the interventions with multiple delivery modes based in schools because there is no student-focussed cur-

riculum. The primary prevention intervention component consists uniquely of a family resource centre located at middle schools which solely targets parents of students.

The resource centre provides parents with brief consultations, feedback about their child's behaviour in school as well as books and videotapes about parenting. The secondary prevention component (which, even though it targets at-risk youth, was open to all families and is thus included here) consists of a three session intervention and subsequent follow-up for selected families with families self-selecting the most appropriate follow-up intervention according to their needs. Contact with intervention staff generally lasts 1-2 years for this secondary prevention component while access to the resource centre was available throughout the child's years at middle school.

CONTENT

Content-wise, the intervention is resource-oriented focussing on enhancing the motivation and self-efficacy of *parents* relative to their child's parenting needs and thus addresses the family environment of the youth. In this way, the content and delivery mode correspond better to each other than was the case for the school-based interventions.

EFFECT

The Family Check-Up intervention had a clear, positive effect (on reducing anti-social behaviour and deviant peer involvement 4-7 years post intervention) in both the studies evaluating it.

GROUP-BASED INTERVENTIONS

As with the family-based intervention, only one group-based primary prevention intervention was identified.

TABLE 5.5

Group-based interventions (primary preventive level).

Delivery mode	Intervention name	Intervention aim
Group-based	Special Olympics program	Reducing problem behaviour in children with intellectual disabilities and promoting inclusion of these children in a peer environment

TARGET GROUP

The Special Olympics intervention is unique among the primary prevention studies reviewed here in that it focusses on children with intellectual disability and on parameters of inclusion as well as problem behaviour. The target group was 12-15 year old children with intellectual disability recruited from a special education school.

STRUCTURE AND CONTENT

Also this intervention is based partly at schools or at least school grounds, namely the football field. It does not consist of a student-focussed curriculum but is an intensive 8-week training program with three weekly sessions of 90 minutes each in which mixed teams consisting of participants both with and without intellectual disability are trained in football practice as the only intervention content. Coaches have experience teaching children with disabilities as well as coaching football.

It is unique among all the interventions in this review in that it uses team sports in an aim to reduce disruptive behaviour. This is similar only to the adventure-based programs that are all found at the tertiary preventive level.

EFFECT

The study reports an immediate positive effect of the intervention on externalising behaviour among the children with intellectual disability immediately post-intervention. No follow-up assessment was conducted and it seems questionable whether eight weeks of football training would have a sustained effect on aggression or other types of externalising behaviour without adding some sort of therapeutic component.

EFFECTIVENESS OF PRIMARY PREVENTION INTERVENTIONS

OUTCOMES

Overall for the primary prevention interventions, five different types of outcome relevant to the current review were measured in the studies' evaluations of effect: behaviour problems, aggression/violence, self-reported delinquency, recorded or reported delinquency (not self-report), and victimization. In addition, several studies reported on outcomes such as attitudes, emotional liability, substance use, etc., but in the interest of preserving clarity, these outcomes are not included in this review, except

in the few cases where effect of the intervention is proven to differ depending on which outcome is measured. Only one of the studies measuring delinquency breaks down the measure into different types of delinquency and it is therefore not feasible to conduct an analysis of separate types of delinquency outcomes.

Behavioural outcomes (such as behaviour problems, aggression and violence) are the most common for the 16 primary prevention interventions contained in this analysis. Twelve studies include such behavioural outcomes, three of which also measure delinquency, while four solely report delinquency outcomes. For five of the seven studies that included measures of delinquency, these were self-reported measures.

EFFECTIVENESS

An overview of intervention effects is given in Table 5.6. The community-based intervention 'Communities That Care' figures twice, because two studies (by the same authors) evaluate the same implemented intervention using slightly different samples. In effect, it is the same evaluation. This is different for the family-based intervention 'Family Check-up' which also figures twice in the table, since this intervention was implemented and evaluated in two different settings.

TABLE 5.6

Effectiveness of the primary prevention interventions.

Intervention delivery mode	Intervention name	Intervention duration	Outcome measure	Effect
community-based	Moving to Opportunity (MTO)	1 year +	mixed	0
community-based	Communities that Care	6-12 months	delinquency	+
community-based	Communities that Care	6-12 months	delinquency	+
family-based	Family Check-up	1-2 years	behavioural	+
family-based	Family Check-up	1-2 years	behavioural	+
group-based	Special Olympics	16 weeks	behavioural	+
multiple	Aban Aya: Social development curriculum (SDC)	4 years	behavioural	+
multiple	Responding in Peaceful and Positive Ways (RPPW)	20 sessions;	behavioural	+ /±
school-based	JobFit-Training	5 months	behavioural	+
school-based	Expressive writing	8 weeks	behavioural	(+)
school-based	Youth Crime Watch (YCW)	unclear	mixed	+ /±
school-based	EQUIP for Educators	8 weeks	behavioural	0
school-based	Gang Resistance Education and Training (G.R.E.A.T.)	13 lessons	delinquency	(+)
school-based	Positive Adolescent Training through Holistic Social Programs (Project PATHS)	Variable (20 sessions)	delinquency	+
school-based	Gender violence prevention (1) an interaction-based curriculum (2) a law and justice curriculum	5-7 weeks	behavioural	±
school-based	Building Resiliency and Vocational Excellence (BRAVE)	9 weeks (+ 7 months mentoring)	behavioural	0

Note: + = positive effect; (+) = tendency towards positive effect; 0 = no effect; (±) = tendency towards negative effect; ± = negative effect; +/± = mixed effects.

Half of the studies demonstrate a positive intervention effect and two more show a tendency towards a positive effect but which is not statistically significant. Three interventions actually seem to increase negative outcomes, namely the gender violence prevention curricula, the YCW intervention and the RPPW. In the latter, students in intervention schools exhibited higher levels of self-reported and teacher-reported aggression than students in control schools, while simultaneously reporting lower levels of victimisation. For the gender violence prevention curricula, one possible explanation for the seemingly negative effect is that intervention group students have become more aware of what constitutes gender violence and sexual harassment and thereby more likely to report perpetrating it compared with controls who may be less aware. A similar mechanism may work to cause the mixed results in the YCW evaluation,

where increased patrolling of schools may have led to the higher level of *reported* incidences rather than a higher level of actual incidences.

We cross-checked intervention effectiveness with all available intervention characteristics (see Appendix 2), but very few explanatory trends were evident. As such, we checked intervention delivery mode, the theory of change on which the intervention was based, intervention components, use of pre-designed curriculum or manual, implementation intensity, treatment provider characteristics (education, training and relationship with target group where possible), recruitment (voluntary or forced participation), target group, outcome measure and study location (country) without finding any associations with direction of effect.

For instance, just as many effective as non-effective intervention have a theoretical foundation. Nor are there general differences in the type of theory or model used in effective versus non-effective studies with social learning models or socio/developmental-ecological type models being equally frequent. Another example is intervention content. Where the interventions showing a positive effect had content that addressed identity and understanding of the self; attitudes, norms and values; the social environment of the targeted youth; motivation and behaviour management, these exact same components figured in the non-effective interventions.

However, two factors do seem to be related to effectiveness. All of the interventions that are shown to have a positive effect last for at least 16 weeks (see Table 5.7). Similarly, all of the interventions that had positive effects are resource-oriented rather than problem-focussed (one intervention with a positive effect had a mixed focus). This suggests that sustained interventions have a higher likelihood of producing results. The general focus of the effective interventions being resource-oriented in nature coincides well with the fact that the primary prevention interventions assess mainly cognitive and self-efficacy or skills-related factors. The idea of primary prevention is exactly to build up capacity and resilience to anti-social behaviour among general youth. The positive, resource-oriented approach is in accordance with this goal.

TABLE 5.7
Secondary Prevention Interventions.

Intervention delivery mode	Intervention name	Intervention aim
Family-based	Strengthening Families Program (SFP)	Enhancing intra-familial bonding, parental supervision, communication of positive family values, self-efficacy, behaviour change, positive adaptation to adversity in at-risk families
Group-based	The Social Problem-Solving Training Program	Improving aggressive youths' anger-coping, problem solving and pro-social skills
Group-based	Doing Anger Differently (DAD)	Managing youth reactive aggression through the use of percussion
Individual	Strategies for Success	Preparing students in alternative schools for return to mainstream schools
Individual	SafERteens	Reducing violence among youth seeking emergency room medical treatment through a brief in-situ intervention
Multiple delivery modes	Aban Aya: 1) SDC (social development curriculum in classroom); 2) SC (school/family/community) taskforce intervention	(1) Helping youth avoid violence, provocative behaviour, school delinquency, drug use, and unsafe sexual behaviours; (2) Improving parental support, school climate, and community partnership in addition to (1)
Multiple delivery modes	(a) Responding in Peaceful and Positive Ways; (b) GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) Families Program	(a) Promoting individual level protective factors in students; promoting of school-related protective factors; improving teacher management of student aggression; (b) improving parenting practices and family relationships
Multiple delivery modes	Multisystemic Therapy (MST)	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements
School-based	EQUIP for Educators	Equipping youth to think and act responsibly and training social skills, anger management and moral education
School-based	The Fourth R	Improving knowledge, awareness and skill development pertaining to developmentally relevant issues of personal safety in relationships, sexual health and substance use with a specific focus on targeting maltreated children

Note: Aban Aya is an intervention that consists of two components, the SDC (primary prevention component) and the SC (secondary prevention component). These components were evaluated separately and combined. Responding in Peaceful and Positive Ways similarly consists of two components: the universal RPPW and the additional secondary prevention component GREAT. The evaluation examined the universal component separately and the universal and secondary prevention component (GREAT) combined.

There is no clear association between length of follow-up and the direction of the intervention effect (results not shown). Three of the studies have no follow-up but rely solely on pre- and post-intervention measurements. Two have a short (6 months) duration of follow-up, two have

follow-ups of a year (medium duration) and seven studies have a long follow-up of over 2 years (2-7 years). A high proportion of the long-term follow-up studies (4 out of 6 unique interventions) have positive results, but this should be considered in light of the fact that it is only meaningful to conduct long-term follow-ups of interventions that have a positive effect in the short and medium-term.

SECONDARY PREVENTION INTERVENTIONS

Of the 19 total secondary prevention interventions identified in this review, 10 (53%) are of high enough quality to be included in the analysis.

Similar to the primary prevention interventions, these interventions are broadly and more evenly dispersed across delivery modes. None of the reviewed interventions are community-oriented or address system factors. Since there are so few interventions in each delivery mode category, it is not relevant to analyse each mode independently and in the following we will therefore examine the pooled set of secondary prevention interventions.

TARGET GROUPS

As given by the definition of secondary prevention, most of these interventions target youth who are somehow assessed to be at risk of committing criminal offenses later in life. Most of the interventions described here target youth with high levels of aggression or other type of anti-social behaviour. In some, the type of school where students are recruited is correlated with their level of risk, i.e. children in alternative schools who have been suspended from mainstream schools for problem behaviour, or children in pre-vocational schools where pupils are more likely to be of low socioeconomic position. One intervention, the SafERteens intervention targets youth seeking emergency room medical treatment who screened positive for alcohol use or violence in the past year. Finally, The Fourth R, targets children who are or have been subject to maltreatment. Childhood maltreatment is a known risk factor for adolescent delinquency which thus justifies their inclusion in an at-risk target group.

STRUCTURE

In terms of the organisation and structure of these secondary prevention interventions, the only factor they have in common is that all participation is voluntary. Besides this, the interventions are incredibly diverse. Their duration varies from a 35 minute one-time intervention to a four year program. Of the seven interventions that take place in a school setting, four have a duration of 9-16 weeks with sessions either once or twice weekly. The duration and intensity of The Fourth R and Strategies for Success is unclear, though the former consists of 21 lessons and in the latter, youth were excluded from participation if they spent less than two months at the alternative school suggesting that the intervention is of at least two months duration. The Aban Aya program, as previously described, lasts four years though the duration of the secondary component must be assumed to be variable within this time period.

Two interventions include a focus on improving the family environment. These are provided in the community and last 14 weeks (Strengthening Families Program) and 4-6 months (Multisystemic Therapy). The latter includes therapists available on-call to families 24 hours a day for 7 days a week.

Also the service providers are quite varied across the different interventions. While the classroom-based interventions are carried out by regular teachers, the remaining interventions are conducted by either a psychologist or a social worker. In the Strengthening Families Program the role of the social worker may also be played by other trained practitioners such as addiction counsellors, probation officers, youth workers or community police and in the Strategies for Success intervention by a so-called transition specialist. The service providers used for The Social Problem-Solving Training Program and for the secondary prevention components of the Aban Aya and the RPPW GREAT interventions are not specified.

CONTENTS

Six of the ten interventions take a resource-focussed approach, two focus primarily on existing problems and the final two have a mixed approach focussing on both resources and problems at the same time. There is no trend as regards which type of approach is used relative to intervention delivery mode.

With regard to the specific content of the interventions, six interventions address self-efficacy, four address behaviour change directly, four address knowledge, attitudes, values and norms, two address youths' self-understanding while one addresses motivation explicitly and one provides leisure activities as alternatives to misconduct. SafERteens, Aban Aya, EQUIP for Educators and The Fourth R all combine a focus on self-understanding or youth attitudes, values, etc. with skills-training and behaviour management. Different to this are the group-based interventions (The Social Problem-Solving Training Program and Doing Anger Differently) that focus exclusively on self-efficacy and behaviour management and do not address understandings, attitudes and norms. The family-based intervention (Strengthening Families Program) per definition addresses the familial environment of the youth and in addition to this focusses on youth behaviour change but again not on youth understanding, attitudes or norms. Similar to this is the RPPW program whose secondary prevention component (GREAT) focusses on the family and community and MST which also focusses strongly on inter-familial relations and parenting practices.

EFFECTIVENESS OF SECONDARY PREVENTION INTERVENTIONS

OUTCOMES

Most of the secondary prevention interventions included in the analysis measure behavioural outcomes such as antisocial behaviour or physical aggression. Eight of the ten studies measure behavioural outcomes, one of which measures delinquency at the same time (parent-assessed), while two others measure only delinquency via youth self-report.

EFFECTIVENESS

An overview of intervention effects is given in the table below. Three of the interventions have both primary and secondary prevention components and thus are also found in the analysis of primary prevention interventions. To the extent that the effects of the primary and secondary components are assessed separately, the effects in this section may differ from the effects reported in the primary prevention section. This is primarily the case for the RPPW GREAT intervention.

TABLE 5.8

Effectiveness of the secondary prevention interventions.

Intervention delivery mode	Intervention name	Intervention duration	Outcome measure	Effect
Family-based	Strengthening Families Program (SFP)	14 weeks	mixed	+
Group-based	The Social Problem-Solving Training Program	9 weeks	behavioural	(+)
Group-based	Doing Anger Differently (DAD)	10 weeks	behavioural	(+)
individual	Strategies for Success	not specified	behavioural	÷
Individual	SafERteens	one time event 35 minutes	behavioural	0
Multiple	Aban Aya: 1) SDC (social development curriculum in classroom); 2) SC (school/family/ community) task-force intervention	4 years	behavioural	+
Multiple	RPPW GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) Families Program	15-week family intervention	behavioural	+
Multiple	Multisystemic Therapy (MST)	4-6 months	delinquency	0
School-based	EQUIP for Educators	16 weeks	behavioural	0
School-based	The Fourth R	Variable 21 lessons	delinquency	+

Note: Aban Aya is an intervention that consists of two components, the SDC (primary prevention component) and the SC (secondary prevention component). These components were evaluated separately and combined.

Responding in Peaceful and Positive Ways similarly consists of two components: the universal RPPW and the additional secondary prevention component GREAT. The evaluation examined the universal component separately and the universal and secondary prevention component (GREAT) combined.

+ = positive effect; (+) = tendency towards positive effect; 0 = no effect; (-) = tendency towards negative effect;

÷ = negative effect; +/- = mixed effects

Four of the ten programs have a demonstrable effect though for the Aban Aya intervention this effect (on self-reported violent behaviour after between 0 and 4 years of follow-up) was limited to children over the age of 12 years. The Strengthening Families Program showed a medium sized effect on parent-assessed overt aggression and a small effect on parent-assessed criminal behaviour (follow-up time unknown). The Fourth R showed a significant effect on self-reported violent delinquency among maltreated children after 2.5 years of follow-up, while the RPPW GREAT intervention had a positive effect on self-reported and teacher-assessed aggression at two years of follow-up.

One program, Strategies for Success, had a negative effect. This was a transition planning intervention attempting to prepare students in alternative schools for re-entry into mainstream schools. A further five

interventions demonstrated either a clear lack of effect or a statistically insignificant tendency towards a positive effect.

We cross-checked intervention effectiveness with all available intervention characteristics (see Appendix 2) but found very few explanatory trends. As such, we checked intervention delivery mode, use of pre-designed curriculum or manual, implementation duration and intensity, treatment provider characteristics (education, training and relationship with target group where possible), recruitment (voluntary or forced participation), target group, outcome measure and study location (country) without finding any associations with direction of effect.

Three factors do seem related to effectiveness. All interventions with positive effects take a resource-oriented approach, whereas the non-effective interventions are more mixed in their approaches with two also taking a resource-oriented approach, two taking a problem-focussed approach and two taking mixed approaches. Of the interventions exhibiting a positive effect, three out of four are based upon a theory of change that underscores the influence of a positive environment for the youth in question as regards family, peer associations, etc.¹² This is reflected in the content of the interventions, where the effective interventions have a higher tendency than non-effective interventions to address the social environment. Only one non-effective intervention, MST, also incorporates a strong focus on youth environment but the lack of effect in the MST study may be related more to the effectiveness of the control group condition than to the lack of effect of MST per se. This is because the intervention was evaluated in Sweden, where the control condition ‘treatment as usual’ is plausibly similarly to MST in its comprehensiveness.

There is no association between length of follow-up and the direction of the intervention effect. One study had no follow-up but relied solely on pre- and post-intervention measurements. Three had a short follow-up less than a year, while another three had long follow-ups (over two years). One study had variable follow-up times and one did not report length of follow-up at all.

12. One study did not state the theory of change upon which the intervention was built.

TERTIARY PREVENTION INTERVENTIONS

Of the 39 total tertiary prevention interventions identified in this review, 34 (87%) are of high enough quality to be included in the analysis. Most commonly, the interventions (12 out of 34) have multiple delivery modes, or are group- or family based interventions (7 out of 34 respectively). None are school-based while a few focus on the individual or the system in their delivery mode.

INTERVENTIONS WITH MULTIPLE DELIVERY MODES

Fifteen studies corresponding to ten different unique interventions at the tertiary preventive level that have multiple delivery modes were identified.

TABLE 5.9

Interventions with multiple delivery modes (tertiary preventive level).

Intervention name	Intervention aim
After-care intervention	Facilitating the transition to the community for youth who have been in out-of-home placement by providing support, increasing supervision and identifying and coordinating community-based services
CM-FAM (contingency management and family engagement)	Enhancing the capacity of juvenile drug courts to reduce youth substance use and criminal behaviour
JBTC (Juvenile Breaking the Cycle)	Identifying, providing, and coordinating individualized services from local juvenile justice, social service, and educational systems to impact individual outcomes for high-risk, drug-involved delinquent youth
Legacy (adventure-based behaviour management program)	Developing healthy and appropriate sexual roles, social skills and behaviour control among youth who have offended sexually
Multisystemic Therapy (MST) (x3)	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements
Multisystemic Therapy (MST) + ARC (for availability, responsiveness, and continuity)	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements while improving the implementation of effective mental health services in the community
Multisystemic therapy (MST) supplemented with three primary adaptations for treating juvenile sexual offenders (x2)	Addressing the total environment of at-risk youth to prevent re-offending of youth who have offended sexually
Phoenix Academy	Providing specialised substance abuse treatment in a residential setting
Sexual Abuse: Family Education and Treatment (SAFE-T)	Providing individually tailored treatment for adolescents who have offended sexually and their families
Multi-dimensional Treatment Foster Care (x3)	Enhancing positive interactions, monitoring youth whereabouts, activities and friends, reinforcing pro-social behaviour through foster family placement

Note: Some interventions were evaluated in several studies with different samples. This is indicated in the table by a 'x2' or 'x3'.

Six of these interventions were based on Multisystemic Therapy (MST) though three different program versions were assessed: three studies assessed the general version of MST, two studies assessed the program supplemented with three primary adaptations for treating juvenile sexual offenders and one study combined MST therapy with a mental health service delivery optimisation component (MST-ARC).

Three others were Multi-dimensional Treatment Foster Care (MTFC) interventions, one under the name of Intensive Fostering, since that is the name given to MTFC in the UK, where the intervention was evaluated.

TARGET GROUPS

Four of the interventions target youth who have offended sexually (two MST interventions supplemented with adaptations for sex offenders, SAFE-T and the Legacy program). Four target youth offenders who are assessed as being at high-risk of a criminal career path due to their committing either persistent or serious crimes (the Juvenile Breaking The Cycle program, the after-care intervention, one of the MST interventions and one of the MTFC interventions). A further two don't specify the severity or level of risk of their youth offender target groups (the Phoenix Academy and one of the MST interventions), while a final MST intervention and two MTFC interventions target youth with conduct disorder and the Contingency Management and Family Engagement intervention (CM-FAM) targets substance abusing youth referred to juvenile drug court. The target groups are as such quite diverse and in all the interventions include youth both younger and older than 15 years of age and the difference in problem load or severity to the target groups in the primary and secondary prevention interventions is clear. One MTFC intervention targeted girls (who were persistent offenders) specifically.

As per the definition of tertiary prevention, these youth have already committed offenses, but moreover the focus is primarily on youths with a very high problem load. The number of studies targeting youth sex offenders suggests that there is a high interest in interventions for this group in particular. The high-load target groups correspond to the fact that in eleven of the fifteen studies (equivalent to seven of ten unique interventions), participation in the intervention was mandatory. That is to say, youth were court-ordered to participate in the interventions. Only two interventions involved voluntary participation, while in

the final two interventions it is unclear whether participation was voluntary or mandatory.

STRUCTURE

Several of the interventions with multiple delivery modes are delivered in the community (the after-care intervention, the SAFE-T intervention and the MTFC and MST-based interventions) but specify intensive family involvement and/or individual therapy. Two interventions involve removing the youth from their local community and placing them in residential care, one of which is a substance abuse rehabilitation facility for adolescents (Phoenix Academy) and the other a simplified and supportive group home (the Legacy program). One intervention (CM-FAM) is primarily office-based.

All of these interventions were given for a minimum of four months with most lasting between six months and a year (though duration of stay in the Phoenix Academy was not specified). This longer duration corresponds well with the comprehensive nature of many of these interventions which in general last longer than the primary and secondary interventions previously described.

Most of the studies don't specify the intensity with which services or treatment is provided, though the MST-based interventions have sessions with families at least thrice weekly and the CM-FAM intervention had weekly group and family therapy sessions. Similarly, most studies don't specify treatment or service provider characteristics. The MST-based interventions were provided by either psychologists or social workers, while the after-care intervention was provided by a so-called transition specialist (nothing more specified).

Typically, the intervention provider is a psychologist or social worker trained in the specific intervention. In addition to this, MTFC involves trained foster families who, pre-placement, have received two days of training but also receive weekly supervision and support meetings and daily telephone calls to monitor progress and discuss problems. Due to the specialised and comprehensive nature of these interventions, it is plausible that trained and specialised therapists are quite essential to program success.

CONTENTS

Six of the interventions are resource-oriented. This is the case for five of the MST interventions (not the MST-ARC intervention), and the after-care intervention. Similarly, six interventions take a mixed approach (the MTFC interventions, the Legacy program, MST-ARC, and CM-FAM), while just two (JBTC and SAFE-T) are problem-focussed with JBTC focussing on substance abuse treatment and monitoring of drug levels in youth and SAFE-T focussing on eliminating inappropriate sexual behaviour and avoiding future sex offending.

Many of the interventions with multiple delivery modes (thirteen out of fifteen studies equivalent to six out of ten unique interventions) include a component that aims to achieve a more pro-social environment and access to resources for targeted youth. This happens either through a family engagement approach (such as in MST, MTFC and SAFE-T) or through better coordination of services (as in the after-care intervention and JBTC).

The MST-based interventions also include providing alternatives to criminal activity such as through pro-social leisure activities as well as peer involvement and academic development. Somewhat similar to this, the Legacy program (residential care in group homes) attempts to normalise daily life for targeted youth providing them with household responsibilities, support for academic development as well as adventure programs. Only the JBTC and the SAFE-T interventions specify addressing cognitive aspects e.g. youths' self-understanding or attitudes and values, though also the MTFC interventions, the Legacy Program and the after-care intervention involve individual therapy. Program content for the Phoenix Academy intervention is not specified.

Content-wise, the multiple delivery mode tertiary prevention interventions have a much stronger focus on combining individual therapy with family- or environmental change. These are clearly the most comprehensive of the different intervention types.

EFFECTS

Ten of the fifteen interventions with multiple delivery modes have a positive effect (on delinquency from 9 months to 22 years post intervention), while five do not have any demonstrable effect though one of these, the Phoenix Academy, has a (non-significant) tendency towards a negative

effect (on risk of having committed property crimes 8.5 years post intervention).

Four of the six MST-based interventions had a positive effect. One that didn't was implemented in Sweden and has already been described under secondary prevention interventions with the suggestion that the control condition in Sweden (treatment as usual) is comprehensive enough in nature to diminish the effect of MST in that context relative to what has been shown the US. The other MST-based intervention with no effect (on problem behaviour after 18 months of follow-up) was the intervention that combined MST with a mental health service delivery optimisation component (MST-ARC). For this intervention, the initial positive results seen after six months follow-up disappeared after another year. The changes effectuated by this intervention were thus not strong enough to be sustained.

CM-FAM, JBTC, the Legacy program, two MTFC interventions and SAFE-T were also found to have positive intervention effects. There are no characteristics that clearly explain the positive effects in these interventions relative to the non-effective interventions.

GROUP-BASED INTERVENTIONS

Seven different group-based interventions at the tertiary preventive level were identified (see Table 5.10).

TABLE 5.10

Group-based interventions (tertiary preventive level).

Intervention name	Intervention aim
The real victory program	Reducing delinquent behaviour through cognitive training and automated mobile phone reinforcement
Psycho-educational counselling focussed on life skills	Reducing delinquent behaviour through psycho-educational counselling focussed on life skills
EQUIPping Youth to Help One Another (EQUIP)	Reducing cognitive distortions, improving social skills and stimulating moral development through a peer-to-peer approach
REAL-MEN	Reducing drug use, risky sexual behaviour and criminal activity among adolescents leaving jail
Wilderness Endeavors Program	Promote self-efficacy, resilience and hope through an adventure-based intervention to first-time offenders
Project Adventure: Behaviour management through adventure (BMtA)	To develop behaviour management through group development activities in a campus setting and through adventure-based intervention
Moral Reconciliation Therapy (MRT)	Promoting increased moral reasoning and a positive self-image and identity among youth

TARGET GROUPS

These interventions all target youth who have been convicted of a crime, though one intervention specifically targets first-time offenders (Wilderness Endeavors) and two others specifically target high-risk male offenders (EQUIP and REAL-MEN). Another intervention only targeting males is Project Adventure though this intervention is for male youth offenders in general and not just high-risk offenders. All except one include youth above and below the age of fifteen years, the exception being the REAL-MEN intervention for 16-18 year old incarcerated males. For all but one intervention, participation was mandatory. The REAL-MEN intervention, however, was voluntary in that it included components during and post incarceration.

STRUCTURE

Five of the seven interventions take place outside the community of the targeted youth. Three interventions are 'residential programs' (Wilderness Endeavors, Project Adventure and the Moral Reconciliation Therapy (MRT) program. While the Wilderness Endeavors program is a three week wilderness adventure program, the Project Adventure takes place in a program campus, with youth residing in group homes meanwhile, and the MRT program was provided in a short-term residential facility where youth offenders volunteered to stay rather than being put in detention. Two interventions are provided while youth are still in detention (EQUIP and REAL-MEN), though REAL-MEN starts in jail but continues once youth return to their communities.

The final two interventions are provided to youth on probation who have been court-ordered to attend these group interventions. The psycho-educational counselling intervention takes place in a university-based community centre while the concrete setting of the Real Victory Program is not specified.

All of the group-based interventions are relatively short-term compared to other types of tertiary interventions, lasting between three and twelve weeks with one intervention, the Real Victory program, consisting of a six week cognitive training and one year of automated phone follow-up/reinforcement. Sessions last 1-4 hours per week, though in Project Adventure participants spend 40 hours on campus weekly.

Most of the studies do not clearly specify the characteristics of the service or treatment provider used in the interventions they evaluate.

In the psycho-educational counselling program, graduate and doctoral students of psychology are employed to carry out group therapy sessions. These students receive supervision from counsellor-educated professors at the university. The EQUIP intervention is conducted by a so-called EQUIP trainer who is not further characterised. Finally, in the REAL-MEN intervention, young people with personal offender or drug experience are employed in a peer-to-peer strategy for implementation of the intervention. This is the only tertiary intervention to use a peer-to-peer approach though the EQUIP intervention and Teen Courts (under system-oriented interventions) has aspects of a peer-to-peer component within its format.

CONTENT

Four of seven studies take a resource-oriented approach, one takes a problem-oriented approach (REAL-MEN), one a mixed approach (EQUIP) and one intervention has an approach whose focus is not specified (Real Victory).

The group-based interventions to a high degree address youth self-understanding, cognition in general and attitudes, norms and values. Six out of seven studies have these as a major component of therapy. Also a focus on self-efficacy and behaviour management is common with four interventions addressing these more skills-oriented aspects including the two adventure-based programs that are based strongly on experiential learning. Three interventions combine these different aspects and focus both on cognitive and on self-efficacy-related aspects (the psycho-educational counselling intervention, Wilderness Endeavours, and EQUIP). However, contrary to the school-based primary prevention programs where this was also the case, these group-based interventions make use of their format to include focus on peer relations, working together, mutual norms, etc.

EFFECTS

Three out of the seven group-based interventions had a positive effect (Project Adventure, the psycho-educational counselling intervention and the Real Victory program), while four had no demonstrable effect, though one has a tendency towards a positive effect (REAL-MEN) and one a tendency towards a negative effect (EQUIP). No intervention characteristics differentiate positive or non-effects in the present studies.

SYSTEM-ORIENTED INTERVENTIONS

Six system-oriented tertiary prevention interventions were identified. One assesses a reintegrative juvenile diversion program compared to diversion programs that are more retributive in nature. Another compares informal with formal probation. This has to do with the level of contact between the youth and the formalised justice system. More formalised contact is more expensive and from indications that formalised contact actually increases the risk of recidivism this study assesses whether informal probation does the job equally well or better. The study evaluating the effects of Teen Courts is similar in that Teen Courts are a type of informal diversion for first time offenders, where mock courts are established using youth peers as participants in a mock trial playing the parts of lawyers, jury and judges.

Two interventions are mediation interventions with Family Group Conferences being evaluated in Indianapolis, US, and mediation that is not defined as family group conferences is evaluated in two communities in Sweden. Finally, one study assesses the effects of placing serious youth offenders in institutional care and the effects of the duration of stay in institutional placement. This study is similar to the one that assesses informal versus formal probation in that it attempts to assess positive or detrimental effects of prolonged contact with the formal justice system (in this case in the form of incarceration).

TABLE 5.11

System-oriented interventions (tertiary preventive level).

A Reintegrative Juvenile Diversion Program	Reducing recidivism of youth offenders through juvenile diversion programs focussing on reintegration
Informal vs. Formal probation	Reducing youth offender recidivism through limiting contact with the juvenile justice system
Teen Court	Limiting the formal processing of first-time juvenile offenders within the juvenile justice system
Institutional care	Reducing recidivism among serious youth offenders by placing them in institutional care
Mediation	Mediating a suitable compensation agreement between offender and victim and facilitating understanding of causes and consequences of criminal behaviour among both offender and victim
Family Group Conferences	Facilitating conferences between the offender and his/her victim and their respective families and resource persons to address the victim's needs, hold the youth accountable and develop a community of support for both the victim and the offender

TARGET GROUPS

Three of these interventions target first-time offenders or those with very minor offenses (the reintegrative juvenile diversion program, Teen Court and Family Group Conferences), while one assesses impact on youth offenders in general (informal vs. formal probation) and two (institutional care and the Swedish mediation program) targets youth with serious offenses or who are at high risk of a criminal career path specifically. Participation is mandatory except for in the case of Teen Courts, Family Group Conferences and mediation with youth in Teen Courts and Family Group Conferences offered participation to avoid formalised contact with the justice system and maintain a clear criminal record. Youths participating in these programs must acknowledge responsibility for their offense. Contrastingly in the Swedish mediation program, mediation is offered in addition to normal court processing.

All except one of the evaluations include youth below and above the age of fifteen years. For the Family Group Conferences intervention the target group was younger than 14 years of age.

STRUCTURE AND CONTENT

The studies included under the category system-oriented interventions are not necessarily actual interventions but may be evaluations of different facets of the functioning juvenile justice system. Except for the Swedish mediation program, they are all assessments of conditions in the United States and may be difficult to translate to other contexts where the make-up of the juvenile justice system is different to that found in the US.

As mentioned, the Teen Court intervention, Family Group Conferences and the informal vs. formal probation study are similar in that they attempt to minimise youth contact with the formalised system, other deviant peers and the stigma of formalised probation or court system processing both in the present and in the form of criminal records. Programs vary in their structure and specific content from location to location. Common to most implementations, however, is that they contain aspects of reintegrative shaming with youth being made to write letters of apology, being confronted with the victims of their offense and perhaps paying some kind of restitution to the victim. In the mediation and Family Group Conferences interventions, the apologies are made verbal-

ly and compensatory agreements are made with the aid of a mediation facilitator.

The reintegrative diversion program also uses reintegrative shaming and writing letters of apology. In this program, however, there is an additional focus on teaching the youth alternatives to criminal activities. Mentoring, job-shadowing and a larger focus on education than traditional, more punitive, diversion programs attempts to instill more pro-social future prospects in participating youth. The program is implemented in a community centre and coordinated by community centre staff.

The study assessing the effects of institutionalisation gives no information about the structure and content of the institutionalisation.

EFFECTS

None of the US-based programs evaluated were shown to have any effect, except for the Teen Court interventions which actually turned out to have a detrimental effect on self-reported delinquency after four months of follow-up and a tendency (non-significant) towards the same on recorded delinquency 18 months post intervention. The reintegrative diversion program measured recidivism and offense escalation after one year of follow-up and found no effect of program participation. In the informal vs. formal probation study, there was no difference in the two groups' levels of reconviction at two years follow-up. Similarly, there was no difference in rates of re-arrest or self-reported offending four years post-intervention between youths who had been placed in institutional care and youths placed on probation when controlling for baseline differences between groups. Overall, it seems that certain system aspects that were perceived by study authors as being either bad or good are, in fact, neither. There are no indications from *these* studies that either prolonged or very little contact for youth with the formal justice system leads to either positive or negative results.

In contrast to these interventions, the Swedish mediation program was shown to be effective at reducing re-offense three years post-intervention with effects being greater in females than in males.

FAMILY-BASED INTERVENTIONS

Four family-based tertiary prevention intervention evaluations were identified but all were of the same intervention: Functional Family Therapy

(FFT), though this was implemented in four different settings with different samples.

TABLE 5.12

Family-based interventions (tertiary preventive level).

Intervention name	Intervention aim
Functional Family Therapy (x4)	Emphasizing factors which enhance protective factors and reduce risk through relational family-focussed therapy

Note: Four separate studies evaluated Functional Family Therapy using in different locations with different samples.

TARGET GROUPS

The interventions described here targeted either youth offenders in general, persistent offenders or sex offenders. The target groups of all the interventions include youth both younger and older than 15 years of age and participants were all court-ordered to attend, i.e. participation was mandatory rather than voluntary.

STRUCTURE

All the FFT interventions last from three to six months. They follow clear intervention guidelines as to structure and content (a treatment model) but are adaptable within this structure to be tuned to the specific needs of the target youth and family.

Functional Family Therapy is treatment provided to the family of the youth in question including younger siblings and the youth themselves. The program consists of twelve sessions, though the number can be extended if required. Sessions are provided weekly and last one hour each making FFT a relatively short-term intervention and certainly less intensive than an otherwise similar family-oriented intervention like MTFC.

Trained therapists are required with FFT training lasting three days. One intervention targeted ethnic minority youth (Hmong Vietnamese-American) and used therapists of the same ethnic background. Another intervention used very experienced therapists with at least one year of experience specifically in FFT and who had provided FFT to at least 50 youths and their families prior to the study. For the intervention targeting sex offenders, the therapists were certified to provide juvenile sex offender treatment.

CONTENT

The interventions take a mixed approach of both problem-focus and resource-orientation. They address cognition, emotion and behaviour within the family as a whole through three subsequent program phases: family engagement and motivation, behaviour change, and generalization, i.e. being able to generalise learning to other settings and contexts. They focus on promoting protective factors and pro-social behaviour while limiting risk factors. As in the interventions with multiple delivery modes, an important focus here is to improve the social environment of youth – in this case the familial environment.

EFFECTS

The effects of the four FFT interventions are mixed. One intervention had a positive effect, one had a negative effect and two had no demonstrable effects. The negative effect was found for the intervention targeting sex offenders. Though no youth recidivated with sexual offenses, misdemeanour offenses were found to be markedly higher for FFT youth after two years of follow-up. No effects were shown for the intervention targeting Hmong Vietnamese-American youth nor for the intervention using only highly experienced therapists (on recidivism assessed via official crime records at twelve months follow-up). The final FFT intervention showed a positive effect (on serious crime and violent offending assessed via official crime records and interviews with probation officers after 18 months of follow-up) but *only* for therapy that had a high level of fidelity to the FFT program model. Youth in families for whom treatment deviated from the FFT model had the same levels of re-offending as the control group.

This suggests that despite the worthy endeavours to use intervention providers whom youth can relate to or who have much experience, this is not enough to ensure results. Based on these few studies, it is not possible to ascertain whether these results might be partly explained by the importance of intervention protocol fidelity demonstrated in another study.

There are no clear intervention characteristics that differentiate the interventions with a proven positive effect from those that did not have an effect.

INDIVIDUAL INTERVENTIONS

Just two interventions with individual-focussed delivery modes were identified, namely Enhanced Transition Services provided in Arizona, US, and the Automated Voiceprint Recognition Supervision (AVRS) program implemented in two neighbourhoods of metropolitan Seoul, Korea.

TABLE 5.13

Individual interventions (tertiary preventive level)

Enhanced transition services	Supporting youth during transition into the community after release from a juvenile detention centre
Automated voice-print recognition supervision program (AVRS)	Eliminate curfew violation among youth on probation by monitoring whereabouts through automated phone calls with voiceprint technology.

TARGET GROUPS

The Enhanced Transition Services intervention was provided to youth with diagnosed learning or emotional-behavioural disorders who were placed in detention. The AVRS program on the other hand targeted high-risk youth offenders placed under house arrest (i.e. with a curfew lasting from 10pm till 6am). Participation in both programs is mandatory.

STRUCTURE AND CONTENT

The two interventions differ widely in their structure and content. While the Enhanced Transition Services, as the name implies, attempts to facilitate youths' transition between detention centre and community, the AVRS program is a problem-oriented curfew monitoring program for high-risk offenders under probation in their communities.

The Enhanced Transition Services commence while youth are still under detention with pre-release planning that is followed up with coordination of community services that address special needs of children and youth as well as ensuring better use of youths' leisure time and school attendance. Youths meet with transition specialists regularly, though the study does not specify duration or intensity of the program.

The AVRS program lasts for three to twelve months with youth receiving automated phone calls at their home address at random times between 10pm and 6am at least three times a week. The youth must an-

swer the call and respond to a series of questions which through voice recognition software confirms that they are not breaking curfew.

EFFECTS

The Enhanced Transition Services program had no effects after four months of follow-up on the risk of returning to detention for not meeting the terms of probation. There was an initial positive effect at one month's follow-up which subsequently disappeared. The AVRS program had mixed results after one year's follow-up with re-offending among AVRS participants lower than among controls, though the risk of AVRS youth having their probation status revoked was higher. As soon as the intensive supervision by AVRS disappeared, AVRS youth were arrested at a higher rate than juveniles under regular probation. This indicates that during the implementation phase itself, the AVRS program has a positive effect catching youth breaking their curfews before they have a chance to re-offend. However, program effects are short-lived and do not create lasting changes among participants.

EFFECTIVENESS OF TERTIARY PREVENTION INTERVENTIONS

OUTCOMES

The majority of tertiary prevention interventions measure self-reported or recorded delinquency rather than behavioural outcomes. As such, 33 out of 34 included studies measure delinquency outcomes, two of these include a behavioural outcome in addition to delinquency and only a single study reports only behavioural outcomes (Child Behaviour Checklist). The delinquency oriented evaluations primarily use existing data registers, criminal records or other recorded information (18 of 33 studies) while many also combine records with self-reported delinquency or self-reported delinquency with parent-assessed delinquency (12 out of 33 studies). Only three studies rely solely on self-reported data. Overall, these figures show that the tertiary prevention interventions to a greater extent use triangulation in data collection than the primary or secondary interventions and rely much less on self-reported data.

EFFECTIVENESS

An overview of the effectiveness of the interventions is given in Table 5.14. There are several of the same intervention names included in the

table because the implementation of the same program has been evaluated in different settings or with different study populations. Under half of the studies show a positive effect (15 out of 34 studies), thirteen have no effect while one has a non-significant tendency towards a positive effect, two have a tendency towards a negative effect, one has mixed effects and two have a clear negative effect (Functional Family Treatment provided for youth sex offenders and Teen Courts, both described earlier).

TABLE 5.14

Effectiveness of the tertiary prevention interventions.

Intervention delivery mode	Intervention name	Duration	Outcome measure	Effect
Family-based	MTFC	10 months	Mixed	+
Family-based	MTFC	6.5 months	Delinquency	+
Family-based	Functional Family Therapy	3-6 months	Delinquency	+
Family-based	Functional Family Therapy	3-4 months	Delinquency	-
Family-based	Functional Family Therapy	3 months	Delinquency	0
Family-based	Functional Family Therapy	not specified	Delinquency	0
Family-based	Intensive Fostering (MTFC)	1 year	Delinquency	0
Group-based	EQUIPPing Youth to Help One Another	3 months	Delinquency	(-)
Group-based	Wilderness Endeavors Program	3 weeks	Delinquency	0
Group-based	REAL-MEN	8 weeks	Mixed	(+)
Group-based	Moral Reconation Therapy (MRT)	6-8 weeks	Delinquency	0
Group-based	Project Adventure: Behaviour management through adventure (BMtA)	1-12 months	Delinquency	+
Group-based	Psycho-educational counselling focussed on life skills	7 weeks	Delinquency	+
Group-based	The real victory program	6 weeks + 1 year of automated phone calls	Delinquency	+
Individual	Enhanced transition services	Unclear	Delinquency	0
Individual	Automated voice-print recognition supervision program (AVRS)	3-12 months	Delinquency	+/-
Multiple	Multisystemic Therapy (MST)	11-30 weeks	Delinquency	+
Multiple	Multisystemic therapy (MST) supplemented with three primary adaptations for treating juvenile sexual offenders	Variable, avr. 30.8 weeks)	Delinquency	+
Multiple	Multisystemic Therapy (MST)	4-6 months	Delinquency	0
Multiple	Legacy (adventure-based behaviour management program)	Average 1 year	Delinquency	+

(Continueson next page)

TABLE 5.14 CONTINUED

Effectiveness of the tertiary prevention interventions.

Intervention delivery mode	Intervention name	Duration	Outcome measure	Effect
Multiple	Multisystemic therapy (MST) supplemented with three primary adaptations for treating juvenile sexual offenders	Variable, avr. 7.1 months	Delinquency	+
Multiple	Phoenix Academy	Not specified	Delinquency	(-)
Multiple	CM-FAM (contingency management and family engagement)	4 months	Delinquency	+
Multiple	After-care intervention	6 months +	Delinquency	0
Multiple	JBTC (Juvenile Breaking the Cycle)	12 months	Delinquency	+
Multiple	Multisystemic Therapy (MST)	Variable, unclear	Delinquency	+
Multiple	Sexual Abuse: Family Education and Treatment (SAFE-T)	16-24 months	Delinquency	+
Multiple	Multisystemic Therapy (MST) + ARC (for availability, responsiveness, and continuity)	Variable, avr. 3.5 months	Behavioural	0
System	A reintegrative juvenile diversion program	Unclear	Delinquency	0
System	Teen Court	One-time event	Delinquency	-
System	Family Group Conferences	One time event	Delinquency	0
System	Mediation	One-time mediation event	Delinquency	+
System	Institutional care	Variable	Delinquency	0
System	Informal vs. Formal probation	1 month	Delinquency	0

Note: + = positive effect; (+) = tendency towards positive effect; 0 = no effect; (-) = tendency towards negative effect; - = negative effect; +/- = mixed effects

We cross-checked intervention effectiveness with all available intervention characteristics (see Appendix 2) but none of these characteristics were clearly associated with effects. As such, we checked intervention delivery mode, the theory of change on which the intervention was based, intervention focus (resource- or problem-oriented), intervention components, use of pre-designed curriculum or manual, duration of intervention, implementation intensity, treatment provider characteristics (education, training and relationship with target group where possible), recruitment (voluntary or forced participation), target group, outcome measure, length of follow-up and study location (country) without finding any associations with direction of results.

As an example of the lack of clear trends take duration of intervention. For the interventions with positive effect duration of the interventions varied from a once-only mediation event to a 2 year comprehensive family therapy program. Similarly for the interventions with no

effect, duration of the interventions varied from a once-only event to a full year of comprehensive family therapy. There was a tendency towards there being fewer long duration interventions among those that did not have any effect, but the small number of studies do not allow us to draw any conclusions regarding this.

There is no clear association between length of follow-up and direction of intervention effects. Two studies have a short-term follow-up of six and nine months respectively. Fifteen studies have a medium follow-up between one and two years, and sixteen have a long-term follow-up of between two and twenty-two years. One study has both short and medium follow-up on two different outcome measures (self-reported delinquency at four months and register-based delinquency at 18 months). Similar to the primary prevention interventions, there is a tendency that studies with long-term follow-ups more frequently show positive results, but as mentioned earlier this is not surprising given the fact that it would be unlikely for researchers to assess long-term results on interventions that did not present positive results in the short and medium term.

DISCUSSION OF ANALYSIS FINDINGS

In this section we attempt to draw out some threads from the analysis of primary, secondary and tertiary prevention interventions related to the features: target groups, intervention characteristics and effectiveness. At the same time, we draw forth aspects of importance with a view to implementing youth crime prevention interventions in a Danish context. In the following, we compare interventions across preventive levels and across intervention delivery modes. It should be kept in mind that the studies included in the analysis represent only a subset of the available literature. As an example, there are likely to be many school-based interventions that are not included here because they have another focus than that given by the inclusion criteria used in this review. When we discuss characteristics of e.g. 'school-based interventions' (or any other intervention delivery mode), this limitation should be kept in mind. We cannot generalise beyond the inclusion criteria in this review and the following discussion should be read in this light.

TARGET GROUPS

There are obviously differences in target groups relative to the preventive levels of the interventions as they have been defined. Primary preventive interventions thus target youth in general and the majority of them draw participants from the school setting. This is a common implementation setting, because the vast majority of children and youth spend a lot of their time in schools. In Denmark, where almost the entire population has completed elementary schooling, it makes sense to use the school setting to reach general population youth. Of course it is relevant to note which segments of the population choose to send their children to private schools when considering target groups and implementation. Only two primary prevention interventions do not use a school setting. These are the community-oriented interventions which target the whole community and thereby all youth living in the targeted community.

In contrast to this, the secondary and tertiary prevention interventions target youth who have already exhibited problem behaviour or offending respectively. But where participation in both primary and secondary prevention interventions is voluntary, the majority of the tertiary prevention interventions have court-ordered participation. Presumably, this would be the same set-up when implementing interventions in a Danish setting.

It is perhaps surprising that only four tertiary prevention intervention studies target first-time offenders. In many contexts, it is assumed that early intervention is more likely to be successful, but the results of this review (and taking its limits into account¹³) indicate that most interventions for youth offenders are not initiated until after the youth has become a known face in the juvenile justice system. This may of course be related to the fact that juvenile delinquency is often distinguished by the fact that teenagers have a tendency to dabble in behaviour that pushes limits which often includes certain types of minor offending. Following this, the majority of youth who have committed a minor offense do not progress along a criminal career path (Ungdomskommissionen 2009) and are therefore not necessarily at need of further intervention.

Another interesting feature of the target group analysis is that there is little differentiation between *types* of youth offenders. In this re-

13. The studies in this review comprise just a subset of the total youth crime prevention literature.

view, the only differentiations were for youth sex offenders and youth with mental health issues or some kind of diagnosed disability. A single intervention targeted girls explicitly while four targeted ethnic minority youth specifically. In a Danish context, such differentiation might well be relevant given the characteristics of the youth offender population (Ungdomskommissionen 2009).

With regards to the age of the target groups, only a single intervention included here targets youth over the age of 15 years. Most included youth above and below 15 years. This probably reflects differences in the juvenile justice system between the US system (where most interventions are implemented) and the Danish system, where 15 is the age of criminal responsibility. As such, most interventions with a non-specific age target would probably correspond to interventions for over 15 year olds in the Danish context. Of the interventions targeting youth younger than 15 years, the vast majority were school-based or community-oriented.

Interestingly, only one intervention assessed age-dependent differences in outcome. This suggests that most interventions do not take into account the age-dependence of different stages of child and youth cognitive development.

INTERVENTION CHARACTERISTICS

There are no clear trends in how long the interventions last relative to their preventive level. Primary, secondary and tertiary prevention interventions included here can be of either short, medium or long duration.

There *are* differences relative to the intervention delivery mode however. In general, the purely family-based interventions last only 3-4 months with once weekly sessions and where they last longer (1-2 years), the intensity of the intervention (i.e. actual hours of intervention activity) is very low with 4.5-9 hours per family over the course of one to two years. Group-based interventions are similar in that they generally last only 2-3 months, while most school-based interventions are also of limited duration designed to fit into one semester or block (2-4 months). Group- and school-based interventions often have just a slightly higher level of intensity than the family-based interventions with either more frequent sessions or longer session duration. In contrast to this are the interventions with multiple delivery modes. Their comprehensive approach is reflected in their longer duration and most of the interventions

that last more than four months are found in this category with many lasting from six months up to a year. The intensity of this type of intervention is often not specified in the studies; perhaps because it can vary according to need during these longer lasting implementation periods.

With regard to intervention providers, there are no clear differences across primary, secondary or tertiary prevention interventions as to the level of education or training of intervention providers. Again, however, there *are* trends across intervention delivery modes. For instance, the family-based interventions and the interventions with multiple delivery modes primarily use highly specialised providers such as psychologists and social workers. On the other hand, school-based, group-based and individual interventions use therapists to a much lesser degree and rely instead on figures of authority such as law enforcement or security officers, teachers, or people who through their level of education or work experience are seen to be professional authorities. As noted under the primary prevention school-based interventions, most providers were external instructors and not classroom teachers known to the students already.

Content-wise it is again difficult to see any differences across preventive levels while the intervention delivery modes exhibit clear distinctions. Unsurprisingly, the most comprehensive interventions are those with multiple delivery modes. These types of interventions address cognitive and identity-related factors as well as self-efficacy and behaviour management. At the same time as this, they address youths' social environment in an attempt to make it more facilitating of pro-social behaviour. Mostly, it is the family environment that is targeted. Several of these interventions use deterrence (for instance by strict sanctions for unwanted behaviour) and provide alternative leisure opportunities or aim to instill hope for the future for instance in the form of career development. Of course, not all interventions with multiple delivery modes address all these factors simultaneously. Similar to this, though somewhat less comprehensive are the family-based interventions. Per definition, these interventions address the youth family environment with a focus on parenting skills and family management practices.

The group-based interventions and the school-based interventions do not normally address the social environment of target youth. Rather they focus on cognitive issues, skills training and behaviour management, with the group-based interventions drawing on the group set-

ting to work with peer relations, trust, communication and other factors related to social competence. The few individual interventions are very varied in their content and no trends are discernible.

When considering implementation in a Danish context, it is worth considering the extent to which interventions described in this review address known risk factors for youth crime in the Danish setting and the fact that to a large extent youth crime in Denmark is a group phenomenon (Ungdomskommissionen 2009). An interesting development in this regard is recent research on the social norms approach in a Danish setting (Balvig 2011) in which youth are confronted with their misperceptions of peer risk behaviour. Preliminary work seems to suggest a positive impact of social norms interventions on future risk behaving including delinquency (Balvig 2011). For instance, interventions that aim to reduce deviant peer involvement and move the youth towards a more pro-social environment are likely to be important in this context. The discussion of which interventions best address the risk factors related to youth crime in Denmark is a comprehensive and complex discussion which unfortunately is beyond the scope of the current literature review.

STUDY OUTCOME MEASURES

While the primary and secondary prevention interventions were evaluated mainly on behavioural outcomes, the tertiary prevention interventions were evaluated primarily on delinquency outcomes. This may have to do with the fact that delinquency outcomes are relatively rare among general youth populations and therefore it is easier to get clear results if looking at precursors to delinquency rather than delinquency itself. Another aspect is that since primary and secondary prevention interventions target youth that are not in touch with the justice system, the only way to get information about their risk of delinquency is to conduct surveys. This is clearly more resource-intensive than gathering data from records or registers. The latter also come with limitations, especially as regards delinquency outcomes for juveniles in the US. Here, the juvenile justice system is local within states and no central registry of juvenile offenders exists. This means that if a youth conducts a crime in one state, undergoes an intervention and participates in a follow-up evaluation some time later, any crime that is conducted *outside* of the state in question is not counted.

Several of the studies included in this review combine data collection methods and thus use both surveys and record data in their evaluations. This is most frequent for the tertiary prevention interventions where the majority of studies assess delinquency outcomes.

For the most part, delinquency is assessed in general without specification of the different types of delinquency. For this reason, a type-specific analysis has not been attempted here.

INTERVENTION EFFECTIVENESS

Overall, a little less than half of the interventions in this review demonstrate positive results, i.e. reducing risk of criminal or disruptive behaviour. 44% of primary prevention interventions have a desirable effect while this is the case for 30% and 44% of the secondary and tertiary prevention interventions respectively. As such, there is no great difference across preventive levels. The lower percentage among secondary prevention interventions must be considered in light of the lower number of high and medium quality studies in that category.

We have found very few factors to explain why positive results were present in some interventions and not in others. Those we have found differ across preventive levels. Results from the primary prevention interventions indicate that intervention duration is of importance as well as taking a resource-oriented approach. Results from the secondary prevention interventions support taking a resource-oriented approach and concurrently indicate that addressing the social environment of youth is important. Results from the tertiary prevention interventions show no relation to intervention characteristics at all.

It is relevant to note that 'effectiveness' in experimental and quasi-experimental studies as those included in this review is always relative to the control condition, thereby dependent on what services or treatment etc. is provided to the control group. Moreover, in the studies included here, outcome is measured using different follow-up periods and different measurement instruments. Given the very varied nature of the pool of studies under review, the validity of comparing results across studies is somewhat contestable and it is not necessarily surprising that few explanatory trends are found.

The greatest likelihood of positive intervention results when defined as reducing disruptive or criminal behaviour was found for the family-based interventions and those with multiple delivery modes,

where 57% and 63% of interventions showed positive effects. For the school-based studies, a third showed a positive effect while for the group-based studies only 22% of interventions were effective. None of the individual-level interventions had positive effects on the noted outcomes. Of the two unique community-oriented interventions, only one was effective, and of the six system-oriented interventions also just one intervention was effective.

These findings broadly suggest that interventions that address the family environment of the youth are more likely to be effective in terms of reducing the risk of criminal or disruptive behaviour. On the other hand, many interventions among the tertiary preventive interventions with a family focus did not achieve their goal, which demonstrates that addressing the family environment is not sufficient content but may be an important component of youth crime prevention interventions.

Similarly, as indicated for the primary and secondary prevention interventions, the fact that interventions appear to take a resource-oriented approach seems to have a positive effect. When looking at interventions across preventive levels, interventions that show positive results were assessed as taking a resource-oriented approach more frequently than interventions with no demonstrable effects (58% versus 25% of interventions respectively).

With regard to intervention duration, which was found to be of importance to effectiveness in primary prevention interventions, only a rough estimate across preventive levels can be given because the stated duration of interventions is very variable *within* studies. Overall, interventions lasting more than six months are approximately four times as common among the interventions that are shown to be effective compared to those that are not. Conversely, there are approximately half as many effective interventions among those whose duration is less than six months.

In conclusion, this review finds that it is difficult to attribute effectiveness to any one intervention characteristic and the results presented here should be seen in light of the existing literature on the subject and previous reviews. At the same time, effective interventions in this review to a greater extent take a resource-oriented approach, have a longer intervention duration and address the family environment of the target group youth than non-effective interventions. Such aspects may be

beneficial to consider when implementing interventions to prevent youth crime in a Danish context.

CONCLUDING REMARKS

The aim of this systematic review was to gather information about methods for youth crime prevention published in the period 2008-2012 to add to an existing knowledge base about effective interventions against juvenile delinquency.

Seventy-two studies were identified and included in the review, fifty-six of which were assessed to be of medium or high quality and thereby included in the analysis. The majority of included studies described interventions at the tertiary preventive level rather than primary and secondary preventive. This is most probably mainly an artefact of the literature search strategy rather than an actual representation of existing interventions. The search and screening strategies limited outcomes to either delinquency or disruptive behaviour that could be linked to delinquency. The strategy excluded studies focussing on factors such as attitudes and norms which might be more relevant for primary and secondary prevention interventions. Also, the target groups of included studies were primarily in the 12-17 years age-group, which also favours tertiary rather than primary or secondary prevention. For instance, a well-evaluated primary and secondary prevention intervention such as Fast Track¹⁴ was not included in this review due to its target group not

14. The Fast Track Prevention project is a multicomponent intervention designed for use with high-risk elementary-school children, from first to sixth grade to prevent antisocial behaviour.

being limited to the 12-17 years age-group. Furthermore, only studies published during a limited time period were included. As such, this review does not provide a complete overview of interventions that might be relevant for youth crime prevention in a Danish context. It should be understood as a supplement to existing knowledge and the results presented in the analysis section should be read in conjunction with previously published information on intervention effectiveness.

Of the fifty-six studies included in the analysis, twenty-four studies demonstrated positive findings corresponding to nineteen unique interventions with positive effects and plausible causal inference. Many of these interventions are already known in the social services field in Denmark (e.g. multisystemic therapy, multi-dimensional treatment foster care, mediation, etc.), but some are new on the stage of youth crime prevention and merit further attention (see box on next page).

We were able to identify very few trends to explain why some interventions may be effective while others are not. Overall, we found that interventions which take a resource-oriented approach, are of substantial duration and address the social environment of the targeted youth and not just his or her cognition or self-efficacy/behavioural management are more likely to be effective. However, several interventions that live up to these criteria were *not* effective and they cannot be seen as silver bullets for intervention effectiveness.

In the high- and medium-quality studies, two thirds of the interventions with a positive effect were implemented in the United States. Two interventions were implemented in Canada, one was implemented in Hong Kong, one in England, one in Ireland and one in Germany. Only two interventions identified in this review were evaluated in a Scandinavian context (both in Sweden). This provides very little basis for discussing implementation in a Danish context. As previously mentioned, intervention effectiveness as demonstrated in experimental and quasi-experimental studies is entirely dependent on the condition of the control group, since effectiveness in these study designs is a relative measure. It is likely that control group service provision in the US and other countries is very different from the standard service provision in Denmark. As such, results from studies conducted in other countries are not directly transferable to a Danish context. One indication of this was found in the Swedish study of multisystemic therapy which did not prove to have

positive effects, despite MST interventions in the US quite consistently showing positive results.

TABLE 6.1
Interventions of high and medium quality demonstrating positive effects

Intervention name	Quality level
Aban Aya: 1) Social development curriculum in classroom (SDC); 2) School/family/community taskforce intervention (SC)	Medium
Contingency management and family engagement (CM-FAM)	High
Communities that Care	High
Family Check-up	Medium
Functional Family Therapy	High
JobFit-Training	Medium
Juvenile Breaking the Cycle (JBTC)	Medium
Legacy (adventure-based behaviour management program)	Medium
Mediation	High
Multi-dimensional treatment foster care (MTFC)	High
Multisystemic Therapy (MST)	High
Multisystemic therapy (MST) supplemented with three primary adaptations for treating juvenile sexual offenders	High
Positive Adolescent Training through Holistic Social Programmes (Project PATHS)	High
Project Adventure: Behaviour management through adventure (BMtA)	Medium
Psycho-educational counselling focussed on life skills	High
Sexual Abuse: Family Education and Treatment (SAFE-T)	Medium
Strengthening Families Program (SFP)	Medium
The Fourth R	High
The Real Victory program	Medium

The lack of interventions evaluated in a Danish setting¹⁵ is noteworthy as is the fact that only three quality interventions from the Nordic countries were identified (all from Sweden). Due to the particular nature of the welfare state and social services in the Nordic countries, it seems relevant to increase the attention given to rigorously evaluating interventions implemented in this context. From all of Europe, only nine quality intervention evaluations were identified. Compared to the forty quality studies from the US, this paucity of high-quality evaluations of youth crime prevention interventions in Europe is striking.

15. As previously mentioned, subsequent to the completion of this report a relevant Danish study was identified (Balvig 2011, see reference list). This does not change the conclusion that more rigorous evaluations in a Danish and Scandinavian context are needed.

The review also identifies other gaps in the literature¹⁶. One interesting aspect is that very few studies examined particular crimes or particular types of youth offenders. None directly addressed the fact that youth crime is most commonly a group phenomenon other than to limit youth offenders' involvement with deviant peers. Only a single intervention focussed on girls and just four targeted ethnic minority youth. Perhaps especially the group phenomenon could be worthy of more attention.

In Appendix 2 of this review, we provide an overview of intervention characteristics of all interventions included in the analysis. This overview includes a focus on implementation-specific parameters such as duration and intensity of the intervention, treatment provider characteristics, primary components, theory of change, implementation setting, etc. We hope this will be help to agencies or institutions looking to in-state new interventions to prevent youth crime by providing clear information as to the key prerequisites for intervention implementation.

However, as previously mentioned, information about intervention characteristics in peer-reviewed literature focussing on quantitative effect evaluations can be sparse. We therefore suggest that the overview be seen as inspirational rather than a concrete guide to interventions. A necessary next step will be to investigate relevant interventions in more detail based not on published effectiveness studies but on published and perhaps especially unpublished experiences with implementation processes. Subsequently, rigorous evaluation of implementation and effectiveness in a Danish context is required.

16. Taking into account the limited time period in which included studies are published (2008-2012).

APPENDIX 1

SEARCH DOCUMENTATION

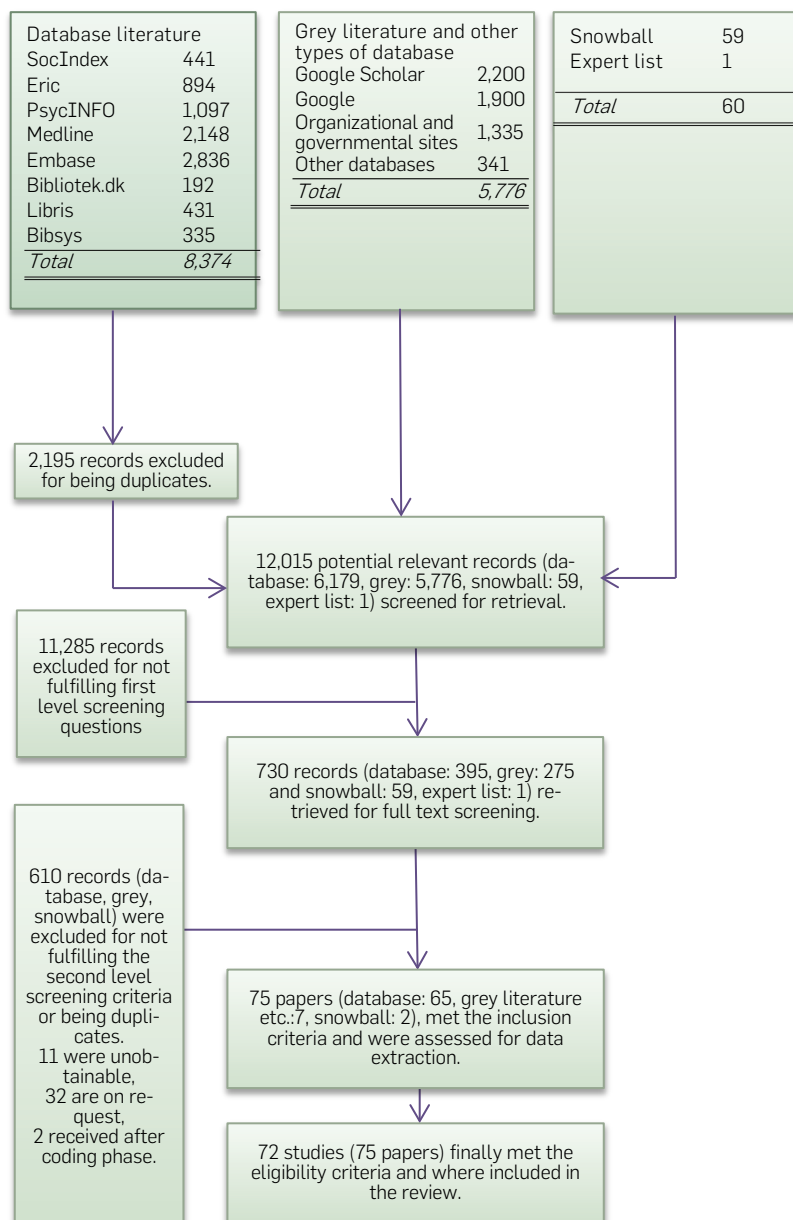
Literature searches were performed from September-December 2012. We searched four international and three Nordic bibliographic databases, and performed an extensive search for relevant studies, grey literature etc. via other databases, multiple organisation sites and Google and Google Scholar.

After excluding duplicates from the database search, the total number of potentially relevant records comprised 12,015 records (database search: 6,179 records; grey literature and other databases: 5,776 and 60 from snowball etc.).

All records were screened based on title and abstract and 730 records were screened in full text. Of these, 11,285 records did not fulfil the inclusion criteria and were excluded. 2 potential relevant records were initially screened, however were retrieved after the deadline for study coding and therefore not included.

A total of 72 unique studies met the inclusion criteria and were included. For three interventions, an additional publication provided information about the same intervention implementation and these references were therefore included in the total number of included studies which thereby comprises 75 records.

FLOWCHART OF THE SEARCH



SEARCH HISTORIES

In the following, search histories of different searches are presented. The five search histories describing the procedure for the electronic bibliographic databases as well as histories from the Nordic searches.

APPENDIX TABLE A1.1

Embase Search history performed September 24, 2012.

Searches	Results
1 Exp Juvenile Delinquency/	7,492
2 (Predelinquent adj1 youth).ab,ti.	1
3 (Young* or youth* or student* or adolescent* or teenager* or teen* or juvenile*).ab,ti.	88,6179
4 ((((((Violen* adj1 behav*) or (at-risk adj1 behav*) or (at risk adj1 behav*) or external*) adj1 behav*) or gang* or bully*) adj1 behav*) or Delinquen* or conduct disorder* or antisocial or anti-social or aggress* or behavio* problem* or crime* or criminal* or devian* or offend* or troublesome).ab,ti.	227,250
5 3 and 4	31,549
6 1 or 5	35,159
7 Randomized controlled trial/ or Experimental Design/ or Between Groups Design/ or Experiment Controls/ or Quasi Experimental Methods/ or Experimental Methods/	33,9107
8 (Quasi-experiment* or quasiexperiment* or Propensity score* or (compar* adj1 group*) or (match* adj1 control*) or (match* adj1 group*) or (match* adj1 compar*) or clinical trial* or experiment* trial* or experiment* design* or experiment* method* or experiment* stud* or experiment* evaluation* or experiment* test* or experiment* assessment* or assessment only or comparison sample or propensity-matched or (Between adj1 group*) or longitudinal*).ab,ti.	743,755
9 (Non-random* or nonradom* or (non adj1 random*)).ab,ti.	130,88
10 ((Control* or treatment* or experiment* or intervention* or Assign*) adj5 (case or group* or subject* or patient* or intervention*)).ab,ti.	1463,135
11 Rct.ab,ti.	10,051
12 (Random* and trial*).ab,ti.	274,567
13 Random Allocation/	59,506
14 7 or 8 or 9 or 10 or 11 or 12 or 13	2300,073
15 6 and 14	8,588
16 Limit 15 to (humans and yr="2008 - 2012")	2,856
17 "Random* adj3 trial*".ab,ti.	0
18 "Random* adj5 trial*".ab,ti.	0
19 (Random* and control* and trial*).ab,ti.	168,053
20 7 or 9 or 10 or 11 or 13 or 19	1762,584
21 7 or 8 or 9 or 10 or 11 or 13 or 19	2272,657
22 6 and 21	8,535
23 Limit 22 to (humans and yr="2008 - 2012")	2,836

APPENDIX TABLE A1.2

ERIC Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S22	S19 and S20	Limiters - Date Published from: 20080101-20120931. Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	894
S21	S19 and S20	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	2,542
S20	S4 or S8	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	21,040
S19	S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	75,050
S18	TI (((random* and trial*)) OR AB (((random* and trial*))))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	2,041
S17	TI rct OR AB rct	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	174
S16	TI (((control** N5 case) or (control* N5 subject*) or (control* N5 group*) or (control* N5 patient*) or (control* N5 intervention**)) OR AB (((control* N5 case) or (control* N5 subject*) or (control* N5 group*) or (control* N5 patient*) or (control* N5 intervention**))))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	16,717
S15	TI (((treatment* N5 case) or (treatment* N5 subject*) or (treatment* N5 group*) or (treatment* N5 patient*) or (treatment* N5 intervention**)) OR AB (((treatment* N5 case) or (treatment* N5 subject*) or (treatment* N5 group*) or (treatment* N5 patient*) or (treatment* N5 intervention**))))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	8,193

(To be continued)

APPENDIX TABLE A1.2 CONTINUED

ERIC Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S14	TI (((experiment* N5 case) or (experiment* N5 subject*) or (experiment* N5 group*) or (experiment* N5 patient*) or (experiment* N5 intervention**))) OR AB (((experiment* N5 case) or (experiment* N5 subject*) or (experiment* N5 group*) or (experiment* N5 patient*) or (experiment* N5 intervention**))))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database – ERIC	10,752
S13	TI (((intervention** N5 case) or (intervention** N5 subject*) or (intervention** N5 group*) or (intervention* N5 patient*)) OR AB (((intervention* N5 case) or (intervention* N5 subject*) or (intervention* N5 group*) or (intervention* N5 patient*)))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	3,949
S12	TI (((assign* N5 case) or (assign* N5 subject*) or (assign* N5 group*) or (assign* N5 patient*) or (assign* N5 intervention*)) OR AB ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control**) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	49,646

(To be continued)

APPENDIX TABLE A1.2 CONTINUED

ERIC Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S11	TI ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control**) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*)) OR AB ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control**) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database – ERIC	53,535
S10	TI ((Non-random* or nonrandom* or (non n1 random*))) OR AB ((Non-random* or nonrandom* or (non n1 random*)))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	195
S9	((DE "Experimental Design") OR (DE "Between Groups Design") OR (DE "Experiment Controls") OR (DE "Quasi Experimental Methods"))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	0
S8	S2 and S7	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	741
S7	S5 or S6	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	1,290

(To be continued)

APPENDIX TABLE A1.2 CONTINUED

ERIC Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S6	TI crim* n1 prevent* OR AB crim* n1 prevent*	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	1,290
S5	DE "Crime Prevention"	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	1,080
S4	S2 and S3 TI (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* n1 behav* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome) OR AB (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* n1 behav* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome)	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	20,819
S3	TI ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*)) OR AB ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	37,133
S2	(DE "Juvenile Delinquency") OR (DE "Predelinquent Youth")	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	603,528
S1		Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - ERIC	0

APPENDIX TABLE A1.3

Medline Search history performed September 24, 2012.

	Searches	Results
1	Exp Juvenile Delinquency/	6,918
2	(predelinquent adj1 youth).ab,ti.	1
3	(Young* or youth* or student* or adolescent* or teenager* or teen* or juvenile*).ab,ti.	685,086
4	(((((Violen* adj1 behav*) or (at-risk adj1 behav*) or (at risk adj1 behav*) or external*) adj1 behav*) or gang* or bully*) adj1 behav*) or Delinquen* or conduct disorder* or antisocial or anti-social or aggress* or behavio* problem* or crime* or criminal* or devian* or offend* or troublesome).ab,ti.	166,495
5	3 and 4	23,169
6	1 or 5	26,686
7	Randomized controlled trial/ or Experimental Design/ or Between Groups Design/ or Experiment Controls/ or Quasi Experimental Methods/ or Experimental Methods/	401,163
8	(Quasi-experiment* or quasiexperiment* or Propensity score* or (compar* adj1 group*) or (match* adj1 control*) or (match* adj1 group*) or (match* adj1 compar*) or clinical trial* or experiment* trial* or experiment* design* or experiment* method* or experiment* stud* or experiment* evaluation* or experiment* test* or experiment* assessment* or assessment only or comparison sample or propensity-matched or (Between adj1 group*) or longitud*)).ab,ti.	558,396
9	(Non-random* or nonradom* or (non adj1 random*)).ab,ti.	9,274
10	((Control* or treatment* or experiment* or intervention* or assign*) adj5 (group* or subject* or patient* or intervention*)).ab,ti.	1056,715
11	Rct.ab,ti.	5,846
12	(Random* and trial*).ab,ti.	202,418
13	Random Allocation/	75,828
14	7 or 8 or 9 or 10 or 11 or 12 or 13	1794,220
15	6 and 14	6,393
16	Limit 15 to (humans and yr="2008 - 2012")	2,155
17	"Random* adj3 trial*".ab,ti.	0
18	"Random* adj5 trial*".ab,ti.	0
19	(Random* and control* and trial*).ab,ti.	124,364
20	7 or 9 or 10 or 11 or 13 or 19	1400,218
21	7 or 8 or 9 or 10 or 11 or 13 or 19	1778,726
22	6 and 21	6,368
23	Limit 22 to (humans and yr="2008 - 2012")	2,148

APPENDIX TABLE A1.4

PsycINFO Search history performed September 17, 2012.

Search set	Search set combination	Search modes	Database	Search results
S22	S19 and S20	Limiters - Publication Year from: 2008-2012; Population Group: Human. Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	1,097
S21	S19 and S20	Limiters - Publication Year from: 2008-2012 Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	1,180
S20	S4 or S8 or S1	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	28,799
S19	S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	337,462
S18	TI ((random* and trial*)) OR AB ((random* and trial*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	30,899
S17	TI rct OR AB rct	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	2,487
S16	TI ((control* N5 case) or (control* N5 subject* or (control* N5 group*) or (control* N5 patient*) or (control* N5 intervention*)) OR AB ((control* N5 case) or (control* N5 subject* or (control* N5 group*) or (control* N5 patient*) or (control* N5 intervention*)))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	110,214
S15	TI ((treatment* N5 case) or (treatment* N5 subject*) or (treatment* N5 group*) or (treatment* N5 patient*) or (treatment* N5 intervention*)) OR AB ((treatment* N5 case) or (treatment* N5 subject*) or (treatment* N5 group*) or (treatment* N5 patient*) or (treatment* N5 intervention*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	100,783

(To be continued)

APPENDIX TABLE A1.4 CONTIUNED

PsycINFO Search history performed September 17, 2012.

Search set	Search set combination	Search modes	Database	Search results
S14	TI (((experiment* N5 case) or (experiment* N5 subject*) or (experiment* N5 group*) or (experiment* N5 patient*) or (experiment* N5 intervention*))) OR AB (((experiment* N5 case) or (experiment* N5 subject*) or (experiment* N5 group*) or (experiment* N5 patient*) or (experiment* N5 intervention*)))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	37,154
S13	TI (((intervention* N5 case) or (intervention* N5 subject*) or (intervention* N5 group*) or (intervention* N5 patient*))) OR AB (((intervention* N5 case) or (intervention* N5 subject*) or (intervention* N5 group*) or (intervention* N5 patient*)))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	28,624
S12	TI (((assign* N5 case) or (assign* N5 subject*) or (assign* N5 group*) or (assign* N5 patient*) or (assign* N5 intervention*))) OR AB ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control**) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	210,010

(To be continued)

APPENDIX TABLE A1.4 CONTIUNED

PsycINFO Search history performed September 17, 2012.

Search set	Search set combination	Search modes	Database	Search results
S11	TI ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control**) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*)) OR AB ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control**) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*))	Search modes - Boolean/Phrase	Interface – EBSCOhost. Search Screen - Advanced Search. Database - PsycINFO	224,059
S10	TI ((Non-random* or nonrandom* or (non n1 random*))) OR AB ((Non-random* or nonrandom* or (non n1 random*)))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	2,780
S9	((DE "Experimental Design") OR (DE "Between Groups Design") OR (DE "Experiment Control") OR (DE "Quasi Experimental Methods"))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	9,105
S8	S2 and S7	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	874

(To be continued)

APPENDIX TABLE A1.4 CONTIUNED

PsyncINFO Search history performed September 17, 2012.

Search set	Search set combination	Search modes	Database	Search results
S7	S5 or S6	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	2,762
S6	TI crim* n1 prevent* OR AB crim* n1 prevent* OR SU crim* n1 prevent*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	2,762
S5	DE "Crime Prevention"	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	2,081
S4	S2 and S3	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	16,743
S3	TI (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* n1 behav* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome) OR AB (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* n1 behav* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome)	Limiters - Publication Year from: 2008-2012 Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	54,627
S2	TI ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*)) OR AB ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*))	Limiters - Publication Year from: 2008-2012; Population Group: Human Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	159,063
S1	(DE "Juvenile Delinquency") OR (DE "Predelinquent Youth")	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - PsycINFO	13,772

APPENDIX TABLE A1.5

SocINDEX Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S23	S21 and S20	Limiters - Date of Publication from: 20080101-20121231 Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	441
S22	S21 and S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	2,372
S21	S1 or S8 or S4	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	55,391
S20	S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18 or S19	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	68,628
S19	TI (((random* and trial*))) OR AB (((random* and trial*)))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	5,258
S18	TI rct OR AB rct	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	338
S17	TI (((control *N5 case) or (control* N5 subject*) or (control* N5 group*) or (control* N5 patient*) or (control* N5 intervention*))) OR AB (((control* N5 case) or (control* N5 subject*) or (control* N5 group*) or (control* N5 patient*) or (control* N5 intervention*)))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	14,878

(To be continued)

APPENDIX TABLE A1.5 CONTIUNED

SocINDEX Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S16	TI (((treatment* N5 case) or (treatment* N5 subject*) or (treatment* N5 group*) or (treatment* N5 patient*) or (treatment* N5 intervention*))) OR AB (((treatment* N5 case*) or (treatment* N5 subject*) or (treatment* N5 group*) or (treatment* N5 patient*) or (treatment* N5 intervention*))))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	16,177
S15	TI (((experiment* N5 case*) or (experiment* N5 subject*) or (experiment* N5 group*) or (experiment* N5 patient*) or (experiment* N5 intervention*))) OR AB (((experiment* N5 case*) or (experiment* N5 subject*) or (experiment* N5 group*) or (experiment* N5 patient*) or (experiment* N5 intervention*))))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	6,426
S14	TI (((intervention* N5 case*) or (intervention* N5 subject*) or (intervention* N5 group*) or (intervention* N5 patient*))) OR AB (((intervention* N5 case*) or (intervention* N5 subject*) or (intervention* N5 group*) or (intervention* N5 patient*))))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	6,354
S13	TI (((assign* N5 case*) or (assign* N5 subject*) or (assign* N5 group*) or (assign* N5 patient*) or (assign* N5 intervention*))) OR AB ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control*) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*)))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	43,981

(To be continued)

APPENDIX TABLE A1.5 CONTIUNED

SocINDEX Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S12	TI ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control*) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*)) OR AB ((quasi-experiment* or quasiexperiment* OR Propensity score* or (compar* N1 group*) or (match* N1 control*) OR (match* N1 group*) OR (match* N1 compar*) OR experiment* trial* OR experiment* design* OR experiment* method* OR experiment* stud* OR experiment* evaluation* OR experiment* test* OR experiment* assessment* OR assessment only OR (comparison n1 samp*) OR propensity match* or (Between N1 group*) or longitud*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	47,047
S10	TI ((Non-random* or nonrandom* or (non n1 random*))) OR AB ((Non-random* or nonrandom* or (non n1 random*)))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	688
S9	((DE "Experimental Design") OR (DE "Between Groups Design") OR (DE "Experiment Controls") OR (DE "Quasi Experimental Methods"))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	1,434
S8	S2 and S7	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	3,060
S7	S5 or S6	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	11,232

(To be continued)

APPENDIX TABLE A1.5 CONTIUNED

SocINDEX Search history performed September 18, 2012.

Search set	Search set combination	Search modes	Database	Search results
S6	TI crim* n1 prevent* OR AB crim* n1 prevent* OR	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	11,216
S5	DE "Crime Prevention"	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	3,980
S4	S2 and S3 TI (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* n1 behav* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome) OR AB (violen* n1 behav* or at-risk n1 behav* or (at risk n1 behav*) or external* n1 behav* or gang* or bully* n1 behav* or Delinquen* OR conduct disorder* OR antisocial or anti-social OR aggress* OR behavio* problem* OR crime* OR criminal* or devian* or offend* or troublesome)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	53,653
S3	TI ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*)) OR AB ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	195,158
S2	TI ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*)) OR AB ((Young* or youth* or student* OR adolescent* OR teenager* or teen* OR juvenile*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	278,392
S1	(DE "Juvenile Delinquency") OR (DE "Predelinquent Youth")	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - SocINDEX with Full Text	6,316

NORDIC SEARCH HISTORIES/STRATEGIES

Bibliotek.dk (Danish) (search performed 8.10 2012)

(((((vold eller lovovertrædelse? eller krimin? eller ((asocial? eller afvig? eller udadre? eller aggressiv?) og (adfærd eller opførsel))) og (unge eller ung eller ungdom? eller teenager? Eller elev?)) og (forebygge?) eller ungdomskrimin*)) og år>2007 192 Hits

Bibsys (Norwegian) (search performed 10.10 2012)

(((((vold or lovovertre* or lovbrudd* or krimin* or (antisosial or asosial* or avvik* or utagere* Or aggressiv*) and (atferd or oppførsel))) and (ungdom* or tenåring* or unge or ung or elev) and (forebygg* or ungdomskrimin*)) 335 hits

Libris (Swedish) (search performed 11.10 2012)

(ungdomskriminalitet or ungdomsbrott*) OR

((våld OR lagöverträ? OR brott? OR lagbrot? OR krimin?) OR ((antisocial OR asocial? OR avvik? OR utagere? OR aggressiv?) AND (atferd OR beteend? OR uppföran?)) AND (ungdom? OR tonåring? OR unga OR ung OR elev? OR student?) AND förebygg? 431 hits

Google strategy Danish¹⁷ (search performed 5.12.2012)

((unge OR ung OR ungdom? OR teenager OR elev) AND ((adfærd OR opførsel) AND (asocial OR afvigende OR udadreagere eller aggressiv)) OR (ungdomskriminalitet eller Ungdomskriminel) OR ((unge OR ung OR ungdom OR teenager OR elev) AND (vold eller lovovertrædelse eller kriminel eller kriminalitet))) AND forebyggelse
All Years

Google strategy Norwegian (search performed 5.12.2012)

17. We checked the first 150 hits for all Google searches.

((ungdom OR tenåring OR unge or ung) AND ((atferd or oppførsel) AND (antisosial OR asosial OR avvikende OR Utagerende OR aggressiv)) OR ungdomskriminell or kriminell) OR ((ungdom OR tenåring OR unge or ung OR elev) AND (vold OR lovovertrедende OR lovbrudd OR kriminel OR kriminalitet)) AND (forebyggelse OR forebygging)
All Years

Google strategy Swedish (search performed 5.12.2012)

((ungdom? OR tonåring? OR unga OR ung OR elev OR student) AND ((atferd OR beteend OR uppföran) AND (antisocial OR asocial OR avvik? OR utagere OR aggressiv)) OR (ungdomskriminalitet or ungdomsbrott) OR ((ungdom? OR tonåring? OR unga OR ung OR elev? OR student?) AND (våld OR lagöverträ? OR brott? OR lagbrot? OR kriminalitet))) AND förebyggande
All Years

APPENDIX 2

On the following pages, an overview is present of all studies included in the analysis with specific characteristics of interest from an implementation perspective. The studies are presented by preventive level, i.e. primary, secondary and tertiary prevention interventions in that order. For each preventive level, studies are listed alphabetically by the surname of the primary author.

PRIMARY PREVENTION INTERVENTIONS

Author	Özer, D., F. Baran, A. Akto, S. Nalbant, E. Ağlamış & Y. Hutzler
Year (publication)	2012
Country	Turkey
Name	Special Olympics program
Aim	Reducing problem behaviour in children with intellectual disabilities and promoting inclusion of these children in a peer environment
Delivery mode	Group-based
Focus	Resources
Theory of change	Inclusive education
Component categories	Other
Duration	8 weeks
Intensity	3 times per week x 90 minutes
Treatment provider and relation to youth	2 football coaches per team with experience and qualifications both for teaching children with intellectual disability and for coaching the sport of football (+1 head coach)
Voluntary or forced participation	Voluntary
Setting	Football field
Target group	Mental health problems or disability
Age-group	<15
Outcome measure	Behaviour problems + aggression/violence
Direction of effect	Positive effect
Quality	Medium

Author	Esbensen, F.-Aa., D. Petersen, T.J. Taylor T & D.W. Osgood
Year (publication)	2012
Country	USA
Name	G.R.E.A.T. (Gang Resistance Education and Training)
Aim	Developing skills to avoid gang involvement
Delivery mode	School-based (classrooms)
Focus	Unclear
Theory of change	Not specified
Component categories	Self-efficacy
Duration	13 lessons
Intensity	13 lessons x 40 minutes
Treatment provider and relation to youth	Law-enforcement officer teaching a class
Voluntary or forced participation	Voluntary (though school-based)
Setting	School-based, in seven cities varying in size, region, and level of gang activity
Target group	General youth
Age-group	<15
Outcome measure	Aggression/violence + self-reported crime
Direction of effect	Tendency towards positive effect
Quality	High

Author	Griffin Jr., J.P., R.C. Holliday, E. Frazier & Braithwaite R.L.
Year (publication)	2009
Country	USA
Name	Building Resiliency and Vocational Excellence (BRAVE) Program.
Aim	Improving social skills across social contexts (i.e., school, family, and community); strengthening resilient behaviour
Delivery mode	School-based + individual mentoring
Focus	Resources
Theory of change	Social learning theory and resilience research
Component categories	self-efficacy
Duration	9 weeks of curriculum + 7 months of mentoring
Intensity	90 minutes 2-3 times per week + 1 hr per week mentoring
Treatment provider and relation to youth	Certified instructors who were young adults of African-American background taking university degrees.
Voluntary or forced participation	Forced (school-based)
Setting	School-based; inner-city Atlanta (poor working and middle class environment, 99% African-American middle school)
Target group	General youth
Age-group	<15
Outcome measure	Aggression/violence
Direction of effect	No effect
Quality	Medium

Author	Hawkins, J.D., S. Oesterle, E.C. Brown, K.C. Monahan, R.D. Abbott, M.W. Arther & R.F. Catalano
Year (publication)	2012
Country	USA
Name	Communities that Care
Aim	Developing healthy, positive behaviours in young people by immersing youth in family, school, community, and peer environments that consistently communicate healthy beliefs and clear standards for behaviour.
Delivery mode	Community-based
Focus	Resources
Theory of change	Social development model
Component categories	Unclear
Duration	6-12 months
Intensity	Variable
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Unclear
Setting	Multiple
Target group	General youth
Age-group	<15
Outcome measure	Behaviour problems + self-reported crime
Direction of effect	Positive effect
Quality	High

Author	Jagers, R.J., A.A. Morgan-Lopez & B.R. Flay
Year (publication)	2009
Country	USA
Name	Aban Aya: 1) SDC (social development curriculum in classroom); 2) SC (school/family/community) taskforce intervention
Aim	(1) Helping youth avoid violence, provocative behaviour, school delinquency, drug use, and unsafe sexual behaviours; (2) Improving parental support, school climate, and community partnership in addition to (1)
Delivery mode	Multiple
Focus	Resources
Theory of change	Theory of triadic influences
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources + self-efficacy
Duration	4 years
Intensity	21 lessons per year
Treatment provider and relation to youth	Health educators hired for the specific program and intensively trained (2 training sessions before each lesson)
Voluntary or forced participation	Voluntary (though school-based)
Setting	12 poor metropolitan schools - predominantly African-American
Target group	General youth
Age-group	<15
Outcome measure	Aggression/violence
Direction of effect	Positive effect
Quality	Medium

Author	Kliewer, W., S.J. Lepore, A.D. Farrell, K.W. Allison, A.L. Meyer, T.N. Sullivan & A.Y. Greene
Year (publication)	2011
Country	USA
Name	Expressive writing
Aim	Reducing aggressive behaviour through expressive writing
Delivery mode	School-based
Focus	Unclear
Theory of change	Expressive writing theory; emotion regulation model
Component categories	Other
Duration	4 weeks
Intensity	2 times a week x 20 minutes
Treatment provider and relation to youth	Intervention facilitators (project staff at bachelor or master's level) received a 2-day training in the expressive writing protocol, classroom management issues, and Child Protective Services reporting laws.
Voluntary or forced participation	Voluntary (though school-based)
Setting	Impoverished, high-crime areas; school-based intervention
Target group	General youth
Age-group	<15
Outcome measure	Aggression/violence + emotional problems
Direction of effect	Tendency towards positive effect
Quality	High

Author	Koglin, U., F. Petermann, P. Heffter & U. Petermann
Year (publication)	2010
Country	Germany
Name	JobFit-Training
Aim	Developing social skills and reducing/preventing aggressive or anti-social behaviour.
Delivery mode	School-based
Focus	Resources
Theory of change	Cognitive- behavioural intervention
Component categories	Understanding of self + behaviour change
Duration	1 school semester
Intensity	12 units of 90 minutes per semester
Treatment provider and relation to youth	JobFit trained student of child psychology teaches max 15 students
Voluntary or forced participation	Voluntary
Setting	School based intervention
Target group	General youth
Age-group	Mixed age-group
Outcome measure	Behaviour problems + emotional problems
Direction of effect	Positive effect
Quality	Medium

Author	Leventhal, T. & V. Dupéré
Year (publication)	2011
Country	USA
Name	Moving to Opportunity (MTO)
Aim	Moving public housing families out of areas of high poverty and into areas of low poverty
Delivery mode	Community-based
Focus	Problem
Theory of change	n/a
Component categories	Pro-social environment and resources
Duration	At least one year
Intensity	Residential
Treatment provider and relation to youth	n/a
Voluntary or forced participation	Voluntary
Setting	Community
Target group	General youth
Age-group	Non-specific
Outcome measure	Behaviour problems + self-reported crime
Direction of effect	No effect
Quality	High

Author	Oesterlem S., J.D. Hawkins, A.A. Fagan, R.D. Abbott & R.F. Catalano
Year (publication)	2010
Country	USA
Name	Communities that Care
Aim	Developing healthy, positive behaviours in young people by immersing youth in family, school, community, and peer environments that consistently communicate healthy beliefs and clear standards for behaviour.
Delivery mode	Community-based
Focus	Resources
Theory of change	Social development model
Component categories	Unclear
Duration	6-12 months
Intensity	Variable
Treatment provider and relation to youth	Variable
Voluntary or forced participation	Unclear
Setting	Community
Target group	General youth
Age-group	<15
Outcome measure	Self-reported crime
Direction of effect	Positive effect
Quality	High

Author	Rich, T., K. Carlson, P. Finn, L. Olsho & B. Rhodes
Year (publication)	2008
Country	USA
Name	Youth Crime Watch (YCW)
Aim	Provide crime-free, drug-free environments through a youth-led movement; instilling positive values, fostering good citizenship, and building self-confidence in children; enhancing school safety
Delivery mode	School-based
Focus	Problems
Theory of change	Not specified
Component categories	Other
Duration	Variable, unclear
Intensity	Variable, unclear
Treatment provider and relation to youth	One adult YCW advisor per school (law enforcement or security officer)
Voluntary or forced participation	Voluntary
Setting	School-based
Target group	General youth
Age-group	Non-specific
Outcome measure	Behaviour problems + self-reported crime
Direction of effect	Unclear
Quality	Medium

Author	Shek, D.T.L & L. Yu
Year (publication)	2012
Country	Hong Kong
Name	Positive Adolescent Training through Holistic Social Programmes (Project PATHS)
Aim	Promoting positive development and reducing problem behaviours
Delivery mode	School-based (classrooms)
Focus	Mixed
Theory of change	Not specified
Component categories	Understanding of self + knowledge, beliefs, attitudes, values, perceived norms + pro-social environment + alternatives to crime
Duration	Variable
Intensity	Variable
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced (school-based)
Setting	Secondary schools grades 1-3
Target group	General youth
Age-group	<15
Outcome measure	Behaviour problems + aggression/violence
Direction of effect	Positive effect
Quality	High

Author	Taylor, B., N. Stein & F. Burden
Year (publication)	2010
Country	USA
Name	Gender violence prevention: (1) an interaction-based curriculum and (2) a law and justice curriculum
Aim	Reducing gender violence / sexual harassment
Delivery mode	School-based (classrooms)
Focus	Problem
Theory of change	Theory of reasoned action
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + self-efficacy
Duration	5-7 weeks
Intensity	40 minutes once per week
Treatment provider and relation to youth	Senior female staff member from a local sexual assault center
Voluntary or forced participation	Forced (school-based)
Setting	School-based: sixth and seventh grade classrooms from three suburban school districts in the Cleveland, Ohio, area
Target group	General youth
Age-group	<15
Outcome measure	Aggression/violence + victimization
Direction of effect	No effect
Quality	Medium

Author	The Multisite Violence Prevention Project corporate author group (Farrell, A.D. et al.)
Year (publication)	2009
Country	USA
Name	(a) Responding in Peaceful and Positive Ways; (b) GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) Families Program
Aim	(a) Promoting individual level protective factors in students; promoting of school-related protective factors; improving teacher management of student aggression; (b) improving parenting practices and family relationships
Delivery mode	Multiple
Focus	Resources
Theory of change	Developmental-ecological theory
Component categories	Unclear
Duration	(a) 20 session student-focussed curriculum; (2) 12-hr workshop and 10 group meetings for teachers; (3) 15-week intervention for families
Intensity	(1) unclear, (2) 12 hours over two days +meetings once every 2-3 weeks, (3) unclear
Treatment provider and relation to youth	Trained interventionists: (1) students or former teachers; 36 hours of training; (2) psychologists / social workers with 20 hours of training
Voluntary or forced participation	Forced (school-based)
Setting	37 schools from four communities: Chicago; Durham, North Carolina; North-eastern Georgia; and Richmond, Virginia
Target group	General youth + youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	<15
Outcome measure	Aggression/violence + victimization
Direction of effect	Mixed
Quality	Medium

Author	van der Velden, F., D. Brugman, J. Boom & W. Koops
Year (publication)	2010
Country	The Netherlands
Name	EQUIP for Educators
Aim	Equipping youth to think and act responsibly and training social skills, anger management and moral education
Delivery mode	School-based (classrooms)
Focus	Mixed
Theory of change	Psycho-education, Aggression Replacement Training, peer helping approach
Component categories	Understanding of self + knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources + alternatives to crime
Duration	16 weeks
Intensity	Twice weekly sessions (18 hours over 16 weeks)
Treatment provider and relation to youth	Teachers (trained for 18 hours)
Voluntary or forced participation	Voluntary (though school-based)
Setting	Pre-vocational secondary school classrooms
Target group	General youth
Age-group	<15
Outcome measure	Behaviour problems
Direction of effect	No effect
Quality	Medium

Author	Van Ryzin, M.J. & T.J. Dishion
Year (publication)	2012
Country	USA
Name	Family Check-up
Aim	To forestall the escalation of adolescent problem behaviour by promoting and motivating skilful parenting through the transition to high school
Delivery mode	Family-based
Focus	Resources
Theory of change	The FCU is grounded in coercion theory with regard to its understanding of the processes that lead to family conflict and youth antisocial behaviour. The intervention itself draws from social learning theory
Component categories	Pro-social environment and resources
Duration	1-2 years (adaptable)
Intensity	Average 8.9 hours (sd= 9.42) over 1-2 years (adaptable)
Treatment provider and relation to youth	Family resource centre in middle-school + therapists working with families
Voluntary or forced participation	Voluntary
Setting	Ethnically diverse metropolitan community, middle-school-based resource centre, family-based intervention.
Target group	General youth
Age-group	<15
Outcome measure	Behaviour problems
Direction of effect	Positive effect
Quality	Medium

Author	Van Ryzin, M.J., E.A. Stormshak & T.J. Dishion
Year (publication)	2012
Country	USA
Name	Family Check-up
Aim	To forestall the escalation of adolescent problem behaviour by promoting and motivating skilful parenting through the transition to high school
Delivery mode	family-based
Focus	Resources
Theory of change	Parenting change - social learning theory
Component categories	Pro-social environment and resources + self-efficacy + motivation
Duration	1-2 years (adaptable)
Intensity	Average 4.4 hours per family
Treatment provider and relation to youth	Family resource centre in middle-school + therapists working with families
Voluntary or forced participation	Voluntary
Setting	School-based but with involvement of the whole family
Target group	General youth
Age-group	<15
Outcome measure	Behaviour problems
Direction of effect	Positive effect
Quality	Medium

Author	Özer, D., F. Baran, A. Aktop, S. Nalbant, E. Ağlamış & Y. Hutzler
Year (publication)	2012
Country	Turkey
Name	Special Olympics program
Aim	Reducing problem behaviour in children with intellectual disabilities and promoting inclusion of these children in a peer environment
Delivery mode	Group-based
Focus	Resources
Theory of change	Inclusive education
Component categories	Other
Duration	8 weeks
Intensity	3 times per week x 90 minutes
Treatment provider and relation to youth	2 football coaches per team with experience and qualifications both for teaching children with intellectual disability and for coaching the sport of football (+1 head coach)
Voluntary or forced participation	Voluntary
Setting	Football field
Target group	Mental health problems or disability
Age-group	<15
Outcome measure	Behaviour problems + aggression/violence
Direction of effect	Positive effect
Quality	Medium

SECONDARY PREVENTION INTERVENTIONS

Author	Crooks, C V, K. Scott, W. Ellis & D.A. Wolfe
Year (publication)	2011
Country	Canada
Name	The Fourth R
Aim	Improving knowledge, awareness and skill development pertaining to developmentally relevant issues of personal safety in relationships, sexual health and substance use with a specific focus on targeting maltreated children
Delivery mode	School-based (classrooms)
Focus	Resources
Theory of change	Not specified
Component categories	Understanding of self + knowledge, beliefs, attitudes, values, perceived norms + self-efficacy
Duration	Variable, 21 lessons
Intensity	Variable
Treatment provider and relation to youth	Teachers with specialisation in health and physical education
Voluntary or forced participation	Voluntary (though school-based)
Setting	High schools in southwestern Ontario
Target group	Other
Age-group	<15
Outcome measure	Aggression/violence
Direction of effect	Positive effect
Quality	High

Author	Currie, M. & M. Startup
Year (publication)	2012
Country	Australia
Name	Doing Anger Differently (DAD)
Aim	Managing youth reactive aggression through the use of percussion
Delivery mode	Group-based
Focus	Problem
Theory of change	Not specified
Component categories	Behaviour change+ other
Duration	10 weeks
Intensity	2 sessions per week
Treatment provider and relation to youth	Psychologist / social worker with at least two years of experience in group therapy with adolescents
Voluntary or forced participation	Voluntary
Setting	School
Target group	Youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	<15
Outcome measure	Behaviour problems + aggression/violence
Direction of effect	Tendency towards positive effect
Quality	Medium

Author	Jagers, R.J., A.A. Morgan-Lopez & B.R. Flay
Year (publication)	2009
Country	USA
Name	Aban Aya: 1) SDC (social development curriculum in classroom); 2) SC (school/family/community) taskforce intervention
Aim	(1) Helping youth avoid violence, provocative behaviour, school delinquency, drug use, and unsafe sexual behaviours; (2) Improving parental support, school climate, and community partnership in addition to (1)
Delivery mode	Multiple
Focus	Resources
Theory of change	Theory of triadic influences
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources + self-efficacy
Duration	4 years
Intensity	21 lessons per year
Treatment provider and relation to youth	Health educators hired for the specific program and intensively trained (2 training sessions before each lesson)
Voluntary or forced participation	Voluntary (though school-based)
Setting	12 poor metropolitan schools - predominantly African-American
Target group	General youth
Age-group	<15
Outcome measure	Aggression/violence
Direction of effect	Positive effect
Quality	Medium

Author	Kumpfer, K.L., J. Xie & R. O'Driscoll
Year (publication)	2012
Country	Ireland
Name	Strengthening Families Program (SFP)
Aim	Enhancing intra-familial bonding, parental supervision, communication of positive family values, self-efficacy, behaviour change, positive adaptation to adversity in at-risk families
Delivery mode	Family-based
Focus	Resources
Theory of change	Social Ecology Model of Adolescent Substance Abuse; social cognitive theory that supports behavioural skills training interventions to improve self-efficacy and behaviour change; Resilience Framework Theory
Component categories	Pro-social environment and resources + behaviour change
Duration	14 weeks
Intensity	Once weekly
Treatment provider and relation to youth	Certified group leaders (2-3 days training)
Voluntary or forced participation	Voluntary
Setting	Rural, peri-urban and urban Irish communities
Target group	Youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	Non-specific
Outcome measure	Aggression/violence + self-reported crime
Direction of effect	Positive effect
Quality	Medium

Author	Seğer, Z. & H.G. Ogelman
Year (publication)	2011
Country	Turkey
Name	The Social Problem-Solving Training Program
Aim	Improving aggressive youths' anger-coping, problem solving and pro-social skills
Delivery mode	Group-based
Focus	Mixed
Theory of change	Not specified
Component categories	Self-efficacy + behaviour change
Duration	9 weeks
Intensity	65-90 minutes per week
Treatment provider and relation to youth	Not specified
Voluntary or forced participation	Voluntary
Setting	School-based but after hours
Target group	Youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	<15
Outcome measure	Aggression/violence
Direction of effect	Mixed effects
Quality	Medium

Author	Sundell, K., K. Hansson, C.A. Löfholm, T. Olsson, L-H. Gustle & C. Kadesjö
Year (publication)	2008
Country	Sweden
Name	Multisystemic Therapy (MST)
Aim	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements
Delivery mode	Multiple
Focus	Resources
Theory of change	Not specified
Component categories	3,5,9
Duration	4-6 months
Intensity	Variable, 24hr on call therapists
Treatment provider and relation to youth	Trained MST clinicians
Voluntary or forced participation	Unclear
Setting	Not specified
Target group	Youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	No effect
Quality	High

Author	The Multisite Violence Prevention Project corporate author group (Farrell, A.D. et al.)
Year (publication)	2009
Country	USA
Name	(a) Responding in Peaceful and Positive Ways; (b) GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) Families Program
Aim	(a) Promoting individual level protective factors in students; promoting of school-related protective factors; improving teacher management of student aggression; (b) improving parenting practices and family relationships
Delivery mode	Multiple
Focus	Resources
Theory of change	Developmental-ecological theory;
Component categories	Unclear
Duration	(1) 20 sessions; (2) 12-hr workshop and 10 group meetings; (3) 15-week intervention
Intensity	(1) unclear, (2) 12 hours over two days +meetings once every 2-3 weeks, (3) unclear
Treatment provider and relation to youth	Trained interventionists (1) students or former teachers; 36 hours of training; (2) psychologists / social workers with 20 hours of training
Voluntary or forced participation	Forced (school-based)
Setting	37 schools from four communities: Chicago; Durham, North Carolina; northeastern Georgia; and Richmond, Virginia
Target group	Youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	<15
Outcome measure	Aggression/violence + victimization
Direction of effect	Mixed effects
Quality	Medium

Author	van der Velden, F., D. Brugman, J. Boom & W. Koops
Year (publication)	2010
Country	The Netherlands
Name	EQUIP for Educators
Aim	Equipping youth to think and act responsibly and training social skills, anger management and moral education
Delivery mode	School-based (classrooms)
Focus	Mixed
Theory of change	Psycho-education, Aggression Replacement Training, peer helping approach
Component categories	Understanding of self + knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources + alternatives to crime
Duration	16 weeks
Intensity	Twice weekly sessions (18 hours over 16 weeks)
Treatment provider and relation to youth	Teachers (trained for 18 hours)
Voluntary or forced participation	Voluntary (though school-based)
Setting	Pre-vocational secondary school classrooms
Target group	General youth
Age-group	<15
Outcome measure	Behaviour problems
Direction of effect	No effect
Quality	Medium

Author	Walton, M.A., S.T. Chermack, J.T. Shope, C.R. Bingham, M.A. Zimmerman, F.C. Blow & R.M. Cunningham
Year (publication)	2010
Country	USA
Name	SafERteens
Aim	Reducing violence among youth seeking emergency room medical treatment through a brief in-situ intervention
Delivery mode	Individual
Focus	Problem
Theory of change	Not specified (but cognitive behavioural in nature)
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + self-efficacy + motivation
Duration	One time event, 35 minutes
Intensity	One time event
Treatment provider and relation to youth	Research social worker / computer program
Voluntary or forced participation	Voluntary
Setting	Hurley Medical Center in Flint, Michigan,
Target group	Other
Age-group	Non-specific
Outcome measure	Aggression/violence + records of crime incidences
Direction of effect	No effect
Quality	High

Author	Wolf, E.M. & D.A. Wolf
Year (publication)	2008
Country	Syracuse, New York, USA
Name	Strategies for Success
Aim	Preparing students in alternative schools for return to mainstream schools
Delivery mode	Individual
Focus	Resources
Theory of change	Transitional planning
Component categories	Pro-social environment and resources
Duration	Not specified
Intensity	Not specified
Treatment provider and relation to youth	Transitional planner and social worker
Voluntary or forced participation	Voluntary
Setting	Alternative schools
Target group	Alternative school children
Age-group	Mixed age group
Outcome measure	Behaviour problems
Direction of effect	Negative effect
Quality	High

TERTIARY PREVENTION INTERVENTIONS

Author	Behrens, C.
Year (publication)	2009
Country	USA
Name	Moral Reconation Therapy (MRT)
Aim	Promoting increased moral reasoning and a positive self-image and identity among youth
Delivery mode	Group-based
Focus	Resources
Theory of change	Cognitive behavioural therapy; the treatment program included learning theory, Kohlberg- and Piagetbased concepts and stages of moral development, Erikson's ego and identity concepts, Maslow's hierarchy of needs, and concepts from Carl Jung
Component categories	Understanding of self + knowledge, beliefs, attitudes, perceived norms
Duration	Average 45-60 days
Intensity	1 hour weekly
Treatment provider and relation to youth	Not specified
Voluntary or forced participation	Forced
Setting	In a residential facility for juvenile offenders as well as in a community centre
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Self-reported crime
Direction of effect	No effect
Quality	Medium

Author	Bergseth, K.J.
Year (publication)	2010
Country	USA
Name	After-care intervention
Aim	Facilitating the transition to the community for youth who have been in out-of-home placement by providing support, increasing supervision and identifying and coordinating community-based services
Delivery mode	Multiple
Focus	Resources
Theory of change	Transitional planning
Component categories	Pro-social environment and resources
Duration	6 months +
Intensity	Unclear
Treatment provider and relation to youth	Transition coordinator
Voluntary or forced participation	Forced
Setting	Small community, community-based
Target group	High-risk offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	No effect
Quality	Medium

Author	Biehal, N., S. Ellison & I. Sinclair
Year (publication)	2012
Country	England
Name	Intensive Fostering (MTFC)
Aim	Enhancing positive interactions, monitoring youth whereabouts, activities and friends, reinforcing pro-social behaviour through foster family placement
Delivery mode	Family-based
Focus	Resources
Theory of change	Social learning theory and family system theory
Component categories	Knowledge, beliefs, attitudes, perceived norms + pro-social environment and resources + deterrent factors
Duration	1 year
Intensity	24 hour on-call staff + 24 hour foster care
Treatment provider and relation to youth	Foster family + therapist
Voluntary or forced participation	Forced
Setting	Foster home setting
Target group	High risk offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	No effect
Quality	Medium

Author	Borduin, C.M, C.M. Schaeffer & N. Heiblum
Year (publication)	2009
Country	USA
Name	Multisystemic therapy (MST) supplemented with three primary adaptations for treating juvenile sexual offenders
Aim	Addressing the total environment of at-risk youth to prevent re-offending of youth who have offended sexually
Delivery mode	Multiple
Focus	Resources
Theory of change	Behavioural and cognitive-behavioural therapies and structural family therapy
Component categories	Pro-social environment and resources + alternatives to crime+ other
Duration	Variable (average 30.8 weeks)
Intensity	3 hours of intervention per week; 24 hours on-call staff
Treatment provider and relation to youth	Graduate students in clinical psychology with ca. 1.5 years of clinical experience with youth
Voluntary or forced participation	Forced
Setting	Home, school or neighbourhood settings [not described further]
Target group	Sex offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Brugman, D & M.D. Bink
Year (publication)	2011
Country	The Netherlands
Name	EQUIPping Youth to Help One Another
Aim	Reducing cognitive distortions, improving social skills and stimulating moral development through a peer-to-peer approach
Delivery mode	Group-based
Focus	Mixed
Theory of change	Peer-helping approach combined with cognitive behavioural therapy
Component categories	Understanding of self + knowledge, beliefs, attitudes, perceived norms + self-efficacy
Duration	3 months
Intensity	3 lessons per week
Treatment provider and relation to youth	EQUIP trainer
Voluntary or forced participation	Forced
Setting	Highly urbanised part of the Netherlands
Target group	High-risk offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences + emotional problems
Direction of effect	Tendency towards positive effect
Quality	Medium

Author	Burraston, B.O., D.J. Cherrington & S.J. Bahr
Year (publication)	2012
Country	USA
Name	The real victory program
Aim	Reducing delinquent behaviour through cognitive training and automated mobile phone reinforcement
Delivery mode	Group-based
Focus	Unclear
Theory of change	Cognitive transformation theory; life course theory - character development model; control model
Component categories	Knowledge, beliefs, attitudes, values, perceived norms
Duration	6 weeks + 1 year of automated phone calls
Intensity	90 minutes per week during teaching + phone call time during year of follow-up
Treatment provider and relation to youth	Not specified
Voluntary or forced participation	Forced
Setting	Not specified
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	Positive effect
Quality	Medium

Author	Butler, S., J. Baruch, N. Hickey & P. Fonagi
Year (publication)	2011
Country	England
Name	Multisystemic Therapy (MST)
Aim	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements
Delivery mode	Multiple
Focus	Resources
Theory of change	Social-ecological approach to intervention
Component categories	Pro-social environment and resources + alternatives to crime+ other
Duration	11-30 weeks
Intensity	Min. 3 times per week
Treatment provider and relation to youth	Psychologist / social worker
Voluntary or forced participation	Forced
Setting	Home-based and community-based
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Behaviour problems + aggression/violence + records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Cho, Y.
Year (publication)	2008
Country	Korea
Name	Automated voice-print recognition supervision program (AVRS)
Aim	Eliminate curfew violation among youth on probation by monitoring whereabouts through automated phone calls with voiceprint technology.
Delivery mode	Individual
Focus	Problem
Theory of change	By requiring high risk juvenile probationers to stay home all night, the AVRS program seeks to prevent crime in ways consistent with rational choice theory and the situational crime prevention approach. Aim is to reduce the opportunities for juvenile probationers to leave home and commit crimes at night.
Component categories	Deterrent factors
Duration	3-12 months
Intensity	10pm-6am daily
Treatment provider and relation to youth	Probation officer + computer automated phone calls
Voluntary or forced participation	Forced
Setting	Home-based
Target group	High-risk offenders
Age-group	Non-specific
Outcome measure	Self-reported crime
Direction of effect	Unclear
Quality	High

Author	Clark, H.G., S.R. Mathur & B.Helding
Year (publication)	2011
Country	USA
Name	Enhanced transition services
Aim	Supporting youth during transition into the community after release from a juvenile detention centre
Delivery mode	Individual
Focus	Unclear
Theory of change	n/a
Component categories	Pro-social environment and resources
Duration	Unclear
Intensity	Unclear
Treatment provider and relation to youth	Transition specialist
Voluntary or forced participation	Forced
Setting	Not specified
Target group	Youth with mental health problems or disability
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	No effect
Quality	Medium

Author	Dunham, J.B.
Year (publication)	2009
Country	USA
Name	Functional Family Therapy
Aim	Emphasizing factors which enhance protective factors and reduce risk through relational family-focussed therapy
Delivery mode	Family-based
Focus	Mixed
Theory of change	Not specified
Component categories	Motivation + behaviour change
Duration	Not specified
Intensity	Not specified
Treatment provider and relation to youth	FFT therapists (completed 3 day training) with more than one year of experience in FFT having provided therapy to at least 50 youth prior to study commencement
Voluntary or forced participation	Forced
Setting	Not specified
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	No effect
Quality	Medium

Author	Edelen, M.O., M.E. Slaughter, D.F. McCaffrey, K. Becker & A.R. Morral
Year (publication)	2010
Country	Los Angeles, USA
Name	Phoenix Academy
Aim	Providing specialised substance abuse treatment in a residential setting
Delivery mode	Multiple
Focus	Unclear (probably problem-focussed since drug rehab)
Theory of change	n/a
Component categories	Unclear
Duration	Not specified
Intensity	Not specified
Treatment provider and relation to youth	Not specified
Voluntary or forced participation	Forced
Setting	Residential setting, community-based
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	Tendency towards negative effect
Quality	High

Author	Erickson, C.J.
Year (publication)	2008
Country	USA
Name	Functional Family Therapy
Aim	Emphasizing factors which enhance protective factors and reduce risk through relational family-focussed therapy
Delivery mode	Family-based
Focus	Mixed
Theory of change	Not specified
Component categories	Motivation + behaviour change
Duration	3-4 months
Intensity	Weekly 60 minute sessions
Treatment provider and relation to youth	FFT therapists certified for juvenile sex offender treatment provision
Voluntary or forced participation	Forced
Setting	Primarily home-based
Target group	Sex offenders
Age-group	Non-specific
Outcome measure	Self-reported crime
Direction of effect	Negative effect
Quality	Medium

Author	Freudenberg, N., M. Ramaswamy, J. Daniels, M. Crum, D.C. Ompad & D. Vlahov
Year (publication)	2010
Country	USA
Name	REAL-MEN
Aim	Reducing drug use, risky sexual behaviour and criminal activity among adolescents leaving jail
Delivery mode	Group-based
Focus	Problem
Theory of change	n/a
Component categories	Knowledge, beliefs, attitudes, values, perceived norms
Duration	8 weeks
Intensity	30 hours over ca. 8 weeks
Treatment provider and relation to youth	Youth with experience in crime and or substance abuse
Voluntary or forced participation	Voluntary
Setting	In jail and subsequently in the community through a community-based organization
Target group	High-risk offenders
Age-group	> 15
Outcome measure	Behaviour problems + self-reported crime + records of crime incidences
Direction of effect	Tendency towards positive effect
Quality	High

Author	Gillis, H.L, M.A. Gass & K.C. Russell
Year (publication)	2008
Country	USA
Name	Project Adventure: Behaviour management through adventure (BMtA)
Aim	To develop behaviour management through group development activities in a campus setting and through adventure-based intervention
Delivery mode	Group-based
Focus	Resources
Theory of change	Not specified
Component categories	Behaviour change+ other
Duration	30-365 days
Intensity	40 hours a week
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced
Setting	Georgia (in group homes in the community) [Not further specified]
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	Positive effect
Quality	Medium

Author	Gillis, H.L. & M.A Gass
Year (publication)	2010
Country	USA
Name	Legacy (adventure-based behaviour management program)
Aim	Developing healthy and appropriate sexual roles, social skills and behaviour control among youth who have offended sexually
Delivery mode	Multiple
Focus	Mixed
Theory of change	Behaviour management through adventure
Component categories	Behaviour change+ other
Duration	Average 1 year
Intensity	Residential program
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced
Setting	Residential treatment unit
Target group	Sex offenders
Age-group	Non-specific
Outcome measure	Self-reported crime
Direction of effect	Reducing crime
Quality	Medium

Author	Glisson, C., S.K. Schoenwald, A. Hemmelgarn, P. Green, D. Dukes, K.S. Armstrong & J.E. Chapman
Year (publication)	2010
Country	USA
Name	Multisystemic Therapy (MST) + ARC (for availability, responsiveness, and continuity)
Aim	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements while improving the implementation of effective mental health services in the community
Delivery mode	Multiple
Focus	Mixed
Theory of change	Not specified
Component categories	Pro-social environment and resources + alternatives to crime+ other
Duration	Variable, average 105.22 days
Intensity	Variable
Treatment provider and relation to youth	Trained ARC specialist (PhD industrial organizational psychologist) + MST-trained therapists
Voluntary or forced participation	Forced
Setting	Poor rural Appalachian communities in eastern Tennessee; intervention is community- and home-based
Target group	Youth with mental health problems or disability
Age-group	Non-specific
Outcome measure	Behaviour problems + records of crime incidences
Direction of effect	No effect
Quality	High

Author	Henggeler, S.W., E.J. Letourneau, J.E. Chapman, P.A. Schewe, C. Borduin & M.R. McCart
Year (publication)	2009
Country	USA
Name	Multisystemic therapy (MST) supplemented with three primary adaptations for treating juvenile sexual offenders
Aim	Addressing the total environment of at-risk youth to prevent re-offending of youth who have offended sexually
Delivery mode	Multiple
Focus	Resources
Theory of change	Behavioural and cognitive-behavioural therapies and structural family therapy
Component categories	Pro-social environment and resources + alternatives to crime+ other
Duration	Variable, average 7.1 months
Intensity	24 hour on-call staff
Treatment provider and relation to youth	MST clinicians
Voluntary or forced participation	Voluntary study participation
Setting	Large Midwestern city; community-based (home, school, community)
Target group	Sex offenders
Age-group	Non-specific
Outcome measure	Self-reported delinquency (past 90 days); self-reported substance abuse, probation and after-care case records
Direction of effect	Positive effect
Quality	High

Author	Henggeler, S.W., M.R. McCart, P.B. Cunningham & J.E. Chapman
Year (publication)	2012
Country	USA
Name	CM-FAM (contingency management and family engagement)
Aim	Enhancing the capacity of juvenile drug courts to reduce youth substance use and criminal behaviour
Delivery mode	Multiple
Focus	Mixed
Theory of change	Not specified
Component categories	Pro-social environment and resources + deterrent factors +self-efficacy
Duration	4 months
Intensity	Weekly sessions
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced
Setting	Primarily office-based
Target group	Other
Age-group	Non-specific
Outcome measure	Self-reported delinquency (past 90 days); self-reported substance abuse
Direction of effect	Positive effect
Quality	High

Author	Jeong, S., E.F. McGarrel & N. Kroovand Hipple
Year (publication)	2012
Country	USA
Name	Family Group Conferences
Aim	Facilitating conferences between the offender and his/her victim and their respective families and resource persons to address the victim's needs, hold the youth accountable and develop a community of support for both the victim and the offender
Delivery mode	Other (mediation (family-based))
Focus	Unclear
Theory of change	Restorative justice
Component categories	Other
Duration	One time event, 1 hour
Intensity	One time event, 1 hour
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Voluntary
Setting	Not specified
Target group	First time offenders
Age-group	< 14 years
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	No effect
Quality	Medium

Author	Krebs, C.P., P.K. Lattimore, A.J. Cowell & P. Graham
Year (publication)	2010
Country	USA
Name	JBTC (Juvenile Breaking the Cycle)
Aim	Identifying, providing, and coordinating individualized services from local juvenile justice, social service, and educational systems to impact individual outcomes for high-risk, drug-involved delinquent youth
Delivery mode	Multiple
Focus	Problem
Theory of change	n/a
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources
Duration	12 months
Intensity	Variable, unclear
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Voluntary
Setting	Not specified
Target group	High-risk offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	Positiv effect
Quality	Medium

Author	Lancaster, C., R.S. Balkin, R. Garcia & A. Valarezo
Year (publication)	2011
Country	USA
Name	Psycho-educational counselling focussed on life skills
Aim	Reducing delinquent behaviour through psycho-educational counselling focussed on life skills
Delivery mode	Group-based
Focus	Resources
Theory of change	Not specified
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + self-efficacy
Duration	7 weeks
Intensity	2 hours per week
Treatment provider and relation to youth	Graduate and doctoral students + supervision
Voluntary or forced participation	Forced
Setting	University-run counselling centre in the heart of an impoverished inner-city neighbourhood
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Loughran, T.A., E.P. Mulvey, C.A. Schubert, J. Fagan, A.R. Piquero & S.H. Losoya
Year (publication)	2009
Country	USA
Name	Institutional care
Aim	Reducing recidivism among serious youth offenders by placing them in institutional care
Delivery mode	System (individual)
Focus	Unclear
Theory of change	Deterrence theory
Component categories	Other
Duration	Variable
Intensity	Variable
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced
Setting	Detention institution vs. Community probation
Target group	High-risk offenders
Age-group	Mixed age group
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	No effect
Quality	High

Author	Onifade, E., J. Wilkins, W. Davidson, C. Campbell & J. Petersen
Year (publication)	2011
Country	USA
Name	Informal vs. Formal probation
Aim	Reducing youth offender recidivism through limiting contact with the juvenile justice system
Delivery mode	System (individual)
Focus	n/a
Theory of change	Risk-need-responsivity 'theory' (best-practice)
Component categories	Other
Duration	30 days
Intensity	Periodic checks
Treatment provider and relation to youth	Probation officer
Voluntary or forced participation	Forced
Setting	Not specified
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Recidivism (reconviction)
Direction of effect	None
Quality	Medium

Author	Povitsky Stickle, W., N.M. Connell, D.M. Wilson & Gottfredson D.
Year (publication)	2008
Country	USA
Name	Teen Court
Aim	Limiting the formal processing of first-time juvenile offenders within the juvenile justice system
Delivery mode	System
Focus	Unclear
Theory of change	Re-integration
Component categories	Other
Duration	One-time event
Intensity	One-time event
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Voluntary
Setting	Teen Court
Target group	First time offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidenc- es
Direction of effect	Negative effect
Quality	Medium

Author	Sawyer, A.M., & C.M. Borduin
Year (publication)	2011
Country	USA
Name	Multisystemic Therapy (MST)
Aim	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements
Delivery mode	Multiple
Focus	Resources
Theory of change	Behavioural and cognitive-behavioural therapies and structural family therapy
Component categories	Pro-social environment and resources + alternatives to crime+ other
Duration	Variable, unclear
Intensity	Variable, unclear
Treatment provider and relation to youth	Graduate students in clinical psychology with ca. 1.5 years of clinical experience with youth
Voluntary or forced participation	Forced
Setting	Home, school or neighbourhood settings[not described further]
Target group	High-risk offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Schuster, R.A.
Year (publication)	2010
Country	Midwest, USA
Name	Functional Family Therapy
Aim	Emphasizing factors which enhance protective factors and reduce risk through relational family-focussed therapy
Delivery mode	Family-based
Focus	Mixed
Theory of change	Not specified
Component categories	Motivation + behaviour change
Duration	3 months
Intensity	Weekly hour-long sessions
Treatment provider and relation to youth	Master's level therapists of same ethnicity
Voluntary or forced participation	Forced
Setting	Not specified (outpatient)
Target group	High-risk offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	No effect
Quality	Medium

Author	Sehlin, S.
Year (publication)	2009
Country	Sweden
Name	Mediation
Aim	Mediating a suitable compensation agreement between offender and victim and facilitating understanding of causes and consequences of criminal behaviour among both offender and victim
Delivery mode	Other (mediation)
Focus	Unclear
Theory of change	Re-integrative shaming; restorative justice
Component categories	Other
Duration	One-time mediation event
Intensity	One-time mediation event
Treatment provider and relation to youth	Social services employee for mediation meetings
Voluntary or forced participation	Voluntary
Setting	Not specified
Target group	High-risk offenders
Age-group	Mixed age group
Outcome measure	Self-reported crime
Direction of effect	Positive effect
Quality	High

Author	Sexton, T, & C.W. Turner
Year (publication)	2010
Country	USA
Name	Functional Family Therapy
Aim	Emphasizing factors which enhance protective factors and reduce risk through relational family-focussed therapy
Delivery mode	Family-based
Focus	Mixed
Theory of change	Not specified
Component categories	Motivation + behaviour change
Duration	3-6 months
Intensity	12 sessions over 3-6 months
Treatment provider and relation to youth	FFT trained therapist
Voluntary or forced participation	Forced
Setting	Home-based
Target group	In-between offenders
Age-group	Non-specific
Outcome measure	Records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Stewart, M.J.
Year (publication)	2008
Country	USA
Name	Juvenile diversion programs
Aim	Reducing recidivism of youth offenders through juvenile diversion programs focussing on reintegration
Delivery mode	Individual (not clearly specified)
Focus	Unclear
Theory of change	Restorative justice; reintegrative shaming
Component categories	Alternatives to crime+ other
Duration	Unclear
Intensity	Unclear
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced
Setting	Inner-ring suburbs of Cleveland, Ohio
Target group	First time offenders
Age-group	Non-specific
Outcome measure	Self-reported crime
Direction of effect	No effect
Quality	High

Author	Sundell, K., K. Hansson, C.A. Löfholm, T. Olsson, L-H. Gustle & C. Kadesjö
Year (publication)	2008
Country	Sweden
Name	Multisystemic Therapy (MST)
Aim	Addressing the total environment of at-risk youth to prevent re-offending and out-of-home placements
Delivery mode	Multiple
Focus	Resources
Theory of change	n/a
Component categories	Pro-social environment and resources + alternatives to crime+ other
Duration	4-6 months
Intensity	Variable, 24hr on call therapists
Treatment provider and relation to youth	Trained MST clinicians
Voluntary or forced participation	Unclear
Setting	Not specified
Target group	6
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	No effect
Quality	High

Author	van Ryzin, M.J., & L.D. Leve
Year (publication)	2012
Country	USA
Name	MTFC
Aim	Enhancing positive interactions, monitoring youth whereabouts, activities and friends, reinforcing pro-social behaviour through foster family placement
Delivery mode	Family-based
Focus	Resources
Theory of change	Social learning theory and family system theory
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources + alternatives to crime
Duration	196 days of intervention services (median 190)
Intensity	24 hour on-call staff + 24 hour foster care
Treatment provider and relation to youth	trained foster families (20 hours of training) + 24 hour on-call staff
Voluntary or forced participation	Forced
Setting	Home and community-based
Target group	High-risk offenders
Age-group	Mixed age group
Outcome measure	Behaviour problems + self-reported crime + records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Walsh, M.A. & K.C. Russell
Year (publication)	2010
Country	USA
Name	Wilderness Endeavors Program
Aim	Promote self-efficacy, resilience and hope through an adventure-based intervention to first-time offenders
Delivery mode	Group-based
Focus	Resources
Theory of change	Self-efficacy, resilience, hope
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + alternatives to crime + self-efficacy
Duration	21 days
Intensity	24 hours a day
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Forced
Setting	In the wilderness (country-side)
Target group	First time offenders
Age-group	Non-specific
Outcome measure	Behaviour problems
Direction of effect	No effect
Quality	Medium

Author	Westermark, P.K.
Year (publication)	2011
Country	Sweden
Name	MTFC
Aim	Enhancing positive interactions, monitoring youth whereabouts, activities and friends, reinforcing pro-social behaviour through foster family placement
Delivery mode	Family-based
Focus	Resources
Theory of change	Social learning theory and family system theory
Component categories	Knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources + deterrent factors
Duration	10 months
Intensity	Weekly therapy
Treatment provider and relation to youth	Therapist, trained foster family
Voluntary or forced participation	Study participation voluntary but referred to treatment
Setting	Family-based
Target group	Youth with aggression, antisocial behaviour, conduct disorder or substance abuse
Age-group	Non-specific
Outcome measure	Behaviour problems + aggression/violence + records of crime incidences
Direction of effect	Positive effect
Quality	High

Author	Worling, J.R., A. Littlejohn & D. Bookalam
Year (publication)	2010
Country	Canada
Name	Sexual Abuse: Family Education and Treatment (SAFE-T)
Aim	Providing individually tailored treatment for adolescents who have offended sexually and their families
Delivery mode	Multiple
Focus	Problem
Theory of change	n/a
Component categories	Understanding of self + knowledge, beliefs, attitudes, values, perceived norms + pro-social environment and resources
Duration	16-24 months
Intensity	Not specified
Treatment provider and relation to youth	Unclear
Voluntary or forced participation	Unclear
Setting	Community-based (not further specified)
Target group	Sex offenders
Age-group	Non-specific
Outcome measure	Self-reported crime + records of crime incidences
Direction of effect	Positive effect
Quality	Medium

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SYSTEMATIC REVIEW OF YOUTH CRIME PREVENTION INTERVENTIONS

PUBLISHED 2008-2012

This review centers on evaluations of youth crime prevention interventions published between 2008 and 2012. The aim of the review is to bring forward the newest information to supplement existing knowledge about crime preventive methods targeting youth.

The review lists 56 studies, all targeting 12-17 year olds, using experimental or quasi-experimental research designs and focusing on effects in terms of disruptive or criminal behavior. The review provides detailed descriptions of all identified studies, and the characteristics and effectiveness of the interventions is analyzed.

THIS REPORT HAS BEEN PRODUCED FOR TRYGFONDEN AND THE DANISH CRIME PREVENTION COUNCIL
TrygFonden and The Danish Crime Prevention Council have entered into an ambitious collaboration. The objective of this collaboration is to reduce crime and increase the feeling of security in Denmark by engaging citizens and creating new knowledge about crime and prevention that can strengthen crime prevention professionals in their work. The collaboration consists of nine projects and focuses on burglaries and home robberies, violence and vandalism in public spaces as well as sexual assaults among youth.