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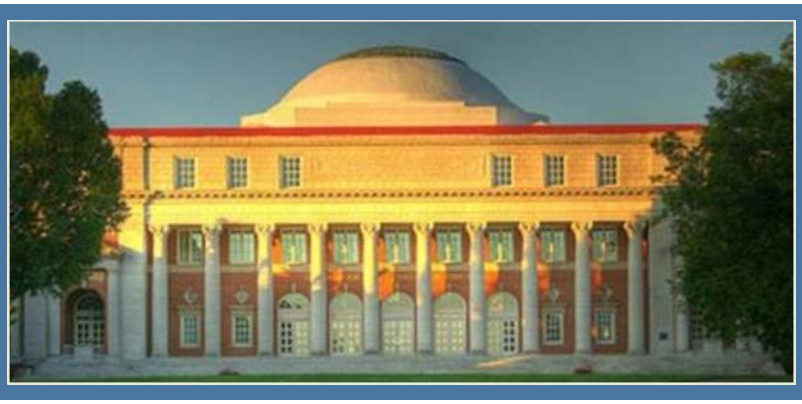

Meta-Analysis of Research on the Effectiveness of Juvenile Drug Courts

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Structured Abstract

Objectives. This systematic review and meta-analysis quantitatively synthesized findings from the most current evidence base of juvenile drug court effectiveness research. The objectives of the meta-analysis were to examine the effects of juvenile drug courts on general recidivism, drug recidivism, and drug use outcomes; and to explore variability in these effects across characteristics of the juvenile participants and drug courts. To address these objectives, we synthesized results from randomized and controlled quasi-experimental design studies that reported on the effects of juvenile drug courts located in the United States.

Search methods. We conducted a comprehensive and systematic literature search to identify all relevant studies (published or unpublished) that met our prespecified eligibility criteria, and the literature search is current through December 2014. We searched several electronic databases, supplemented with searches of websites, research registers, reference lists, and hand-searches of key journals and conference proceedings.

Data collection and analysis. Standard systematic review practices were used for data collection and analysis. Titles, abstracts, and full-text reports were screened independently by two researchers. A third author resolved any disagreements about eligibility for inclusion. Studies eligible for inclusion were independently coded by two researchers, with a third author resolving any coding disagreements. All data extraction followed a standardized coding protocol, with data entered directly into a FileMaker Pro database. Inverse variance weighted random-effects meta-analysis models were used to estimate overall mean effect sizes, and mixed-effect meta-regression models were used to explore variability in effects across various study characteristics. Contour-enhanced funnel plots were used to assess for publication bias.

Results. An extensive literature search located 46 eligible experimental or quasi-experimental evaluations of juvenile drug courts. The quantitative synthesis of effect sizes provided no evidence that juvenile drug courts were more or less effective than traditional court processing in terms of general recidivism, drug recidivism, and drug use outcomes. There was no evidence of an effect on these outcomes during the juvenile drug court program period and in the postprogram period. The juvenile drug court evaluations were generally of poor methodological quality. Very few studies employed random assignment, and substantial baseline differences were found between drug court and comparison groups on baseline risk and demographics. Restricting the meta-analysis to studies using the most rigorous designs (randomized and matched quasi-experimental design) provided no evidence of effectiveness on general recidivism, drug recidivism, or drug use outcomes. Finally, there was no evidence that any of the measured participant characteristics or drug court features were associated with drug court effects.

Conclusions. There is no evidence that juvenile drug courts are more or less effective than traditional court processing in terms of reducing juveniles' recidivism and drug use, but there is also no evidence of harm. The quality of the body of evidence is very low, however, so we have little confidence in these null findings.

Implications for guidelines. To establish the effects of juvenile drug courts, future evaluations should use random assignment or rigorous matching procedures to ensure the equivalence of groups in juvenile drug court and comparison conditions.

Keywords: *drug courts, juveniles, meta-analysis, recidivism, substance use*

Summary of Findings

Juvenile Drug Courts Compared With Traditional Court Processing

Setting: Juvenile drug courts in the United States
Intervention: Juvenile drug court
Comparison: Traditional court processing

Patient or population: Youth ages 18 or under who pass screening criteria or are identified as having potential substance use histories or problems

Outcomes	Anticipated Absolute Effects[a] (95% CI)		Relative Effect (95% CI)	Number of Participants (Studies)	Quality of the Evidence (Grade)
	Risk With Traditional Processing	Risk With Juvenile Drug Court			
General recidivism—during program	**Study population**		**OR 1.18** (0.71 to 1.98)	1,721 participants (2 randomized studies, 9 observational studies)	⊕◯◯◯ Very low
	345 per 1,000	**383 per 1,000** (272 to 510)			
General recidivism—postprogram	**Study population**		**OR 1.03** (0.82 to 1.30)	7,373 participants (1 randomized study, 40 observational studies)	⊕◯◯◯ Very low
	440 per 1,000	**447 per 1,000** (392 to 505)			
Drug recidivism—postprogram	**Study population**		**OR 1.31** (0.78 to 2.19)	2,794 participants (12 observational studies)	⊕◯◯◯ Very low
	240 per 1,000	**293 per 1,000** (198 to 409)			
Drug use—during program	**Study population**		**OR 0.70** (0.26 to 1.91)	725 participants (3 randomized studies, 5 observational studies)	⊕◯◯◯ Very low
	470 per 1,000	**383 per 1,000** (188 to 629)			

Note. CI = confidence interval; OR = odds ratio.
[a] The risk in the intervention group (and its 95% confidence interval) is based on the median risk in the included comparison groups and the relative effect of the intervention (and its 95% CI).

GRADE Working Group Grades of Evidence
High quality: We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate quality: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.
Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

Introduction

Many youth involved in the juvenile justice system suffer from alcohol or substance use problems (McClelland, Elkington, Teplin, & Abrahm, 2004; Robertson, Dill, Husain, & Undesser, 2004; Teplin et al., 2005). Given that substance use problems are highly correlated with criminal recidivism (e.g., van der Put, Creemers, & Hoeve, 2014), rehabilitative efforts aimed at reducing recidivism among youth may also need to address these concurrent substance use issues. Juvenile drug courts are specialized dockets designed for juvenile offenders with alcohol or other drug problems. Drug court programs aim to reduce criminal recidivism among drug-involved offenders and typically involve risk assessments, interaction with judges, monitoring and supervision, incentive and sanctions, and referral to counseling and treatment services (Belenko & Dembo, 2003).

The first drug court program opened in 1989 in Miami-Dade County, Florida. By June 30, 2014 there were an estimated 2,966 drug courts in the United States, 433 of which were juvenile drug courts [National Drug Court Resource Center, 2015]. Despite the proliferation of juvenile drug courts, prior reviews of research suggest that juvenile drug courts may have only modest, if any, effects on recidivism (Latessa & Reitler, 2015; Latimer, Morton-Bourgon, & Chretien, 2006; Mitchell, Wilson, Eggers, & MacKenzie, 2012a, 2012b; Shaffer, 2006; Stein, Homan, & DeBerard, 2015). However, these reviews have not fully explored whether and how various characteristics of the drug court programs may be associated with program effects. The current systematic review and meta-analysis therefore aimed to provide a comprehensive synthesis of the juvenile drug court literature with particular emphasis on examining variability in effects across programs.

Juvenile Drug Court Model

Compared with the punitive, adjudication-focused approaches common in traditional criminal courts, drug courts take a rehabilitative problem-solving approach to dealing with crime and substance use (Butts & Roman, 2004; Inciardi, McBride, & Rivers, 1996). The juvenile drug court model uses a therapeutic jurisprudence model aimed at reducing recidivism and rehabilitating juvenile offenders with substance use problems. This integrated treatment and justice model recognizes that juvenile offenders with substance use problems face unique challenges and treatment needs (Belenko & Dembo, 2003). Services include frequent judicial hearings in court where judges review juveniles' progress, work with program staff and/or families to develop individualized treatment and rehabilitation plans, and implement incentives and sanctions based on juvenile behavior. The incentives and sanctions in a juvenile drug court are based on results from frequent drug tests, rewarding abstinence from drugs and punishing youth who use substances. In addition to this periodic judicial monitoring, youth are referred to additional substance use treatment services in the community. Juvenile drug court programs often last for 12 to 18 months but can vary considerably in length given that program graduation often requires sustained abstinence from drugs and compliance with program requirements.

In 2003, the National Drug Court Institute and National Council of Juvenile and Family Court Judges convened a workgroup of experts that outlined 16 strategies and recommendations for juvenile drug court implementation (U.S. Bureau of Justice Assistance, 2003). These 16 strategies were (1) collaborative planning that engages all stakeholders in a coordinated

systemic approach; (2) teamwork conducted in an interdisciplinary and nonadversarial way; (3) clearly defined target population and eligibility criteria aligned with the program's goals and objectives; (4) frequent judicial involvement and supervision; (5) monitoring and evaluation system to assess program impact; (6) partnerships with community organizations; (7) comprehensive treatment planning tailored to the unique needs of youth; (8) developmentally appropriate services tailored to the unique needs of youth; (9) gender-appropriate services; (10) cultural competence in policies, procedures, and personnel training; (11) focus on strengths of youth and their families; (12) family engagement throughout the program; (13) educational linkages tailored to the unique needs of youth; (14) frequent, random, and observed drug testing; (15) goal-oriented incentives and sanctions; and (16) confidentiality policies and procedures that guard the privacy of youth. These strategies were not intended to be research-based benchmarks, but nonetheless they provide a useful framework for understanding some of the key issues in the implementation and operation of juvenile drug courts.

Prior Reviews of Juvenile Drug Court Research

Several prior literature reviews have attempted to synthesize the juvenile drug court effectiveness research, but conclusions have varied. For instance, whereas some narrative literature reviews have concluded that there is limited evidence of the effectiveness of juvenile drug courts (Belenko, 2001; Roman & DeStefano, 2004), other narrative reviews have suggested that the research demonstrates evidence of effectiveness (Henggeler, 2007; van Wormer & Lutze, 2011).

Numerous meta-analyses have quantitatively synthesized the findings from the juvenile drug court literature. For instance, in the largest meta-analysis to date, Mitchell, Wilson, Eggers, and MacKenzie (2012a, 2012b) synthesized findings from 34 juvenile drug court evaluations current through 2010. They found that juvenile drug courts were associated with significantly lower general recidivism [mean odds ratio [*OR*] = 1.37) but found no evidence of an effect on drug recidivism (mean *OR* = 1.06) nor actual drug use (mean *OR* = 1.50). In a more recent meta-analysis of 31 juvenile drug court evaluations current through 2012, Stein, Homan, and DeBerard (2015) found a significant but small reduction in postprogram recidivism (mean $\varphi = .11$). Older meta-analyses based on smaller subsets of the research literature have reported either small beneficial effects on recidivism (Shaffer, 2006) or have found no evidence of effects on recidivism (Latimer, Morton-Bourgon, & Chretien, 2006; Utah Criminal Justice Center, 2012).

These prior meta-analyses are not up to date with the most current research evidence on juvenile drug court effects, however, and thus they do not include evidence from recent evaluations (e.g., Latessa, Sullivan, Blair, Sullivan, & Smith, 2013). Furthermore, these prior meta-analyses did not thoroughly investigate variability in the effects of juvenile drug courts, nor did they focus on how courts' adoption of the "16 strategies" might be associated with program effects. Given the modest effect on criminal recidivism that has been documented in these prior meta-analyses, it is therefore crucial to examine the circumstances and settings in which juvenile drug courts may be most or least effective.

Objectives

This meta-analysis therefore sought to quantitatively synthesize findings from the most current evidence base of juvenile drug court research, with particular emphasis on examining variability in effectiveness. Specifically, this meta-analysis examined (1) the effects of juvenile drug courts

on general recidivism, (2) the effects of juvenile drug courts on drug-related recidivism, (3) the effects of juvenile drug courts on drug use, and (4) variability in these effects across participant and drug court characteristics.

Methods

Protocol and Registration

The current study updates findings from a prior meta-analysis on drug courts (Mitchell et al., 2012b). Thus, the current study generally followed the protocol for the original meta-analysis, which is freely available on the Campbell Collaboration website at: http://www.campbellcollaboration.org/lib/project/74/. Because the current study only focused on juvenile drug courts (whereas the original meta-analysis included both adult and juvenile drug courts), we made a few minor modifications to the inclusion/exclusion criteria, described below.

Inclusion and Exclusion Criteria

The population of eligible studies for this meta-analysis was experimental and controlled quasi-experimental evaluations of juvenile drug courts. To be eligible for inclusion, studies had to (1) evaluate a drug court program, defined as a specialized court designed to handle drug-involved cases that involves referring youth to treatment services, conducting regular drug screens, and involvement of a judge who actively monitors progress and sanctions behaviors; (2) include a comparison condition that was treated in the traditional fashion by the court system (e.g., probation with or without referral to treatment services); (3) measure criminal behavior (such as arrest or conviction) at least once after the start of the program; (4) report findings on a study sample of youth age 18 or under; (5) be published during or after 1989; (6) be conducted in the United States or Canada; and (7) use an appropriate research design.

Appropriate research designs included the following characteristics:

- Youth were randomly assigned to conditions.
- Quasi-experiments matched participants on at least one baseline measure of criminal offending or substance use.
- Quasi-experiments used statistical controls to adjust for baseline differences in participants' offending or substance use.
- Quasi-experiments provided enough information to permit calculation of effect sizes indexing baseline differences in participants' offending or substance use.

We excluded studies that compared one drug court treatment with another drug treatment program of similar intensity (i.e., treatment–treatment comparisons or dose-response evaluations). There were no other restrictions on eligibility.

Search Strategy

A comprehensive search strategy was used to identify studies that met the aforementioned inclusion criteria. The original literature search was completed in August 2011 (see Mitchell et

al., 2012b, for more details). For the current study, we updated the literature search through December 2014. The following electronic databases were searched using ProQuest: ERIC, International Bibliography of Social Sciences, ProQuest Criminal Justice, ProQuest Education, ProQuest Family Health, ProQuest Health & Medical Complete, ProQuest Health Management, ProQuest Nursing & Allied Health, ProQuest Psychology, ProQuest Science, ProQuest Social Science, ProQuest Sociology, ProQuest Dissertations & Theses (United States, United Kingdom, and Ireland), PsycARTICLES, PsycINFO, and Sociological Abstracts. We conducted extensive supplementary searches of the following research registers and websites: Campbell Collaboration Library, Cochrane Collaboration Library, CrimeSolutions.gov, International Clinical Trials Registry, National Criminal Justice Reference Services, Center for Court Innovation, Chestnut Health Systems, Drug Court Clearinghouse, National Drug Court Institute, National Council of Juvenile and Family Court Judges, NPC Research, RAND Drug Policy Research Center, Reclaiming Futures, and the Urban Institute. We checked the bibliographies of all screened and eligible studies, as well as the bibliographies of prior narrative reviews and meta-analyses. We conducted hand-searches of 2010–2014 conference proceedings from the American Society of Criminology, as well as manuscripts published in *Drug Court Review* and *Juvenile & Family Court Journal*.

Screening and Coding Procedures

Under the supervision of the first author, a team of master's-level research assistants conducted all eligibility screening and coding. First, all abstracts and titles were screened independently by two researchers; we retrieved the full text for any report deemed potentially eligible by at least one researcher. Next, all retrieved full text reports were screened for eligibility independently by two researchers; the first author resolved any disagreements about eligibility. Finally, the studies deemed eligible for inclusion were independently coded by two researchers and the first author resolved any coding disagreements.

All data extraction followed a standardized coding protocol; data were entered directly into a FileMaker Pro database. The coding protocol was an abbreviated version of the one used in the original meta-analyses (Mitchell et al., 2012b) and provided detailed instructions for extracting data related to general study characteristics, participant groups, the drug court conditions, outcome measures, and statistical data needed for effect size calculations.

Statistical Procedures

Effect size metric. Most included studies reported binary measures for recidivism and substance use, so we used the odds ratio effect size to index the effects of juvenile drug courts. Odds ratio effect sizes were coded such that values greater than one indicated beneficial drug court effects (e.g., lower recidivism, lower substance use). All analyses were conducted using the log odds ratio effect size. The results were translated back into the odds ratio metric for ease of interpretability. For the handful of studies that measured outcomes on a continuous scale (e.g., mean number of new arrests), we used a small-sample corrected standardized mean difference effect size (Hedges' *g*) and used the Cox transformation to convert those to odds ratio effect sizes (Sánchez-Meca, Marín-Martínez, & Chacón-Moscoso, 2003). We examined the distribution of effect sizes and sample sizes for outliers, but no outliers were identified.

Moderator variables. We measured a wide range of moderator variables indexing various study, method, drug court setting, and participant characteristics. General study and method characteristics included publication type (journal article vs. other), publication year, country, study design (randomized experiment vs. quasi-experiment), possible implementation problems (yes, no/unclear), and follow-up overlap with drug court treatment period (complete, partial, or no overlap).

Characteristics of the drug courts included year first opened, number of youth served per year, number of youth served in most recent year, number of drug court phases, number of drug tests per week in the first phase, number of status hearings per month in the first phase, length of drug court (in months), method of disposition (pre-plea, post-plea, both), whether charges were dismissed upon graduation, whether violent offenders were excluded from participation, whether drug offenses were required for eligibility, the explicit mention of dedicated drug court staff, the provision of a written document of contingencies, the explicit mention of a standardized risk-assessment tool, the referral of youth to brand-name substance use treatment providers, the number of treatment providers referred to (single, multiple), the number of substance use treatment modalities referred to (single, multiple), and whether psychiatric comorbidities were addressed in treatment. We also measured whether the drug court adhered to the "16 strategies," assessing whether each strategy was explicitly mentioned in the program description, implied by the description of the program, explicitly not used based on the program description, or not mentioned/cannot tell.

Finally, characteristics of the youth included the sex composition of the sample (percentage male), racial/ethnic composition of the sample (percentage Black, Hispanic, and White), average age of participants, average number of prior arrests, and average number of prior drug arrests.

Missing data. When primary studies failed to include sufficient statistical information to estimate effect sizes, we contacted the study authors for that information. We did not impute missing effect sizes on any outcome variables but, rather, omitted them from any analysis involving those outcomes. Given the inconsistent reporting of the key features of the drug courts (including adherence to the 16 strategies), we contacted study authors to request information about the characteristics and settings of the drug courts.

Analytic strategies. All analyses were weighted using random effects inverse variance weights to ensure each effect size's contribution was proportionate to its statistical precision (Hedges & Olkin, 1985; Lipsey & Wilson, 2001). Only one effect size per participant sample was included in any given meta-analysis to ensure the statistical independence of effect size estimates in each analysis. Several studies included two or more measures of recidivism, or measured outcomes at multiple follow-up points. To ensure the statistical independence of effect sizes within any given analysis, we subset our primary analyses by outcome type (general recidivism, drug recidivism, drug use) and follow-up period (during program, postprogram). For studies that reported multiple postprogram effects for a given outcome, we first selected effects measured at the most frequently reported follow-up point (12–18 months for general recidivism; 6–12 months for drug recidivism), and when those were not available we selected the first available follow-up point for

that study.[1] If more than one effect size was reported within each of these categories, then we used a set of decision rules to select one effect size. Namely, preference was given to effect sizes that (1) were general (i.e., covered all types of offenses as opposed to a specific offense type), (2) were based on arrests, (3) were dichotomous, (4) were measured at the latest time point during a follow-up period, and (5) were adjusted for other confounding characteristics (e.g., arrest history, demographics).

Random-effects meta-analyses (using the restricted maximum likelihood estimator for the random-effects variance component) were used to estimate the average effects for each outcome type at each follow-up period. The quality of the body of evidence for each mean effect size was then rated using the Cochrane Collaboration's Grading of Recommendations Assessment, Development and Evaluation Working Group (GRADE) criteria (Guyatt, Oxman, Schüemann, Tugwell, & Knotterus, 2010). Mixed-effect meta-regression models were then used to investigate variability in effects across the moderator variables. We also used contour enhanced funnel plots (Peters, Sutton, Jones, Abrams, & Rushton, 2008) to explore the possibility of bias resulting from the omission of small sample size studies with null or negative findings due to selective publication, reporting, or other forms of dissemination biases. None of the funnel plots (see Appendix C) indicated asymmetry, thus providing no clear evidence of small study bias.

Results

Literature Search

We identified 7,369 candidate reports in the updated literature search; 520 were duplicates that were dropped from consideration and 5,704 were screened as ineligible at the abstract level (Exhibit 1). Of the 1,145 articles retrieved in full text, 1,141 were deemed ineligible. The final meta-analysis includes findings from 32 studies (reported in 81 documents) reporting findings for 46 independent samples that reported results on 8,738 juveniles (Appendix A includes references to all studies included in the meta-analysis).

Description of Included Studies

Exhibit 2 provides a brief summary of the 46 samples included in the meta-analysis, and Exhibit 3 presents descriptive statistics for the key features of the studies, outcomes, and participants in those 46 samples. Most of the studies (89%) were published in journal articles and all (100%) were conducted in the United States. The methodological quality of the studies was generally poor; only three studies (7%) randomly allocated participants to conditions, the average overall attrition rate was 0.18 [standard deviation (*SD*) = 0.24] and the average differential attrition between drug court and comparison groups was 0.06 (*SD* = 0.09). Although the drug court and

[1] Appendix B presents results from meta-analyses estimated separately for specific postprogram follow-up periods: 0–5.9 months, 6–11.9 months, 12–17.9 months, 18–23.9 months, and 24–35.9 months. To examine whether recidivism effects varied over follow-up periods, we estimated meta-regression models with robust variance estimates, including all effect sizes at all follow-up points, split by recidivism type. The results from these models provided no evidence that recidivism effects varied across follow-up periods (general recidivism b = 0.01, 95% confidence interval [CI: -0.02, 0.03]; drug recidivism b = -0.01, 95% CI [-0.10, 0.08]). We therefore elected to present the main findings using the general during program and postprogram periods, given that there was no evidence that effects varied significantly across shorter or longer postprogram follow-up periods.

comparison groups in the studies were matched well in terms of age (mean Hedges' $g = 0.00$), on average the groups were nonequivalent in terms of risk level, racial composition, and sex composition. All baseline difference effect sizes were coded such that positive values ($g > 0$, $OR > 1$) indicated the participants in the juvenile drug courts were at lower risk of recidivism. Thus, compared with participants in the comparison conditions, the juvenile drug courts participants tended to be at significantly lower risk, were more likely to be White, and more likely to be female.

Most of the effect sizes reported in the studies indexed differences on measures of general recidivism (72%), and the average maximum length of follow-up was 18.53 months (*SD* = 12.81). The effect sizes reported in studies often were completely overlapping with the drug court intervention period (17%), or partially overlapping (43%); only 39% of effect sizes were reported entirely in a postprogram reporting period.

The demographic composition of the study samples was predominantly male (*M* = 79%) and White (*M* = 67%), with an average age of 15.93 (*SD* = 0.59). Few studies reported prior arrest history for participants; among those studies, youth in the drug courts had an average of 4.95 prior arrests (*SD* = 3.67; *k* = 17) and 1.21 prior drug arrests (*SD* = 0.53; *k* = 6) upon entry into the drug court.

Exhibit 4 presents descriptive statistics for the key features of the juvenile drug courts, as reported in the studies. On average, the drug courts served 16.5 youth per year (*SD* = 10.95), were delivered in 3.6 phases (*SD* = 1.57), conducted urinalysis screens approximately 3.9 times per week in the first phase (*SD* = 3.36), had 2.5 status hearings per month in the first phase (*SD* = 1.38), and lasted 10.43 months (*SD* = 2.61). The method of disposition and how charges were handled upon graduation were poorly reported in most studies. Most of the drug courts explicitly excluded violent offenders (67%), and few studies (15%) required youth to have a drug offense in order to be eligible for participation. Most studies (74%) reported dedicated drug court staff or reported using a risk-assessment tool (61%), but few studies (24%) reported providing youth with written documents explaining the contingencies of the program. Finally, most of the drug courts referred youth to multiple substance use treatment providers (80%) and multiple levels of care (70%).

Exhibit 5 presents descriptive statistics for the key features of the juvenile drug courts, as reported by responses to our author inquiries.[2] We only received responses to our inquiries for 17 of the 46 drug courts (37% response rate), so these results should be interpreted with extreme caution. They do not necessarily reflect the entire body of juvenile drug courts present in the research literature. According to the author responses, on average, the drug courts conducted urinalysis screens around 7.6 times per week in the first phase (*SD* = 3.00) and had 2.75 status hearings per month in the first phase (*SD* = 1.12). More than half (53%) of the drug courts involved families in treatment planning. Most drug courts (76%) were embedded within a juvenile or family court, and most (76%) dismissed charges upon graduation. More than half (57%) provided youth with a written document outlining the contingencies of the program, and

[2] To reduce the response burden for authors, we did not inquire about all key features of the drug courts (as shown in Exhibit 4). We only inquired about a select set of drug court features that were reported inconsistently or were deemed most relevant for the purposes of this review.

only one (5%) operated under a zero-tolerance type of policy. The drug courts often referred youth to single treatment providers (47%) or multiple treatment providers (35%). The most common type of treatments youth were referred to were group counseling, individual counseling, family therapy, cognitive-behavioral therapy, and contingency management.

Exhibit 6 shows the drug courts' adherence to each of the 16 juvenile drug court strategies as reported in the studies included in the meta-analysis (top panel; rated as explicitly used, implicitly used, explicitly not used, or unclear) and as reported in response to our author queries (bottom panel; rated as yes, somewhat, no, or don't know). As shown in the top panel of Exhibit 6, the most frequently reported strategies in the actual study reports were monitoring and evaluation, drug testing, family engagement, and goal-oriented incentives and sanctions. The most infrequently reported strategies in the actual study reports were cultural competence, developmentally appropriate services, confidentiality, and a focus on strengths. As shown in the bottom panel of Exhibit 6, the author responses indicated a higher percentage of drug courts using most of the 16 strategies. The most frequently used strategies were comprehensive treatment planning, judicial involvement and supervision, drug testing, teamwork, and clearly defined target populations. Based on the author responses, the most infrequently reported strategies were cultural competence, developmentally appropriate services, and gender appropriate services.

Overall Effects of Juvenile Drug Courts

We first conducted a series of meta-analyses used to estimate the overall effects of juvenile drug courts, with analyses split by outcome type (general recidivism, drug recidivism, drug use) and timing (during program, postprogram[3]).

General recidivism. Exhibit 7 shows results from the meta-analysis synthesizing findings from the 11 studies that measured general recidivism during the juvenile drug court program. Although the mean effect size was positive in direction (favoring the juvenile drug court groups), it was not statistically significant, thus there was no evidence of an effect of juvenile drug courts on general recidivism during the program (OR = 1.18, 95% CI [0.71, 1.98], τ^2 = 0.29, I^2 = 67.36%, H^2 = 3.06, Q_{10} = 25.76, p = .004). The quality of the body of evidence for this mean effect size was very low.

Exhibit 8 shows results from the meta-analysis synthesizing findings from the 41 studies that measured general recidivism after the juvenile drug court program period. Again, although the mean effect size was positive in direction (favoring the juvenile drug court groups), it was not statistically significant, thus there was no evidence of an effect of juvenile drug courts on general recidivism after the program (OR = 1.03, 95% CI [0.82, 1.30], τ^2 = 0.40, I^2 = 79.81%, H^2 = 4.95, Q_{40} = 187.33, p < .0001). The quality of the body of evidence for this mean effect size was very low.

Drug recidivism. None of the studies included in the meta-analysis provided effect sizes for drug recidivism outcomes during the program period. Exhibit 9 shows results from the meta-analysis synthesizing findings from the 12 studies that measured drug recidivism after the juvenile drug court program period. Although the mean effect size was positive in direction (favoring the

[3] See Appendix B for results split by different postprogram follow-up periods.

juvenile drug court groups), it was not statistically significant; thus, there was no evidence of an effect of juvenile drug courts on drug recidivism measures after the program (*OR* = 1.31, 95% CI [0.78, 2.19], τ^2 = 0.47, I^2 = 86.46%, H^2 = 7.38, Q_{11} = 111.35, $p < .0001$). The quality of the body of evidence for this mean effect size was very low.

Drug use. Exhibit 10 shows results from the meta-analysis synthesizing findings from the eight studies that measured drug use during the juvenile drug court program period. Although the mean effect size was negative in direction (favoring the comparison groups), the meta-analysis synthesizing these results provided no evidence of an effect (*OR* = 0.70, 95% CI [0.26, 1.91], τ^2 = 0.92, I^2 = 79.36%, H^2 = 4.84, Q_7 = 27.70, $p = .0002$). None of the studies included in the meta-analysis provided effect sizes for drug use outcomes in the postprogram period. The quality of the body of evidence for this mean effect size was very low.

Variability in Effects

As evidenced by the τ^2, I^2, H^2, and *Q* statistics reported above, there was a substantial amount of heterogeneity in the observed effect sizes for each of the meta-analyses. Given the observed heterogeneity and our original goal of examining variability in the effects of juvenile drug courts, we next conducted a series of meta-regression models to examine whether various methodological features, juvenile characteristics, or drug court characteristics were associated with larger or smaller effects on the recidivism and drug use outcomes of interest. All moderator analyses were again estimated separately by outcome type (general recidivism, drug recidivism, drug use) and follow-up timing (during program, postprogram).

Method quality. We first examined whether the various methodological features of the studies were associated with the observed effects on recidivism and drug use outcomes. Exhibit 5 shows unstandardized regression coefficients from a series of bivariate meta-regression models predicting the effect sizes with each of the method quality characteristics in turn. With so few effect sizes available for each outcome, it was not possible to estimate multivariable meta-regression models that controlled for other potential confounders. Given the large number of significance tests used to examine these bivariate relationships, we used a Benjamini-Hochberg correction (Benjamini & Hochberg, 1995) for multiple comparisons (within each of the four outcome categories) to account for potential inflation in estimates of statistical significance.

The results indicated that few of the method quality characteristics were significantly associated with effect size magnitude (Exhibit 11). For instance, there was no evidence that studies using more rigorous designs (randomized experiments or quasi-experiments using individual matching). Indeed, restricting the meta-analyses to these more rigorous designs yielded substantively similar results to those reported in Exhibits 7–10 for general recidivism during program (*OR* = 1.15, 95% CI [0.53, 2.49]), general recidivism postprogram (*OR* = 1.04, 95% CI [0.79, 1.36]), drug recidivism postprogram (*OR* = 1.67, 95% CI [0.89, 3.11]), and drug use during program (*OR* = 0.64, 95% CI [0.14, 2.99]). Thus, despite the somewhat poor quality of the study designs used in this literature, restricting the analyses to the most rigorous designs still provided no evidence of an effect of juvenile drug courts on recidivism and drug use outcomes.

There was also no evidence that overall attrition or differential attrition rates were associated with effect size magnitude. Although studies with possible implementation problems had

significantly smaller effects on postprogram general recidivism measures (*b* = -0.51, 95% CI [-1.00, -0.02]), the mean effect was still not significantly different from zero among the studies with implementation problems (*OR* = 1.21, 95% CI [0.92, 1.59]) or among the studies without implementation problems (*OR* = 0.73, 95% CI [0.48, 1.09]). Furthermore, after applying the Benjamini-Hochberg correction for multiple comparisons, this effect was no longer statistically significant. Thus, although the body of literature synthesized in this meta-analysis tends to suffer from poor methodological quality (Exhibit 2), there was no evidence that variations in these proxies for study quality were consistently associated with larger or smaller effects.

Juvenile characteristics. We next examined whether the characteristics of the juveniles in the studies were associated with observed effect sizes. Exhibit 11 shows unstandardized regression coefficients from another series of bivariate meta-regression models, again predicting effect sizes for each juvenile characteristic in turn. The results provided little evidence of variability in juvenile drug court effects across the demographic characteristics of the juveniles in the study. It is important to note, of course, that these demographic variables are at the aggregate study level (e.g., percentage of male participants) so cannot provide insight into variability in effects at the individual level (e.g., whether drug courts are more effective for males).

Drug court characteristics. We next examined whether the characteristics of the juveniles in the studies were associated with observed effect sizes.[4] Exhibit 12 shows unstandardized regression coefficients from another series of bivariate meta-regression models that predicted effects sizes with each individual drug court characteristic. The results indicated that courts referring youth to multiple treatment providers reported significantly smaller effects on postprogram drug recidivism (*b* = -1.18, 95% CI [-2.10, -0.27]); however, this effect was not statistically significant after applying the Benjamini-Hochberg correction for multiple comparisons. The results also indicated that studies that explicitly reported using risk-assessment tools had significantly better effects on drug use outcomes (*OR* = 1.19, 95% CI [0.56, 2.50]) compared with those that did not (*OR* = 0.25, 95% CI [0.09, 0.64]). Again, this effect was not statistically significant after applying the Benjamini-Hochberg correction for multiple comparisons.

The bottom section of Exhibit 12 shows results from the meta-regression models examining whether the explicit reported use of the recommended juvenile drug court strategies were associated with the effects of drug courts. Although several of the strategies initially showed significant relationships with effects (albeit in a negative direction, such that explicit reporting of these strategies was associated with smaller effect sizes), none of these effects remained statistically significant after applying the Benjamini-Hochberg correction for multiple comparisons (see Appendix D for box plots displaying the distribution of effect sizes by outcome type and whether studies explicitly reported using the different strategies).

Summary

This study synthesized findings from 46 controlled studies examining the effectiveness of juvenile drug courts. The first three aims of this study were to examine the effectiveness of juvenile drug courts in reducing general recidivism, drug recidivism, and drug use among youth.

[4] All moderator analyses used the drug court characteristics that were extracted from the primary study reports. We did not use the author reported variables given the low response rate to the author inquiries.

Using data from the controlled comparison studies, we found no evidence that juvenile drug courts were associated with reductions in general recidivism, drug recidivism, or drug use either during the program period or after the program period. The methodological quality of the included studies was low, however; few studies used random allocation of participants to groups, studies had high attrition rates, and there were substantial baseline differences between drug court and comparison participants in terms of prior risk, race, and sex. When restricting the analyses to studies using more rigorous designs (randomized experiments or quasi-experiments using individual matching), we still found no evidence of significant beneficial effects. Thus, the findings from this meta-analysis provide no evidence of an effect of juvenile drug courts, but the quality of this body of evidence is low.

The final aim of this study was to examine variability in the effects of drug courts across different features of the juvenile participants and the drug courts themselves (including adherence to the recommended "16 strategies" for juvenile drug courts). Despite the observed variability in the overall effects of the juvenile drug courts, we found no evidence that the effects of drug courts varied according to various participant characteristics and drug court characteristics. Any conclusions from these results are speculative, however, based on the correlational nature of the meta-regression models as well as the inconsistent reporting of these features in the primary study reports.

Based on the findings from this meta-analysis, the quality of the evidence is very low, so we have little confidence in these null effect estimates. High-quality randomized controlled trials will be needed to replicate these findings to establish whether juvenile drug courts are indeed ineffective or could be effective in certain settings using rigorous evaluation procedures.

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Exhibit 1. Study Identification Flow Diagram

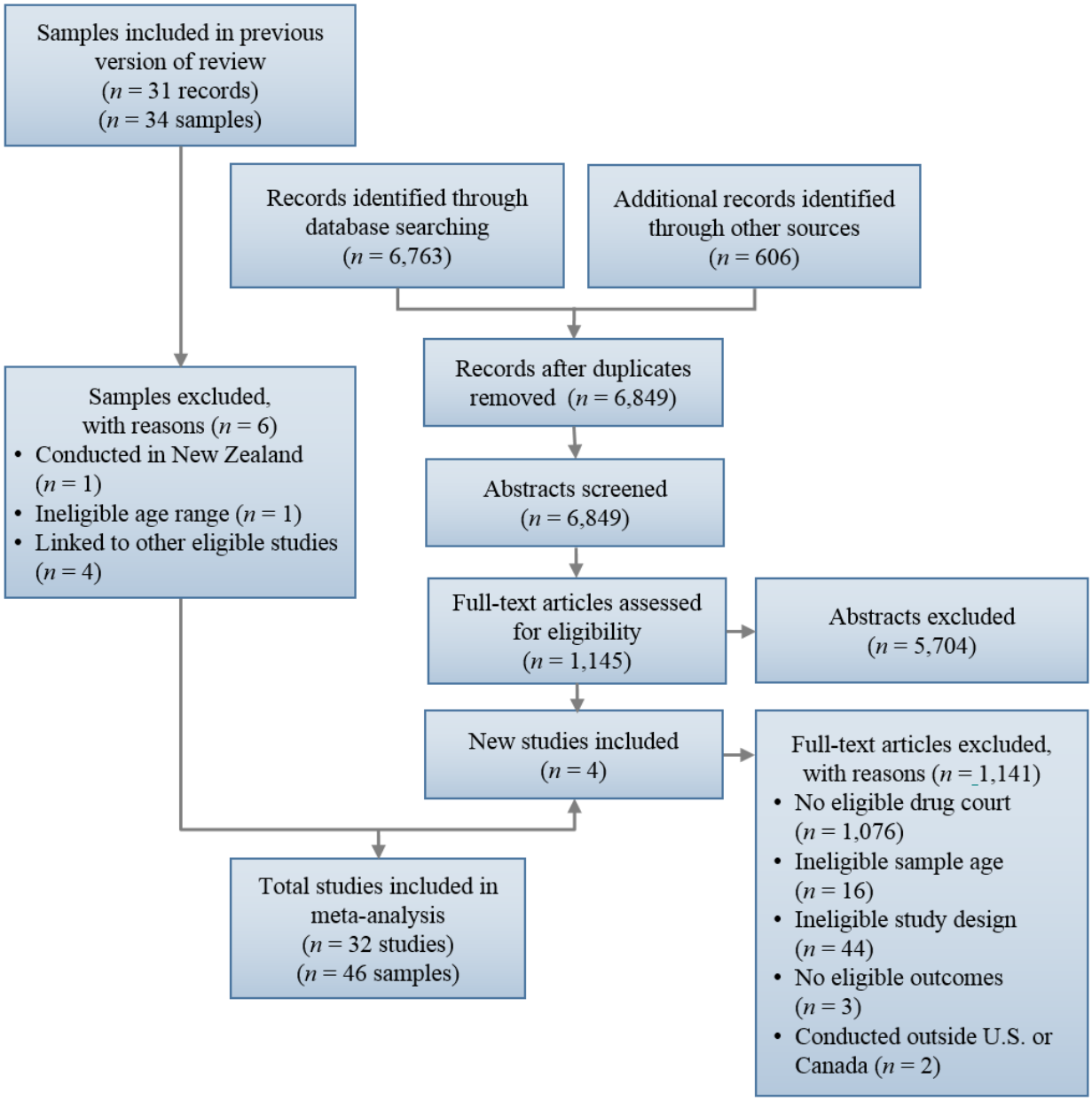

Exhibit 2. Characteristics of Included Studies

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Adkins et al. (2011)	Polk, Marshall, Woodbury Counties, IA	The Polk County Juvenile Drug Court was designed for delinquent juveniles who had a history of substance abuse, had family support, and were not sexual offenders, drug-dealers, or considered dangerous. The court structure involved three phases, with a fourth aftercare phase to help youths reintegrate into their communities upon completion of the program. Phases entailed close supervision, graduated sanctions, interventions and incentives, regular drug testing, attendance at court hearings, counseling, Alcoholics Anonymous/Narcotics Anonymous (AA/NA) meetings, completion of community service, and enrollment in school or employment. Each phase was expected to last 3–4 months, although program completion time varied by participant.	A matched comparison group was constructed through case files. The comparison group was comparable with the drug court participants on demographic characteristics, drug abuse, and criminal history. There is no information about the type of treatment and services received by comparison group youth.
Brown & Latessa (2002)	Dearborn and Ohio Counties, IN	The Dearborn and Ohio Counties Juvenile Drug Court Program, also known as REDIRECT, was designed for first time and repeat non-violent juvenile offenders. The court structure involved three phases, with a 6-month aftercare component. Phases entailed drug testing, attendance at status review hearings, and the use of sanctions and incentives. The average length of the program was 13.5 months, although it varied from 9–18 months.	A historical comparison group was selected from a pool of juveniles who met eligibility criteria for the drug court. There is no information about the type of treatment and services received by comparison group youth.
Byrnes & Hickert (2004)	Third District, Dona Ana County, NM	The Third District Juvenile Drug Court was designed for juvenile offenders referred by the juvenile court judge, probation department, or diversion program. The court structure involved four phases, which entailed random drug screens, curfew checks, appearances in drug court, group counseling, therapy, community service, and engagement in 12-step programs. The length the program was 9 months, and the average participant took 250 days to graduate.	The comparison group was comprised of juvenile probationers with an alcohol or drug offense. No further information was provided regarding types of treatment received. In order for a juvenile to be included in the comparison group, they had to be referred to the juvenile court prior to their probation disposition.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Carey et al. (2006)	Clackamas County, OR	The Clackamas County Juvenile Drug Court was designed for 14- to 17-year-old nonviolent juvenile offenders. The court structure involved four phases and included an aftercare component. The court entailed random urinalyses, attendance at drug court, and completion of specified treatment objectives at each phase. Sanctions and goal-oriented incentives were imposed when deemed necessary. The minimum length of the program was 12 months, and aftercare was considered the final 3 months. Participants must have successfully completed the aftercare program in order to graduate.	The comparison group was constructed by selecting juvenile offenders who were eligible for drug court but not referred, for reasons including counselor preference for another program, transportation issues, etc. The sample was then matched on demographic and criminal history characteristics. Comparison youth may have received a variety of different treatments, but no further information is provided about the services and treatment they received.
Crumpton et al. (2006)	Harford County, MD	The Harford County Juvenile Drug Court was designed for adjudicated juvenile repeat-offenders aged 13–17 with a history of substance abuse. Violent and sex offenders were excluded. The court structure involved three phases, which entailed phase-dependent requirements such as random drug screens, attendance at treatment group and drug court sessions, enrollment in school or obtainment of employment, and attendance at self-help groups. Each phase lasted 90 days, with successful participants taking 11 months to graduate.	A sample of comparison youth was compiled from the juvenile justice database and matched by demographic information. Youth were eligible if they were residents of Harford County and were under a high level of supervision during the selected time period. There is no additional information about the services these youth received.
DeCaire (2012)	Louisiana Counties, LA	The Louisiana drug courts were designed for nonviolent juvenile offenders arrested for a drug offense or drug-related offense. The court structure involved four phases, which entailed drug screens, therapy, attendance at judiciary hearings, and community service. Court-imposed incentives and sanctions were used. The minimum length of the program was 43 weeks, although some juveniles took up to 61 weeks to complete the program.	The comparison group was randomly selected from the Drug Court Case Management database. The comparison participants were matched to the drug court participants on the year of offense and drug offense. No further information was provided about treatments and services provided to this sample.
Dickie (2000)	Summit County, OH	The Summit County Juvenile Drug Court was designed for substance abusing juvenile offenders who were not charged with violent or sex offenses. Court structure, key components, and program length were not reported.	The comparison group sample was randomly assigned to juveniles eligible for drug court for the purpose of the study. Instead of drug court services, they received traditional probation supervision services.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Dickie (2001)	Summit County, OH	The Summit County Juvenile Drug Court was designed for nonviolent juvenile offenders who did not have a history of sexual offenses, mental disorders, or failure to complete a previous drug court program. Offenders were referred by probation officers if they were considered to be abusing or dependent on alcohol and drugs. The structure, key components, and length of the drug court were not reported.	The comparison group consisted of youth who were eligible for the drug court program but were randomly selected to be part of the comparison group. This group received traditional probation monitoring. Like the drug court program, comparison group youth could not have a violent felony, sexual offense, or mental disorder.
Ferguson et al. (2006)	Augusta, ME	The Augusta County Juvenile Drug Court was designed for adolescent offenders who had a medium to high risk of criminal recidivism and a substance abuse problem. The court structure involved four phases, which entailed drug testing, court appearances, treatment completion, and the use of sanctions and incentives. The approximate length of the program was 12 months.	The comparison group consisted of juvenile offenders who had substance abuse problems but had not been referred to or participated in the drug court; they had been matched on demographic information, substance use history, and criminal risk factors to participants in the drug court. No further information was provided about the services received by comparison youth.
Ferguson et al. (2006)	Bangor, ME	The Bangor County Juvenile Drug Court was designed for adolescent offenders who had a medium-to-high risk of criminal recidivism and a substance abuse problem. The court structure involved four phases, which entailed drug testing, court appearances, treatment completion, participation in educational or vocational activities, and the use of sanctions and incentives. The approximate length of the program was 12 months.	The comparison group consisted of juvenile offenders who had substance abuse problems but had not been referred to or participated in the drug court; they had been matched on demographic information, substance use history, and criminal risk factors to participants in the drug court. No further information was provided about the services received by comparison youth.
Ferguson et al. (2006)	Biddeford, ME	The Biddeford County Juvenile Drug Court was designed for adolescent offenders who had a medium-to-high risk of criminal recidivism and a substance abuse problem. The court structure involved four phases, which entailed drug testing, court appearances, treatment completion, and the use of sanctions and incentives. The approximate length of the program was 12 months.	The comparison group consisted of juvenile offenders who had substance abuse problems but had not been referred to or participated in the drug court; they had been matched on demographic information, substance use history, and criminal risk factors to participants in the drug court. No further information was provided about the services received by comparison youth.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Ferguson et al. (2006)	Portland, ME	The Portland County Juvenile Drug Court was designed for adolescent offenders who had a medium-to-high risk of criminal recidivism and a substance abuse problem. The court structure involved four phases, which entailed drug testing, court appearances, treatment completion, and the use of sanctions and incentives. The approximate length of the program was 12 months.	The comparison group consisted of juvenile offenders who had substance abuse problems but had not been referred to or participated in the drug court; they had been matched on demographic information, substance use history, and criminal risk factors to participants in the drug court. No further information was provided about the services received by comparison youth.
Ferguson et al. (2006)	West Bath, ME	The West Bath County Juvenile Drug Court was designed for adolescent offenders who had a medium-to-high risk of criminal recidivism and a substance abuse problem. The court structure involved four phases, which entailed drug testing, court appearances, treatment completion, and the use of sanctions and incentives. The approximate length of the program was 12 months.	The comparison group consisted of juvenile offenders who had substance abuse problems but had not been referred to or participated in the drug court; they had been matched on demographic information, substance use history, and criminal risk factors to participants in the drug court. No further information was provided about the services received by comparison youth.
Hartmann et al. (2003)	Kalamazoo County, MI	The Kalamazoo County Juvenile Drug Treatment Court Program was designed for juvenile offenders aged 13–17. The structure of the court involved four phases, which entailed status review hearings, frequent urine screens, court-imposed sanctions, and treatment completion elements. The number of hearings, screens, and other completion elements was phase dependent. Each phase was expected to last a minimum of 12 weeks, with the average graduate taking 54 weeks to complete the program.	The co comparison group was selected from a pool of youth who had been referred to the drug court. Once a juvenile entered the criminal justice system and was referred, the Assessment and Referral team would determine if he/she was eligible for drug court, comparison group, or neither. It was not a random selection. Youth in the comparison group did not receive regular drug screening and less supervision than the drug court. There is no other information about services received.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Herz et al. (2003)	Douglas County, NE	The Douglas County Juvenile Drug Court was designed for high-risk juvenile offenders with substance use disorders. The court structure involved three phases, which entailed drug testing, supervision contact, court hearings, and the use of sanctions and incentives. The length of the program was not reported.	The comparison group youth were eligible for drug court and were matched on disposition date, gender, and race/ethnicity to juveniles in the drug court. The comparison group youth were offenders who received traditional court services such as probation or placement at the Office of Juvenile Services or Youth Rehabilitation Center.
Herz et al. (2003)	Lancaster County, NE	The Lancaster County Juvenile Drug Court was designed for high-risk juvenile offenders with substance use disorders. The court structure involved four phases, which entailed drug testing, court hearings, and supervision contact. The length of the program was not reported.	The comparison group youth were eligible for drug court and were matched on disposition date, gender, and race/ethnicity to juveniles in the drug court. The comparison group youth were offenders who received traditional court services such as probation or placement at the Office of Juvenile Services or Youth Rehabilitation Center.
Herz et al. (2003)	Sarpy County, NE	The Sarpy County Juvenile Drug Court was designed for high-risk juvenile offenders with substance use disorders. The court structure involved three phases, which entailed drug testing, court hearings, and supervision contact. The length of the program was not reported.	The comparison group youth were eligible for drug court and were matched on disposition date, gender, and race/ethnicity to juveniles in the drug court. The comparison group youth were offenders who received traditional court services such as probation or placement at the Office of Juvenile Services or Youth Rehabilitation Center.
Hickert et al. (2011)	Utah Counties, UT	The Utah Juvenile Drug Court was designed for juvenile offenders, a majority of whom had an alcohol or drug related offense. The court structure varied by county and involved three or four phases. Phases entailed random drug testing, appearances before a judge, parental involvement, and the use of sanctions. The average length of the program was 7 months, with a majority of programs varying from 6–12 months.	The comparison group was constructed from youth similar to drug court youth with alcohol and other drug offenses. Juveniles were on probation and it is possible they attended substance abuse treatment as a requirement of probation. The comparison group had more severe delinquency histories than the drug court participants.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Guerin (2001)	Second District, NM	The Second Judicial District Court County Juvenile Drug Court was designed for juvenile offenders with no felonies, violent, or sex offenses. The court structure and key components were not reported. The average length of stay in the program was 8 months.	The comparison group was constructed from historical files of probationers who were eligible for drug court but did not participate for reasons such as not being referred. Juveniles in this group were under the supervision of the local probation department. They were matched to the drug court youth on demographic characteristics and referring offense.
Guerin (2001)	Thirteenth District, Sandoval County, NM	The Thirteenth Judicial District Court Sandoval County Juvenile Drug Court was designed for juvenile offenders with no felonies, violent, or sex offenses. The court structure and key components were not reported. The average length of stay in the program was 8 months.	The comparison group was constructed from historical files of probationers who were eligible for drug court but did not participate for reasons such as not being referred. Juveniles in this group were under the supervision of the local probation department. They were matched to the drug court youth on demographic characteristics and referring offense.
Henggeler et al. (2006)	Charleston County, SC	The Charleston County juvenile drug court program was designed for juveniles aged 12–17 who had formal or informal probationary status, a substance use disorder, and were referred from the Department of Juvenile Justice. The court structure involved three phases, which entailed either weekly, biweekly, or monthly appearance in court with a caregiver, depending on the juvenile's current phase placement, accompanied by urine testing. Sanctions were imposed by a judge for positive urine screens. Drug court participants and their substance abuse counselors focused on behaviors in four areas: drug use, compliance with rules at home, school behavior, and attendance and participation in treatment groups and community service. Advancement through phases depended on clean drug screens, attendance at hearings, and acceptable juvenile behavior. On average, participants took 12 months to complete drug court.	Some youth eligible for drug court were randomized to the family court intervention. Youth assigned to this intervention attended group treatment for 12 weeks, with topics including risk reduction, peer influence, conflict resolution, and anger management. They simultaneously attended 6 weeks of treatment concerning drug selling behavior, 12 weeks of individual sessions, and 12 weeks of family group therapy. In addition, they appeared before a family court judge 1 or 2 times per year. The group treatments were grounded in cognitive-behavioral theory and systems theory, but they were not manually guided and ultimately left to the therapist's discretion.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Kralstein (2008)	Suffolk County, NY	The Suffolk County Juvenile Treatment Court was designed for nonviolent juveniles referred for delinquency, person in need of supervision, or family offense, who showed a pattern of substance abuse. The court structure involved three phases, which entailed sanctions and rewards, court appearances, school attendance, substance treatment, drug testing, and an accumulation of various lengths of clean time. The average length of time it took to successfully complete the program was 17.4 months and required 12 months of clean urine screens.	All Juvenile Delinquency and Persons in Need of Supervision records from the year before the court opened were reviewed to construct the comparison group. Files were reviewed and those that indicated drug use were placed in the comparison group. No information is provided about treatment and services received by comparison youth.
Latessa et al. (2002)	Belmont, Summit, Montgomery Counties, OH	The Ohio Juvenile Drug Court was designed for nonviolent juvenile offenders aged 13–18. The court structure was broken into phases, although the number of phases was not explicitly stated. Participants were subject to random drug screens, with sanctions or incentives imposed for negative or positive screens, respectively. The duration of the program was not reported.	The comparison group was comprised of juveniles with substance use problem histories who were eligible for the drug court but did not receive the program for various reason (e.g., denial from the probation department, too many pending cases against them). The group received standard court services (and potentially received other treatment services); there was no other information about the other services this group received.
Latessa et al. (2013)	Ada County, ID	The Ada County Juvenile Drug Court was designed for juvenile offenders aged 14–18 who showed evidence of drug abuse. The court structure involved four phases, which entailed drug testing, attendance at court, enrollment in school or work, and abiding by a curfew. Sanctions and incentives were imposed when necessary. The minimum length of time in the program was 9 months.	The comparison sample was composed of youth from traditional probation with alcohol/drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol/drug abuse or dependence. No information is provided about treatment and services received by this sample.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Latessa et al. (2013)	Clackamas County, OR	The Clackamas County Juvenile Drug Court was designed for juvenile offenders aged 14–18 who showed evidence of drug abuse. The court structure involved four phases, which entailed monitoring through drug testing, curfew, enrollment in school or work, drug treatment, and attendance at court. The program lasted from 7–8 months.	The comparison sample was comprised of youth from traditional probation with alcohol/drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol/drug abuse or dependence. No information is provided about treatment and services received by this sample.
Latessa et al. (2013)	Jefferson County, OH	The Jefferson County Juvenile Drug Court was designed for juvenile offenders aged 14-18 who showed evidence of drug abuse issues. The drug court is broken into two tracks. Track I entailed education classes, attendance at NA/AA meetings, random urine screens, 90 clean days, and enrollment in school or work. Track I lasted 3–6 months. Track II involved three phases, which entailed drug testing, enrollment in school or work, substance abuse treatment, home visits by court staff, and attendance at court. The typical length of Track II was 6–9 months.	The comparison sample was composed of youth from traditional probation with alcohol/drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol/drug abuse or dependence. No information is provided about treatment and services received by this sample.
Latessa et al. (2013)	Lane County, OR	The Lane County Juvenile Drug Court was designed for juvenile offenders aged 13–17 who showed evidence of drug abuse issues and did not have a history of violent or sex offenses. The court structure involved four phases, which entailed attendance at court hearings, random drug testing, completion of drug treatment, and creation of an aftercare plan. The minimum length of the program was 7 months, although most participants took 9–12 months to complete the program.	The comparison sample was composed of youth from traditional probation with alcohol/drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol/drug abuse or dependence. No information is provided about treatment and services received by this sample.
Latessa et al. (2013)	Lucas County, OH	The Lucas County Juvenile Drug Court was designed for juvenile offenders aged 14–17.5 who showed evidence of substance abuse issues. The court structure involved three phases, which entailed attendance at NA/AA, treatment completion, attendance at court hearings, drug testing, and home and school visits. Parents of the juveniles were also court ordered to participate by attending court hearings and parenting workshops. The minimum length of time in the program was 6 months, with an average of 8–9 months.	The comparison sample was comprised of youth from traditional probation with alcohol/drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol or drug abuse or dependence. No information is provided about treatment and services received by this sample.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Latessa et al. (2013)	Medina County, OH	The Medina County Juvenile Drug Court was designed for juvenile offenders aged 13–18 who are charged with a drug-related crime, or tested positive for drug use. Drug trafficking offenses, and violent and sex offenses, were not eligible. The drug court had two tracks. The nonintensive Component involved three phases, lasting an average of 4 months. The intensive component involved three phases, which included a family component, and lasted an average of 11 months. Both tracks entailed group and individual counseling, drug testing, and attendance at court.	The comparison sample was comprised of youth from traditional probation with alcohol or drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol or drug abuse or dependence. No information is provided about treatment and services received by this sample.
Latessa et al. (2013)	Rhode Island County, RI	The Rhode Island County Juvenile Drug Court was designed for nonviolent juveniles charged with a drug-related offense or other nonviolent offense with known substance abuse issues. Court structure was not reported, but graduation was decided on a case-by-case basis. The program entailed drug screens, attendance at court, and home and school visits. Postadjudication participants needed clean urine screens for 6 months to graduate, while diversion program participants needed clean urine screens for 3 months to graduate.	The comparison sample was comprised of youth from traditional probation and non–drug court diversion. Youth in the comparison group were matched with drug court youth. No information is provided about treatment and services received by this sample.
Latessa et al. (2013)	San Diego County, CA	The San Diego County Juvenile Drug Court was designed for juveniles aged 13–17.5 who showed evidence of substance abuse issues. The structure of the court involved three phases, which entailed drug treatment, contact with a probation officer, attendance at court hearings, frequent drug screens, and the accumulation of varying amounts of clean time. The minimum length of time in the program was 9 months, with most participants taking an average of 11–12 months.	The comparison sample was composed of youth from traditional probation with alcohol/drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol or drug abuse or dependence. No information is provided about treatment and services received by this sample.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Latessa et al. (2013)	Santa Clara County, CA	The Santa Clara County Juvenile Drug Court was designed for juvenile offenders under age 18 with a history of substance abuse. A history of selling drugs, firearm possession, or felony sex offense made a youth ineligible. The court structure involved three phases, which entailed substance abuse treatment, random drug screens, meetings with probation officer, and attendance at court hearings. The minimum length of the program was 6 months, with participants taking an average of 12 months.	The comparison sample was comprised of youth from traditional probation with alcohol or drug issues. Youth in the comparison group were matched to drug court youth on risk level, race, gender, and alcohol or drug abuse or dependence. No information is provided about treatment and services received by this sample.
Legrice (2003)	Tarrant County, TX	The Tarrant County Juvenile Drug Court Program was designed for juveniles aged 10–17 who had a limited arrest history and had been charged with a nonviolent misdemeanor or felony drug possession. Through the court, adolescents and their families met with probation officers and treatment providers to discuss treatment progress, report on school performance, and submit to random drug screens. The average length of the program was 6 months.	The supervisory caution group was used as a comparison group because it is a similar level of intervention of the drug court. Juveniles in this group had drug related offenses and minimal contact with the court for 6 months. If there were no additional arrests in 6 months, the case was closed. During this period, juveniles might be referred to community resources. No additional information was provided about the services and treatments received.
Mackin et al. (2010)	Anne Arundel County, MD	The Anne Arundel County Juvenile Treatment Court was designed for juvenile offenders with non-violent property or drug charges where substance use contributed to the offense. The court structure involved three phases, which entailed attendance at status hearings, group and individual counseling, random drug testing, school or occupational enrollment, and completion of community service. The program lasted a minimum of 5 months, although most juveniles remained in the program for 10 months. Participants must have completed all program requirements and attained 60 days clean in order to graduate.	The comparison group consisted of eligible youth who were not drug court participants for various reasons (such as not being referred). Comparison group juveniles were matched on offense and demographic characteristics; in addition, they were under a moderate, high, or intensive level of juvenile supervision during the time period selected. No further information is provided about the treatment they received.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Mackin et al. (2010)	Baltimore County, MD	The Baltimore County Juvenile Drug Court was designed for juvenile offenders aged 13–17 who admitted to substance abuse. The court structure involved four phases, with the last two phases designed as aftercare. The program entailed attendance at drug-court hearings, case management meetings, group and individual counseling, drug testing, attendance at school or job, and completion of community service. Judges used incentives and sanctions to reward positive behaviors and discourage negative ones. The minimum length of the program was 12 months, although most juveniles took 13 months to complete. In order to graduate, participants must have completed all program requirements and have 90 consecutive clean days.	Youth in the comparison group were eligible for the drug court but did not participate for reasons such as not being referred or opting out of the program; in addition, comparison youth were similar to those in drug court demographically and in substance abuse and criminal history. Juveniles in the comparison group were under a moderate, high, or intensive level of supervision; no other information is provided about treatment or services they received.
Mackin et al. (2010)	St. Mary's County, MD	The St. Mary's County Juvenile Drug Court Program was designed for offenders under 18 years old without a history of violent offenses or drug trafficking. The court structure involved four phases, which entailed attendance at drug court hearings, case management meetings, group and individual counseling, drug testing, school attendance or employment, and the completion of a community service project. Judges used sanctions and goal-oriented incentives to encourage positive behaviors. The program was completed in as little as 12 months, with graduates spending an average of 358 days in the program. Participants were required to have 120 consecutive clean days to graduate.	The comparison group included similar, eligible youth who did not participate in the drug court for reasons such as not being identified as eligible at time of arrest or opting out of the program; in addition, comparison youth were similar to those in drug court demographically and in substance abuse and criminal history. Juveniles in the comparison group were under a, high or intensive level of supervision; no further information is provided about treatment or services they received.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
O'Connell et al. (1999)	Delaware Counties, DE	The Delaware Juvenile Drug Court program was created as a diversion program for nonviolent, nonprobationary, substance abusing juvenile (age 11–19) offenders. In a majority of cases, juveniles were referred as a first-time offender for misdemeanor drug possession, or possession with intent to deliver. The court involved an unspecified number of phases, with judicial monitoring, random urinalysis, case management, and family and group counseling. The average participant remained in the program for 200 days. Graduation from the program required a minimum completion of a 12-week educational program and clean urinalyses.	The comparison group was created by matching all drug court participants to youth who had equivalent criminal histories; they were also matched on race and gender. The comparison sample was a historical sample, consisting of youth who had been arrested for misdemeanor drug charges prior to the drug court's implementation. There is no information about the treatment the comparison sample received.
ORS (2007)	King County, WA	The King County Juvenile Drug Court was designed for non-violent juveniles charged with a drug or alcohol offense, misdemeanor offense, or felony property offense. Court structure was not reported, but the program entailed attendance at status hearings, judicial monitoring, and the use of incentives and sanctions. The average length of time in the program was 16.5 months.	The comparison group was matched to the drug court participants on baseline characteristics and criminal history score; these youth had been convicted of an offense during the same time period but had no involvement with the drug court. No further information is provided about the treatment they received.
Parsons & Byrnes (2006)	Third District, UT	The Third District Juvenile Drug Court Program was designed for first time juvenile drug offenders. The program entailed drug testing, attendance at judicial hearings where sanctions and incentives were imposed, and completion of judicial assignments, community service, and treatment as necessary. The typical length of the program was 6 months.	The comparison group was created with a sample of youth who either had dropped out of drug court or had received traditional juvenile probation services. The sample was matched to the drug court participants on background and criminal history. No further information was provided about treatment received by the comparison group.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Picard-Fritsche & Kralstein (2012)	Nassau County, NY	The Nassau Juvenile Treatment Court was designed for youth ages 13–17 charged with juvenile delinquency or as a person in need of supervision. The court structure involved three phases, which entailed intensive judicial monitoring, frequent drug testing, and the use of incentives and sanctions. The minimum length of the program was 8 months, although some youth took longer to complete the program.	The comparison sample was comprised from juvenile delinquency and persons in need of supervision cases. The juveniles selected were similar to the drug court youth, and were matched on baseline characteristics through a propensity score. Each drug court participant was matched to two youth with the nearest neighbor propensity scores. No information is provided about the services offered to the comparison sample.
Pitts (2006)	Eleventh District, San Juan County, NM	The Eleventh Judicial District Juvenile Drug Court was designed for juveniles with a drug or alcohol related offense who had no prior violent or sex offenses. The structure of the court and its key components were not reported. The average length of time in the program was 10.1 months for successful graduates.	The comparison group was matched on factors including demographic characteristics, substance abuse history, and current offense data. All youth in the historical matched comparison group were drug court eligible but did not participate for reasons such as not being referred. These youth were under the supervision of the local probation department; no further information was provided about the treatment they received.
Rodriguez & Webb (2004)	Maricopa County, AZ	The Maricopa County Juvenile Drug Court was designed for youths, aged 13–16.5, with no prior history of violent or sex offenses, and who were not at risk for suicidal or psychotic episodes. The drug court involved three phases, which entailed weekly status hearings, frequent urinalyses, group and family sessions, and successful completion of treatment components. Juveniles participated in the drug court between 9 and 12 months.	Youth in the comparison group were screened for drug court, but ultimately placed on standard probation. Initially, youth were placed randomly in the drug court or comparison, but after a few months youth were placed by a measure of geographic and screening criteria in addition to the judges' discretion. From the group screened but not selected for drug court participation, a random sample of 100 was drawn. No further information is provided about treatment and services received.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Sloan et al. (2004)	Jefferson County, AL	The Jefferson County Juvenile Drug Court was designed for juvenile offenders who were charged with a drug-related crime, a drug crime, or tested positive on urinalysis at intake. The court structure involved four phases, which entailed intensive probation supervision, drug testing, judicial monitoring, and the use of incentives and sanctions. Juveniles were monitored electronically in the first phase. The minimum length of the program was 12 months.	The comparison group was constructed from a historical group of juveniles who had been through the Adolescent Substance Abuse Program (ASAP). ASAP was intended for juvenile offenders who tested positive for drugs, self-reported drug use, or who had a drug-related offense. The 12-week program consisted of drug education curriculum, drug treatment options, and urine screens.
Supreme Court of Virginia (2003)	Richmond County, VA	The Richmond County Juvenile Drug Treatment Court was designed for nonviolent juvenile drug offenders aged 12–17. The structure of the court was not reported, but the program entailed random drug screening, court appearances, and the use of sanctions and incentives. Program length was not reported.	The comparison group was matched to the drug court group on baseline characteristics. The comparison group juveniles were seen for a drug offense at a neighboring juvenile court during the time that the Richmond County drug court was seeing clients. No information was provided about treatment received.
Thompson (2004)	East Central & Northeast Central Counties, ND	The North Dakota Juvenile Drug Court was designed for juvenile offenders aged 13–17, diagnosed with a substance use disorder, and who had no history of violent or drug-selling offenses. The East Central Court structure involved three phases, taking between 6–9 months to complete. The Northeast Central Court had four phases and took 7–10 months for juveniles to complete. Both court structures mandated random drug screening, regular meetings with a probation officer, community service, individual therapy, and enrollment in school. Sanctions and incentives were used in both court structures.	Drug abusing juveniles referred to the East Central Judicial District and the South Central Judicial District were used for the comparison group. Evaluators constructed a comparison group from the pool of substance abusing juveniles who were drug court eligible but not enrolled in the drug court. No information is provided about the services these juveniles received.

Study Authors	Drug Court Location(s)	Drug Court Description	Comparison Condition(s)
Wright & Clymer (2001)	Beckham County, OK	The Beckham County Juvenile Drug Court was designed for non-violent juvenile first or second time offenders, or a person in need of supervision. The court structure involved three phases, which entailed sanctions and incentives to encourage positive behaviors, and urinalyses. The median length of the program was 13 months for graduates.	The Beckham County Graduated Sanction's program was used as the comparison group. The Graduated Sanctions program was similar to the drug court as far as corresponding severity of sanctions for curfew violations and positive urinalyses. The programs differed in that the Graduated Sanctions program did not have a substance abuse treatment component.

Exhibit 3. Key Features of the Studies, Outcomes, and Participants (*k* = 46)

	Frequency (%)	M (*SD*)	Range
Study Characteristics			
Journal article	4 (9)		
Publication year		2007 (4.42)	1999–2013
Conducted in United States	46 (100)		
Method Quality Characteristics			
Randomized experiment	3 (7)		
Quasi-experiment	43 (93)		
Overall attrition [a]		0.18 (0.24)	0–0.91
Differential attrition [a]		0.06 (0.10)	0–0.5
Possible implementation problems	14 (30)		
Baseline differences in age (Hedges' *g*)		0.00 (0.24)	-0.50–0.89
Baseline differences in risk level (Hedges' *g*)		1.58 (1.64)	0.21–12.07
Baseline differences in race (odds ratio)		1.72 (1.18)	0.01–3.94
Baseline differences in sex (odds ratio)		4.33 (21.60)	0.42–145.16
Outcome Characteristics [a]			
General offenses	76 (72)		
Drug offenses	21 (20)		
Drug use	8 (8)		
Maximum length of follow-up (months)		18.57 (12.89)	
Follow-up overlap with treatment period			
Complete overlap	19 (18)		
Partial overlap	45 (43)		
No overlap	41 (39)		
Participant Characteristics			
Percentage male		.79 (0.09)	.56–1.00
Percentage Black		.20 (0.24)	.00–.97
Percentage Hispanic		.21 (0.26)	.00–.80
Percentage White		.67 (0.27)	.02–1.00
Average age		15.93 (0.59)	14.6–17.1
Average number of prior arrests (any)		4.95 (3.67)	1.22–14.6
Average number of prior drug arrests		1.21 (0.53)	0.64–2.2

Note. SD = standard deviation. Means and standard deviations shown for continuous measures; frequencies and percentages shown for dichotomous measures. [a]Estimates calculated at effect size level (*n* = 105).

Exhibit 4. Key Features of the Juvenile Drug Courts in the Meta-Analysis (*k* = 46)

	Frequency (%)	M (*SD*)	Range
Year first opened		2000 (2.64)	1995–2008
Average number of youth served per year		16.5 (10.95)	1–34
Number of youth served in most recent year		3.37 (4.19)	1–16
Number of phases		3.57 (1.57)	1–5
Number of drug tests/week in first phase		3.89 (3.36)	1–11
Number of status hearings/month in first phase		2.48 (1.38)	1–4
Length of drug court (months)		10.43 (2.61)	6–17.4
Method of disposition			
Pre-plea	9 (20)		
Post-plea	16 (35)		
Uses both	7 (15)		
Unclear	14 (30)		
Charges dismissed upon graduation			
Yes	19 (41)		
No	2 (4)		
Unclear	25 (54)		
Excludes violent offenders	31 (67)		
Drug offenses required for eligibility	7 (15)		
Explicit mention of dedicated drug court staff	34 (74)		
Youth provided written document of contingencies	11 (24)		
Explicit mention of a risk-assessment tool	28 (61)		
Refers youth to brand-name treatment services	8 (17)		
Psychiatric comorbidities addressed in treatment	7 (15)		
Number of treatment providers			
Single	8 (17)		
Multiple	38 (73)		
Level of care youth were referred to			
Single	3 (7)		
Multiple	33 (72)		
Unclear	10 (22)		
Modalities youth were referred to			
Single	0 (0)		
Multiple	22 (48)		
Unclear	24 (52)		

Note. SD = standard deviation. Means and standard deviations shown for continuous measures; frequencies and percentages shown for dichotomous measures. All estimates calculated at the study level.

Exhibit 5. Key Features of the Juvenile Drug Courts, Author Responses (*k* = 17)

	Frequency (%)	M (*SD*)	Range
Number of drug tests/week in first phase		7.55 (3.00)	3–11
Number of status hearings/month in first phase		2.75 (1.12)	1.5–4
Families involved in treatment planning			
Yes	9 (53)		
No	1 (6)		
Unclear	7 (41)		
Structure of drug court			
Embedded in juvenile/family court	13 (76)		
Dedicated, stand-alone drug court	2 (11)		
Don't know	2 (11)		
Charges dismissed upon graduation			
Yes	13 (76)		
No	1 (6)		
Don't know/missing	3 (18)		
Youth provided written document of contingencies	8 (47)		
Court operated under zero-tolerance type policy	1 (6)		
Explicit mention of a risk-assessment tool			
Refers youth to brand-name treatment services	10 (59)		
Number of treatment providers			
Single	8 (47)		
Multiple	6 (35)		
Don't know/missing	3 (18)		
Youth referred to			
Cognitive-behavioral therapy	10 (59)		
Contingency management	8 (47)		
Family therapy	11 (65)		
Group counseling	12 (71)		
Individual counseling	12 (71)		
Motivational enhancement therapy	4 (24)		
Psychoeducational therapy	5 (29)		
Self-help groups	3 (18)		
Skills training	7 (41)		

Note. SD = standard deviation. Means and standard deviations shown for continuous measures; frequencies and percentages are shown for dichotomous measures.

Exhibit 6. Reporting of Juvenile Drug Court Strategies

Exhibit 7. Forest Plot of General Recidivism Effect Sizes, During Program

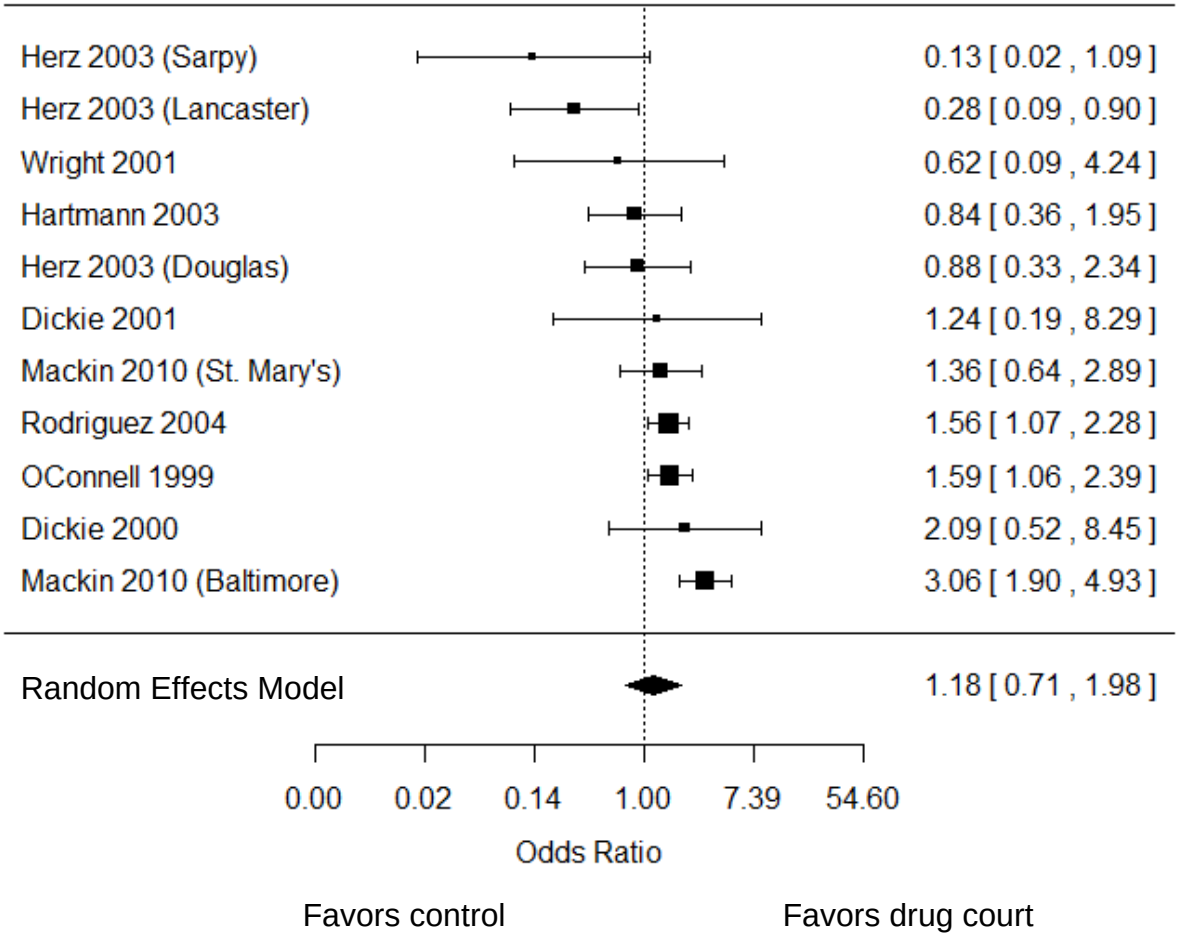

Exhibit 8. Forest Plot of General Recidivism Effect Sizes, Postprogram

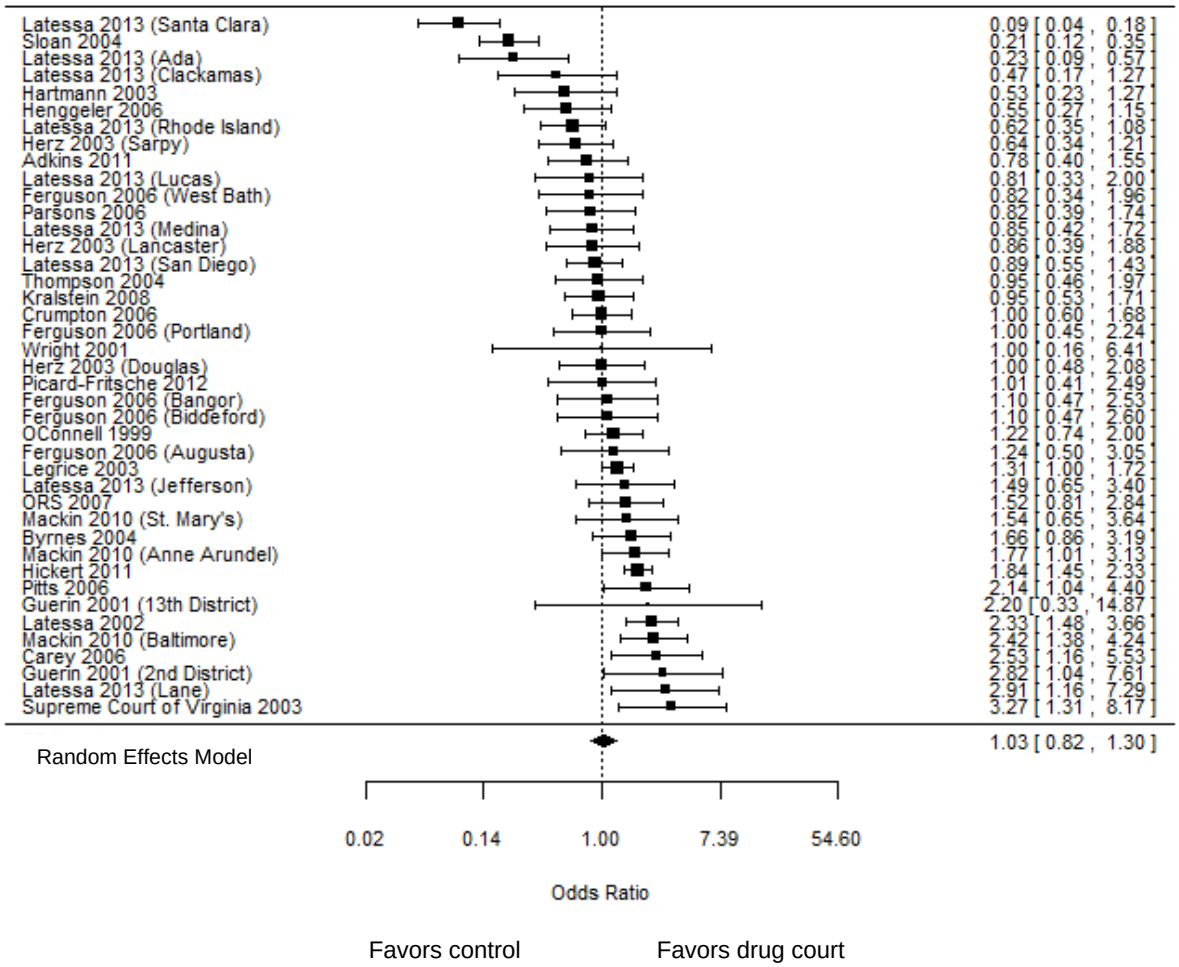

Exhibit 9. Forest Plot of Drug Recidivism Effect Sizes, Postprogram

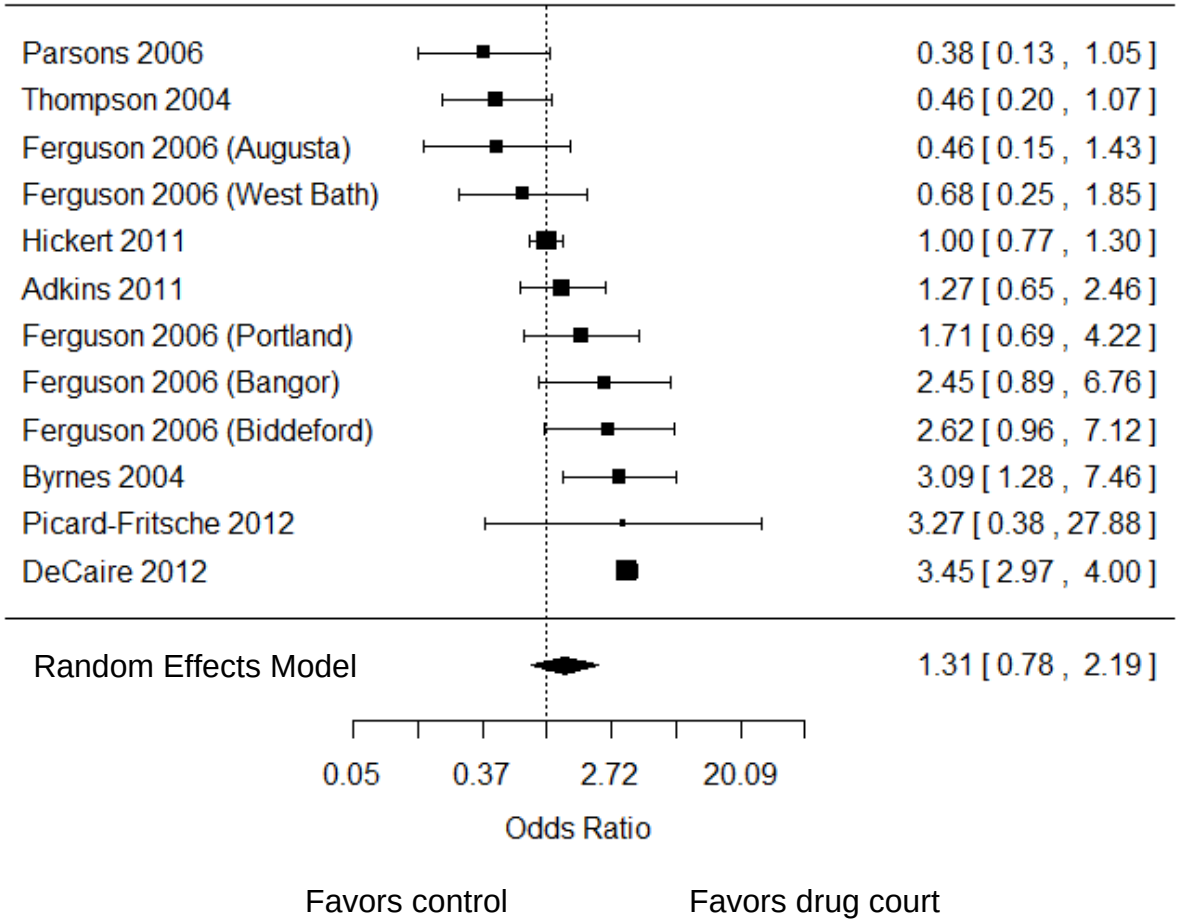

Exhibit 10. Forest Plot of Drug Use Effect Sizes, During Program

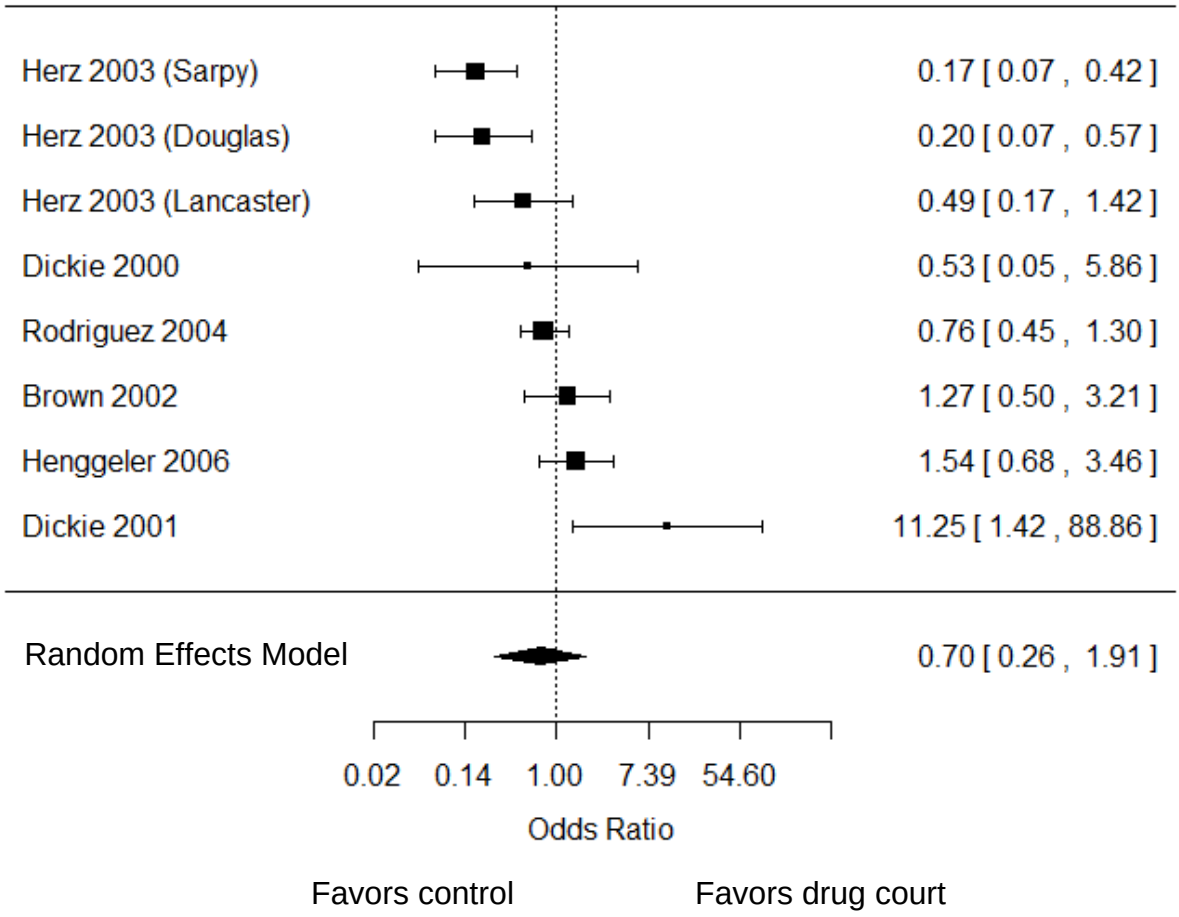

Exhibit 11. Bivariate Relationships Between Effect Sizes and Method Quality and Participant Characteristics

	General Recidivism (During Program) *k* = 11		General Recidivism (Postprogram) *k* = 41		Drug Recidivism (Postprogram) *k* = 12		Drug Use (During Program) *k* = 8	
Method Quality	***b***	***p***	***b***	***p***	***b***	***p***	***b***	***p***
Randomized experiment	0.42	.60	-0.63	.40	ne		1.50	.10
Randomized experiment or quasi-experiment using individual level matching	0.09	.88	0.03	.90	0.63	.21	-0.45	.67
Average attrition	0.35	.77	0.22	.76	-1.31	.34	2.86	.11
Differential attrition	-0.49	.82	1.35	.41	-1.90	.77	0.72	.90
Possible implementation problems	0.12	.84	-0.51	.04	-0.51	.38	3.01	.07
Baseline differences in age	2.44	.27	-1.00	.08	-4.65	.28	-14.11	.33
Baseline differences in risk level	-0.65	.22	-0.04	.55	-0.72	.24	0.47	.51
Baseline differences in race	0.40	.50	0.21	.17	0.08	.80	0.15	.22
Baseline differences in sex	0.00	.66	0.00	.99	0.57	.52	-1.97	.36
Participant Characteristics								
Percentage male	2.06	.59	0.90	.50	2.19	.38	-2.06	.87
Percentage Black	1.52	.40	-0.02	.97	1.55	.32	1.34	.51
Percentage Hispanic	1.38	.35	-0.19	.61	1.87	.59	2.12	.11
Percentage White	-1.84	.26	0.23	.59	-1.46	.11	-0.90	.65
Average age	-0.20	.67	-0.19	.38	-0.16	.77	0.49	.74

Note. b = unstandardized meta-regression coefficient; ne = not estimable; p = p-value.

Exhibit 12. Bivariate Relationships Between Effect Sizes and Drug Court Characteristics

	General Recidivism (During Program) *k* = 11		General Recidivism (Postprogram) *k* = 41		Drug Recidivism (Postprogram) *k* = 12		Drug Use (During Program) *k* = 8	
Drug Court Characteristics	***b***	***p***	***b***	***p***	***b***	***p***	***b***	***p***
Year first opened	0.00	.94	0.05	.29	0.06	.55	-.36	.33
Average number of youth served per year	0.03	.26	-0.02	.09	0.01	.72	0.04	.40
Number of youth served in most recent year	0.06	.22	0.05	.13	-0.01	.87	0.12	.17
Number of phases	-0.13	.48	-0.12	.10	0.16	.34	-0.48	.21
Number of drug tests/week	0.07	.32	-0.05	.15	0.12	.17	0.01	.95
Number of status hearings/month	0.25	.21	-0.12	.18	0.09	.69	0.20	.56
Length of drug court (months)	-0.03	.78	-0.04	.47	0.10	.40	0.15	.40
Excludes violent offenders	0.49	.33	0.19	.43	-0.19	.73	1.18	.18
Drug offenses required for eligibility	0.38	.61	0.45	.15	0.11	.87	ne	
Explicit mention of dedicated drug court staff	-0.11	.87	-0.05	.87	1.35	.14	-0.91	.31
Youth provided document of contingencies	0.77	.14	0.26	.31	-0.13	.80	ne	
Explicit mention of a risk assessment tool	0.54	.29	-0.24	.31	-1.11	.11	1.57	.02[ns]
Refers youth to brand name treatment	0.62	.54	0.14	.64	0.99	.20	-0.30	.87
Psychiatric comorbidities addressed in treatment	-0.10	.75	0.00	.99	ne		ne	
Multiple treatment providers	-0.43	.44	-0.36	.18	-1.18	.02	-0.60	.56
Multiple levels of care	-0.27	.60	-0.10	.73	ne		-1.40	.10
Multiple modalities	-0.10	.68	0.07	.89	-0.30	.87	0.26	.33
Explicit Use of Juvenile Drug Court Strategies	***b***	***p***	***b***	***p***	***b***	***p***	***b***	***p***
Collaborative planning	0.36	.47	-0.01	.96	0.07	.90	-1.33	.22
Teamwork	0.37	.46	0.22	.27	-0.10	.86	ne	
Clearly defined target population	-0.24	.39	0.27	.64	-1.31	.14	0.38	.12
Judicial involvement and supervision	-0.11	.88	-0.70	.04[ns]	ne		-1.37	.15

	General Recidivism (During Program) *k* = 11		General Recidivism (Postprogram) *k* = 41		Drug Recidivism (Postprogram) *k* = 12		Drug Use (During Program) *k* = 8	
Community partnerships	0.07	.90	0.29	.22	0.12	.82	-1.31	.14
Comprehensive treatment planning	-0.91	.03[ns]	0.18	.44	-0.77	.16	-1.57	.02[ns]
Developmentally appropriate services	ne		ne		ne		ne	
Gender appropriate services	1.03	.07	0.29	.34	0.94	.30	ne	
Cultural competence	ne		ne		ne		ne	
Focus on strengths	-1.29	.02[ns]	-0.22	.58	-1.15	.18	-1.57	.02[ns]
Family engagement	0.31	.73	-0.75	.03[ns]	ne		-1.70	.10
Educational linkages	-0.42	.41	-0.32	.22	0.30	.71	-1.57	.02[ns]
Drug testing	ne		-0.75	.08	ne		ne	
Goal-oriented incentives and sanctions	-0.54	.29	-0.62	.07	-0.94	.30	-1.18	.18
Confidentiality	ne		-0.09	.91	-1.15	.18	ne	

Note. b = unstandardized meta-regression coefficient; ne = not estimable; [ns] Not significant after Benjamini-Hochberg correction; p = p-value.

Appendix A. References to Studies Included in the Meta-Analysis

Adkins, G., Blood, P., Cook, M. D., Watson, L., & Stageberg, P. (2011). *Iowa adult and juvenile drug court extended recidivism outcomes*. Des Moines, IA: Iowa Department of Human Rights.

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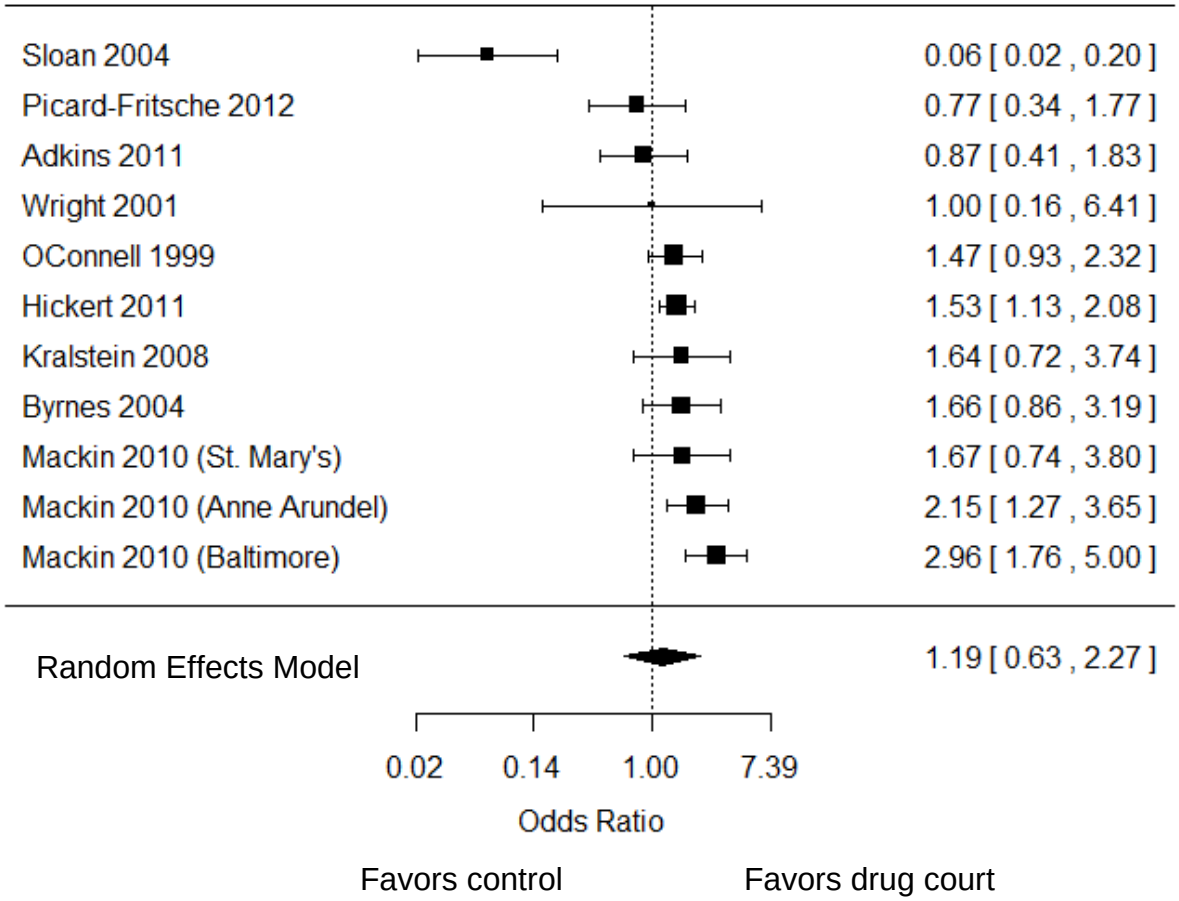
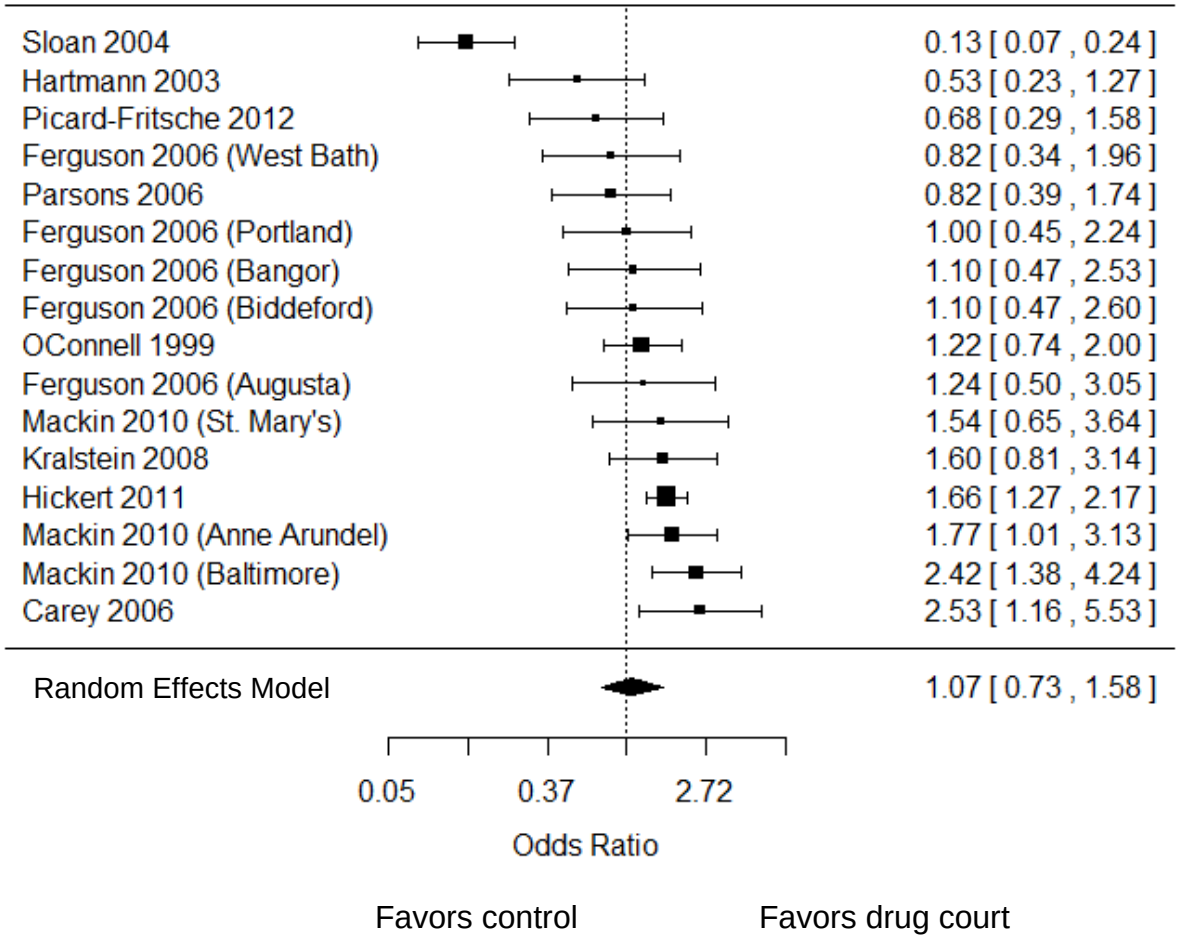
Appendix B. Forest Plots of Effect Sizes, by Follow-Up Period

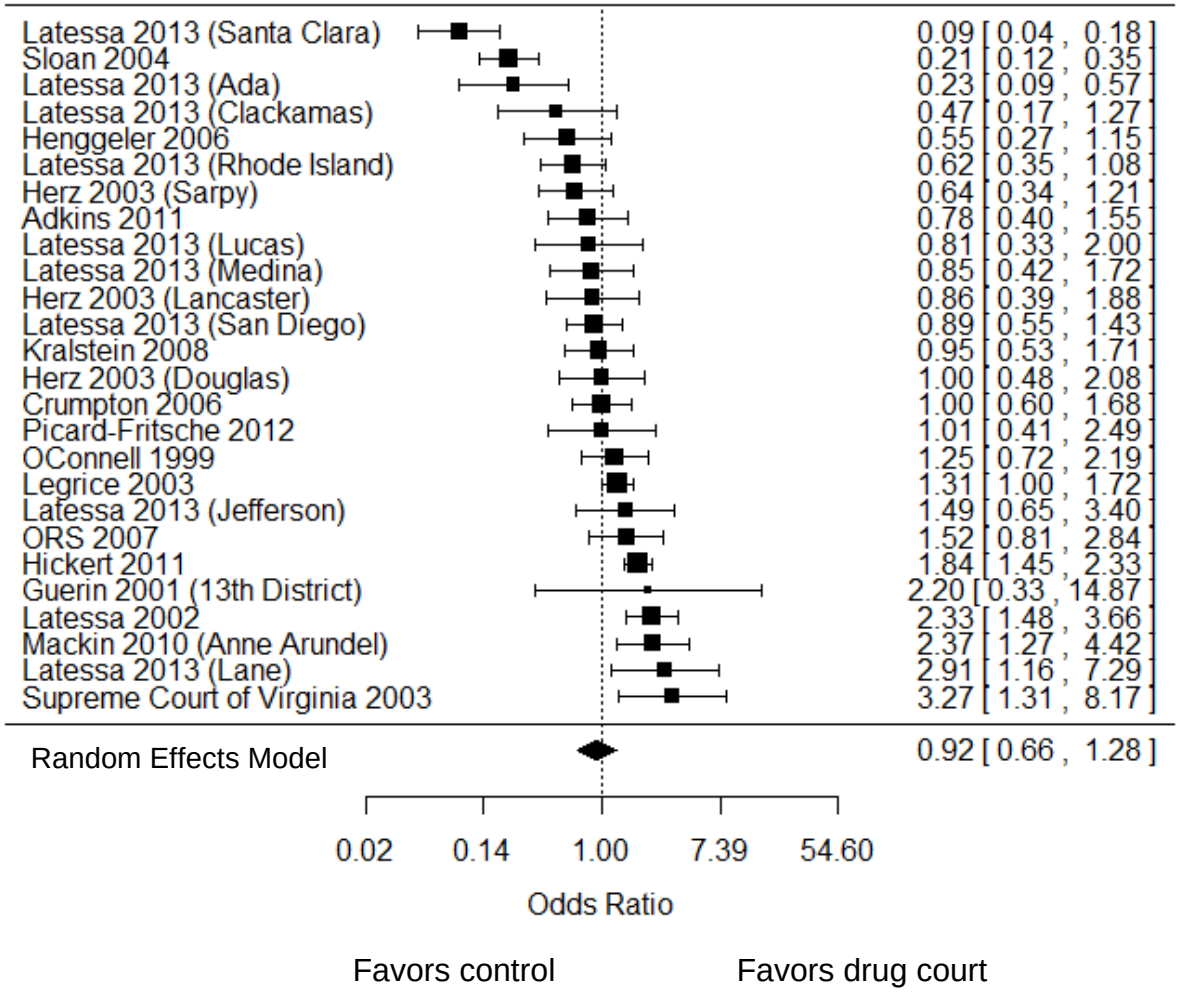
General Recidivism Effect Sizes, 0–5.9 Months Postprogram



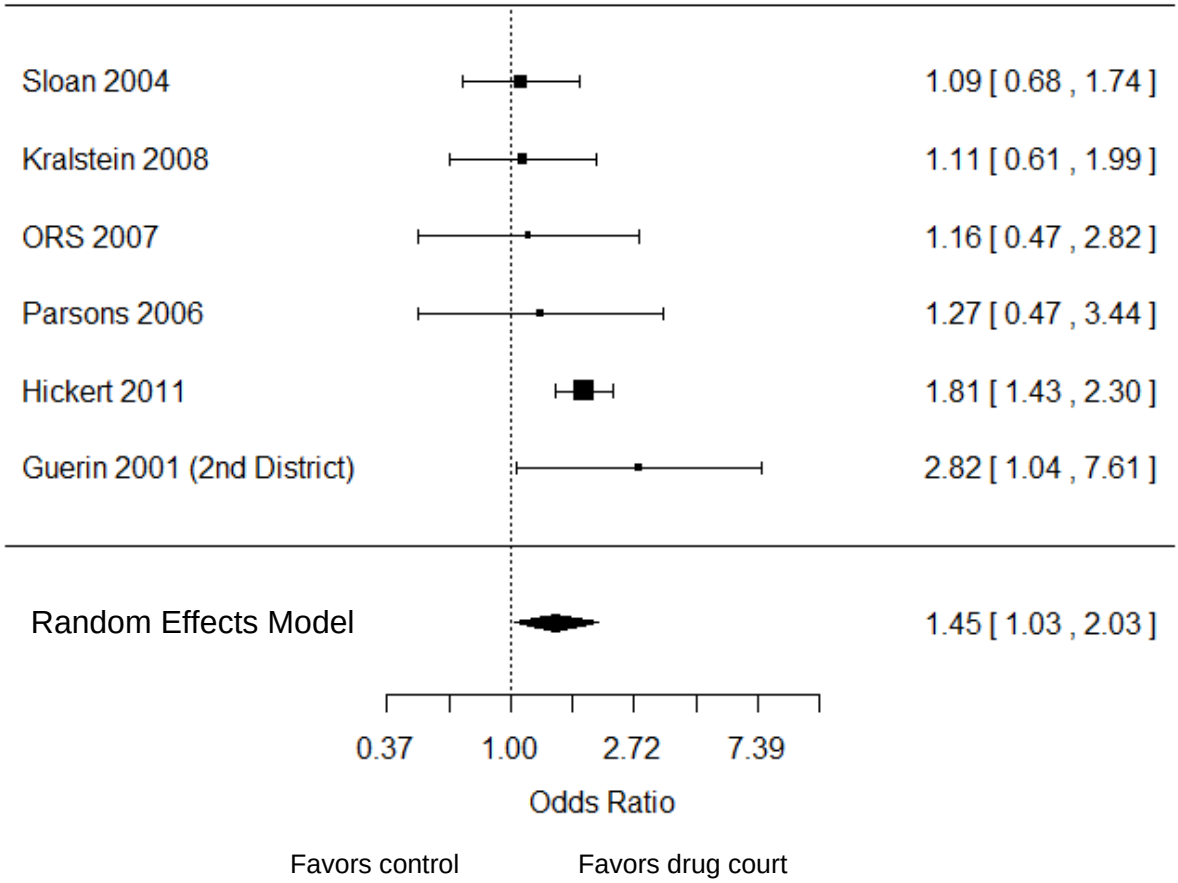
General Recidivism Effect Sizes, 6–11.9 Months Postprogram



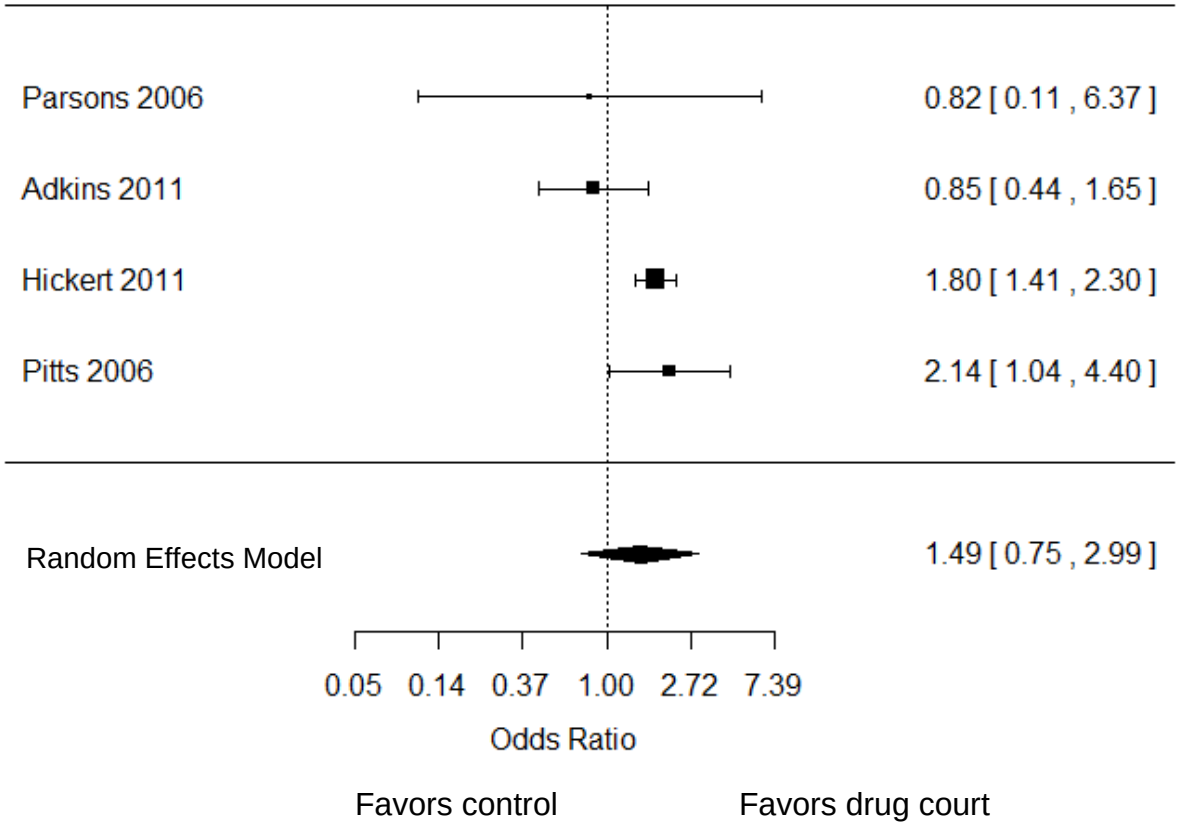
General Recidivism Effect Sizes, 12–17.9 Months Postprogram



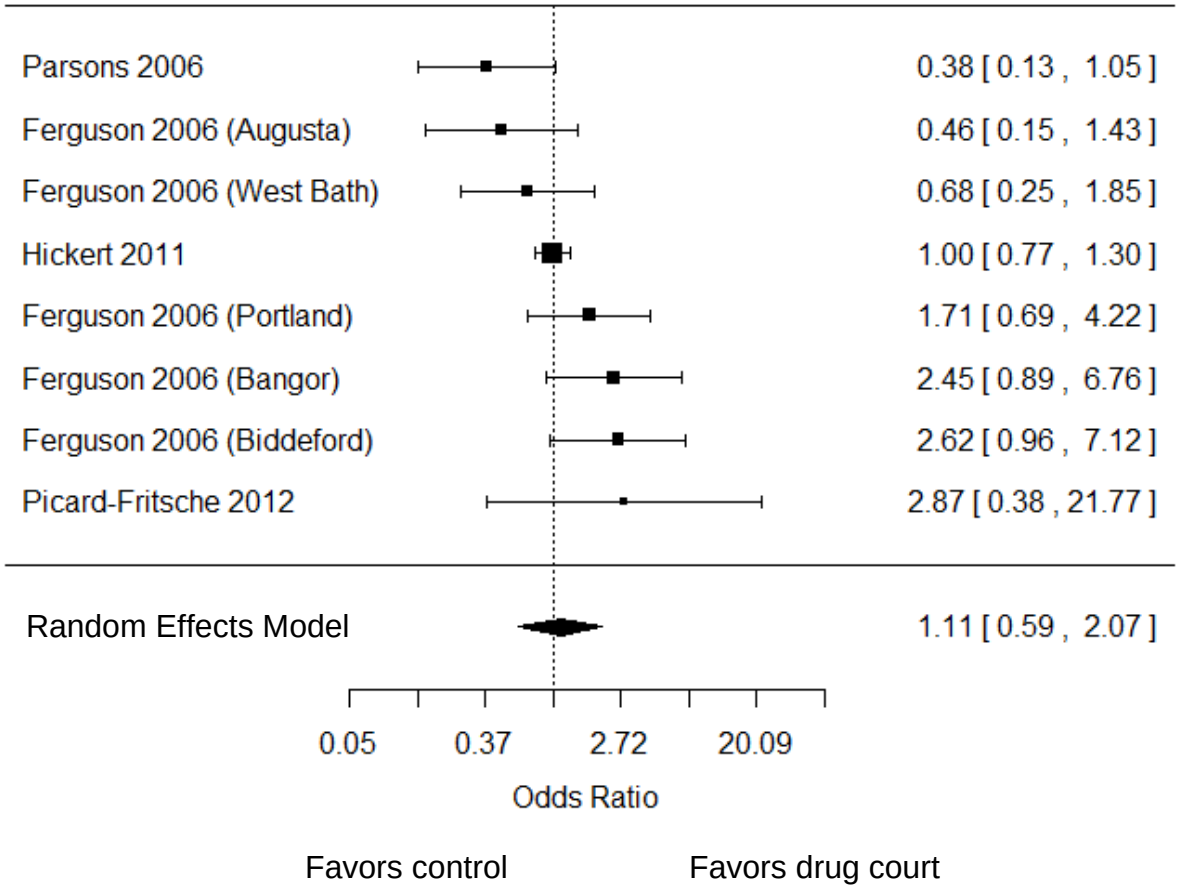
General Recidivism Effect Sizes, 18–23.9 Months Postprogram



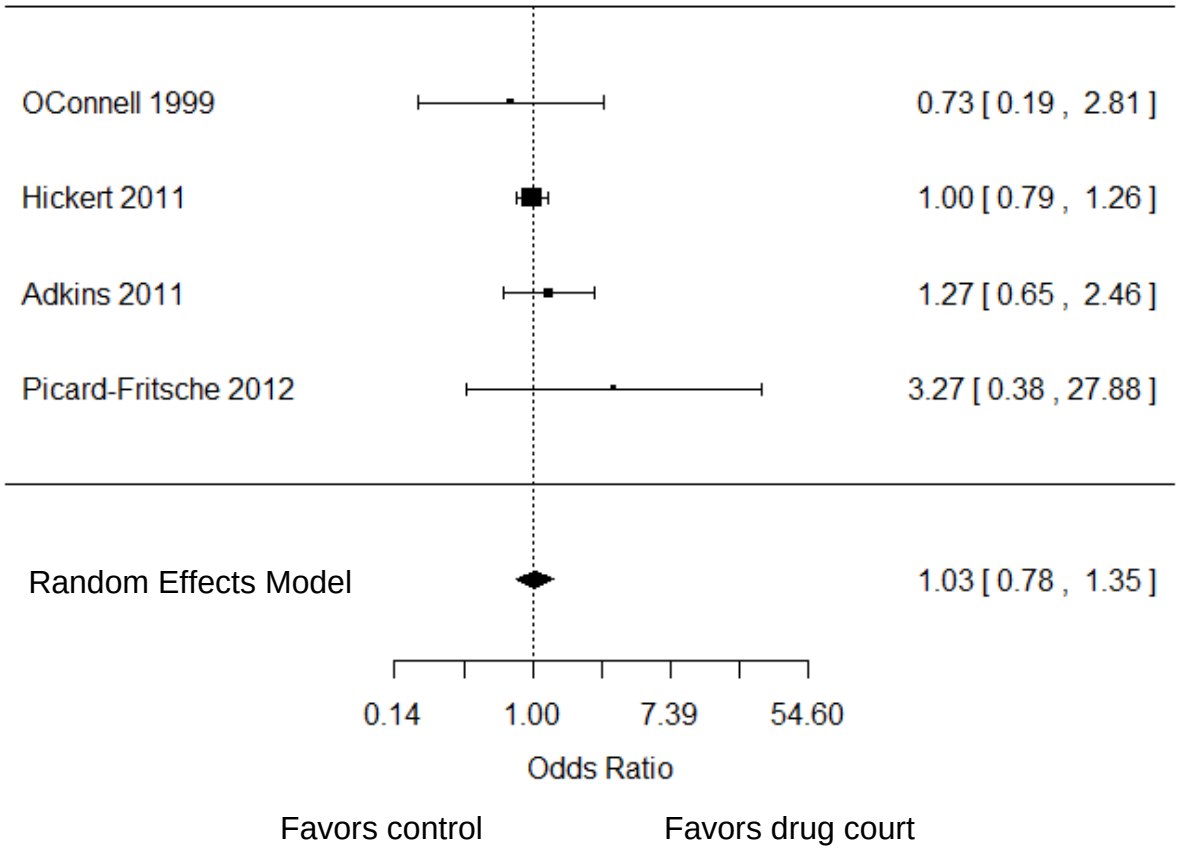
General Recidivism Effect Sizes, 24–35.9 Months Postprogram



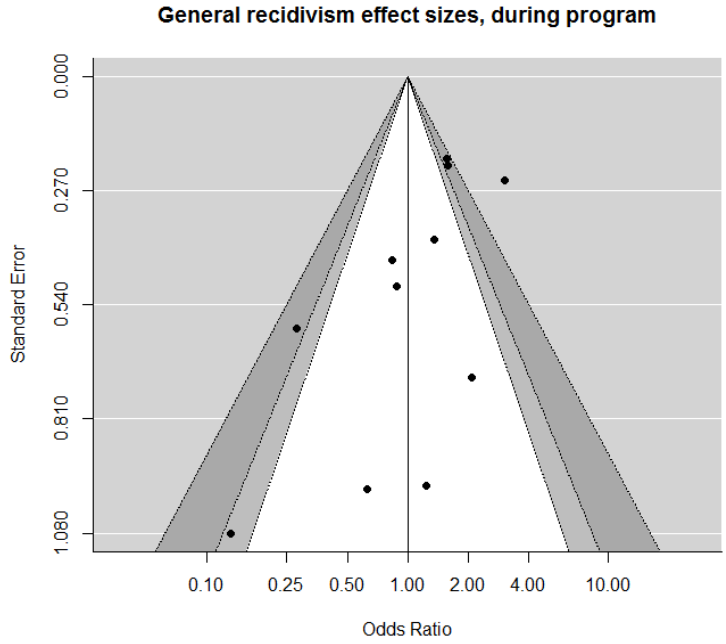
Drug Recidivism Effect Sizes, 6–11.9 Months Postprogram

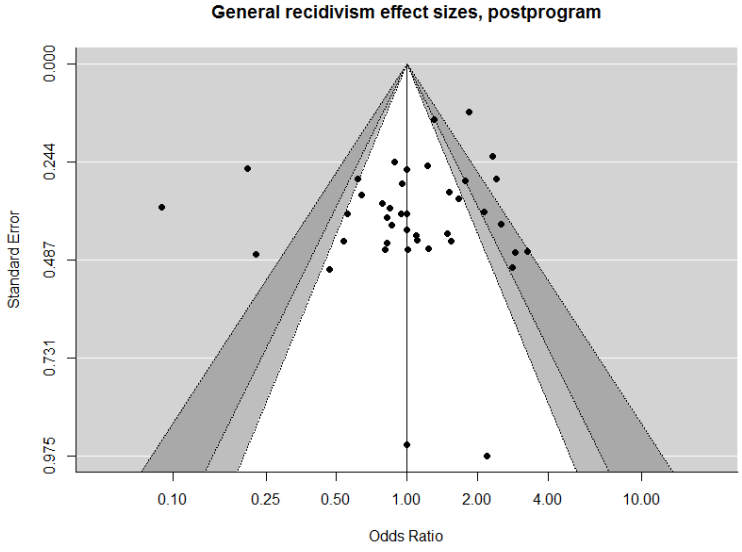


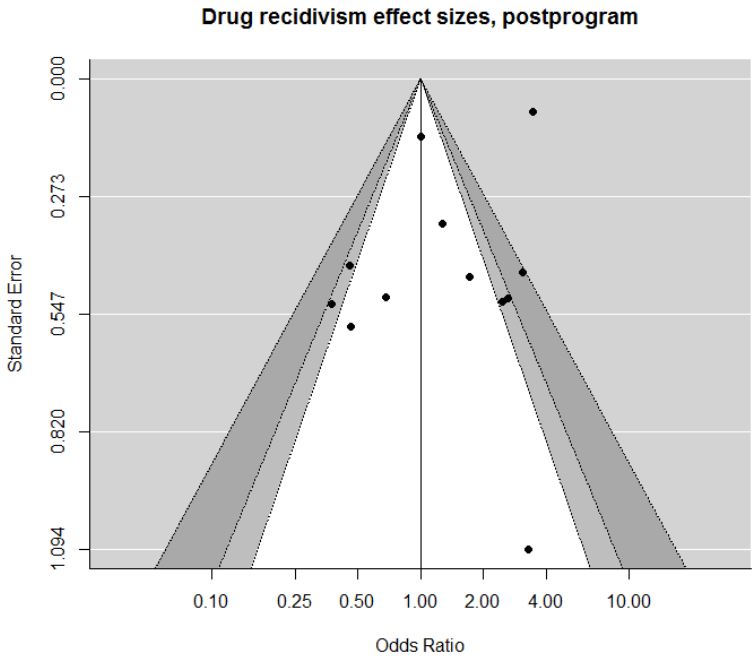
Drug Recidivism Effect Sizes, 12–17.9 Months Postprogram

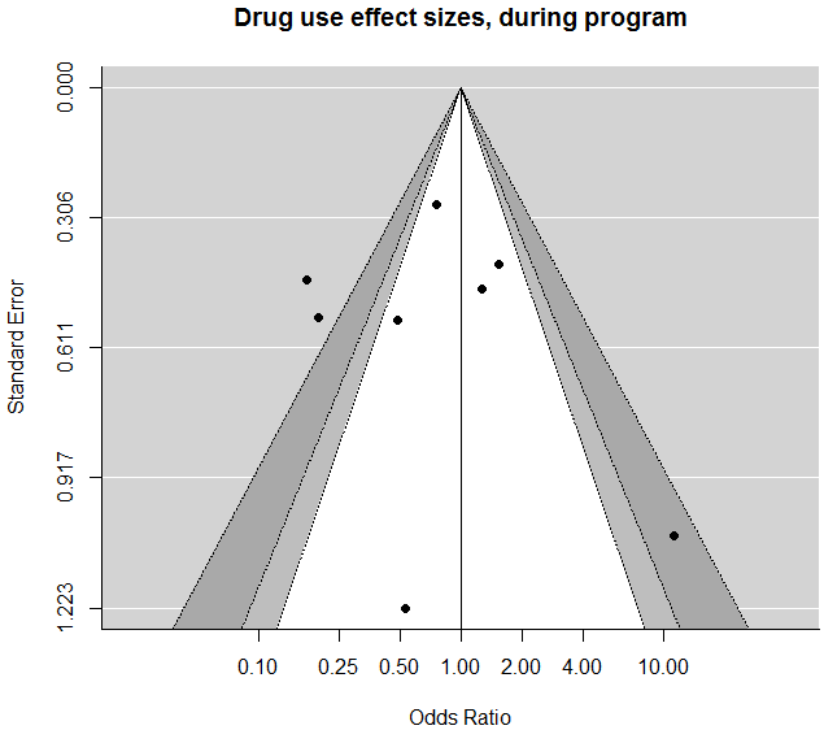


Appendix C. Contour-Enhanced Funnel Plots

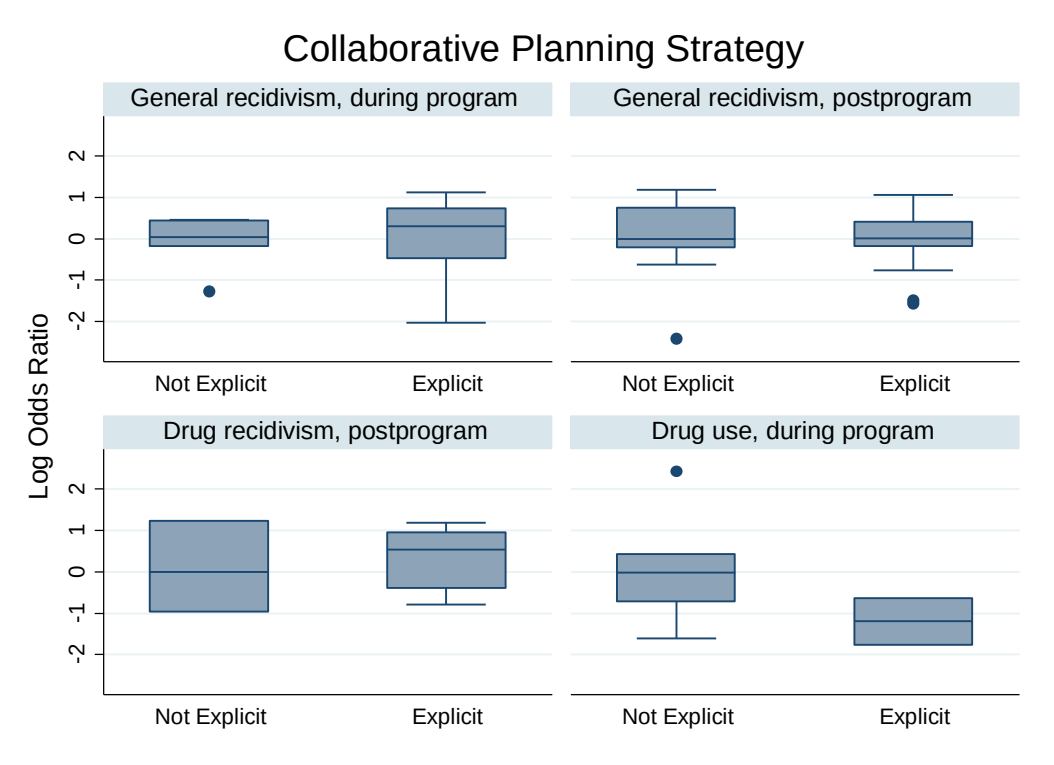


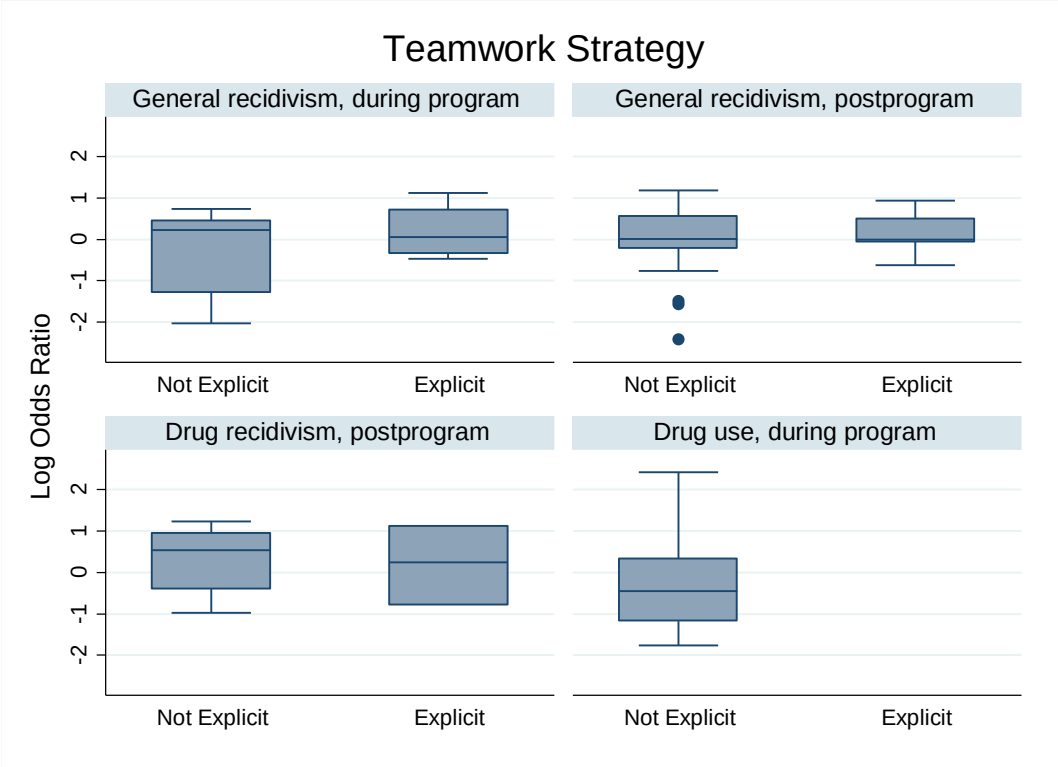


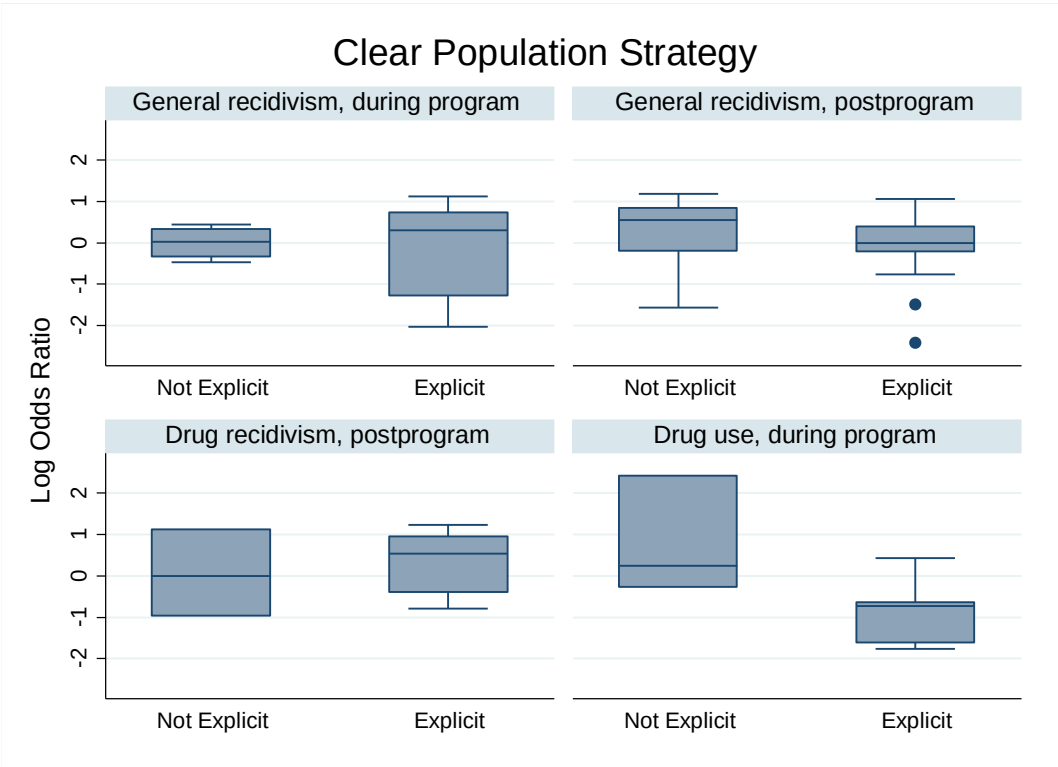


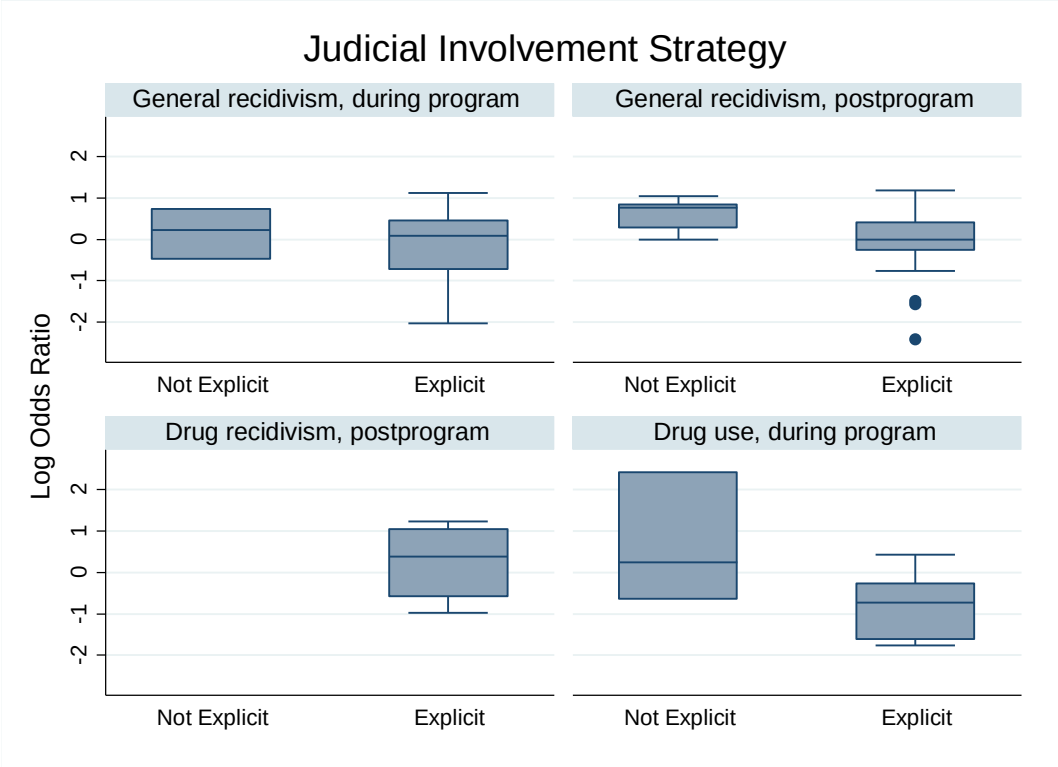


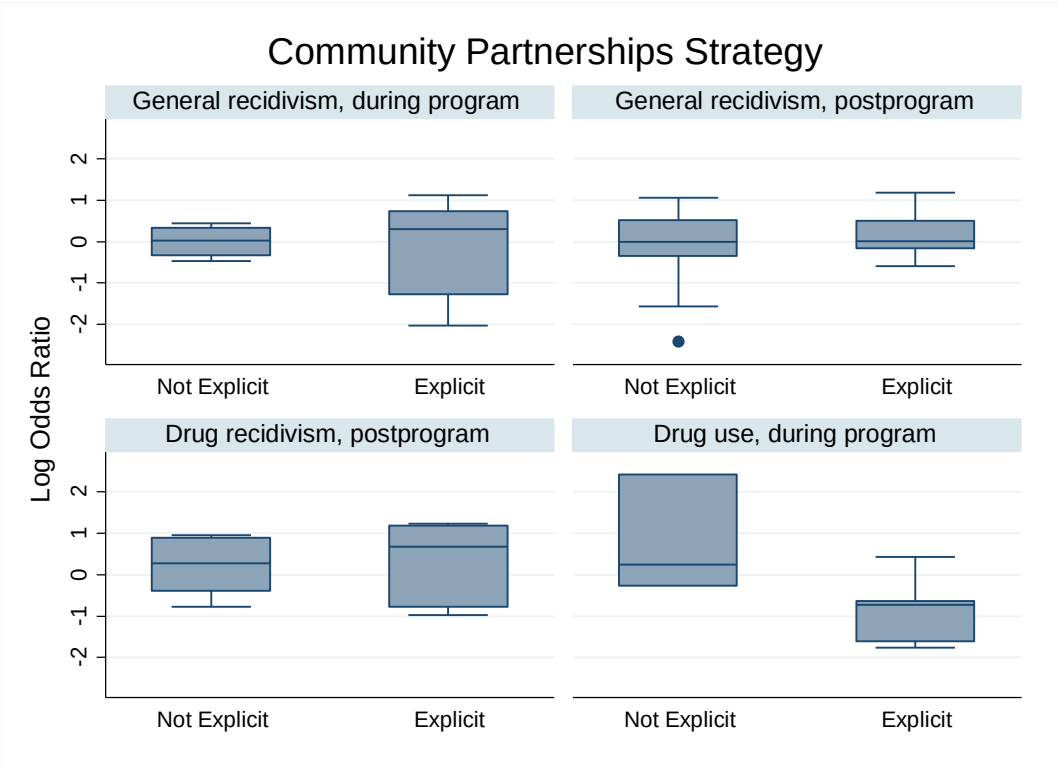
Appendix D. Box Plots of Effect Size Distributions by Outcome Type and Explicit Adherence to Strategies

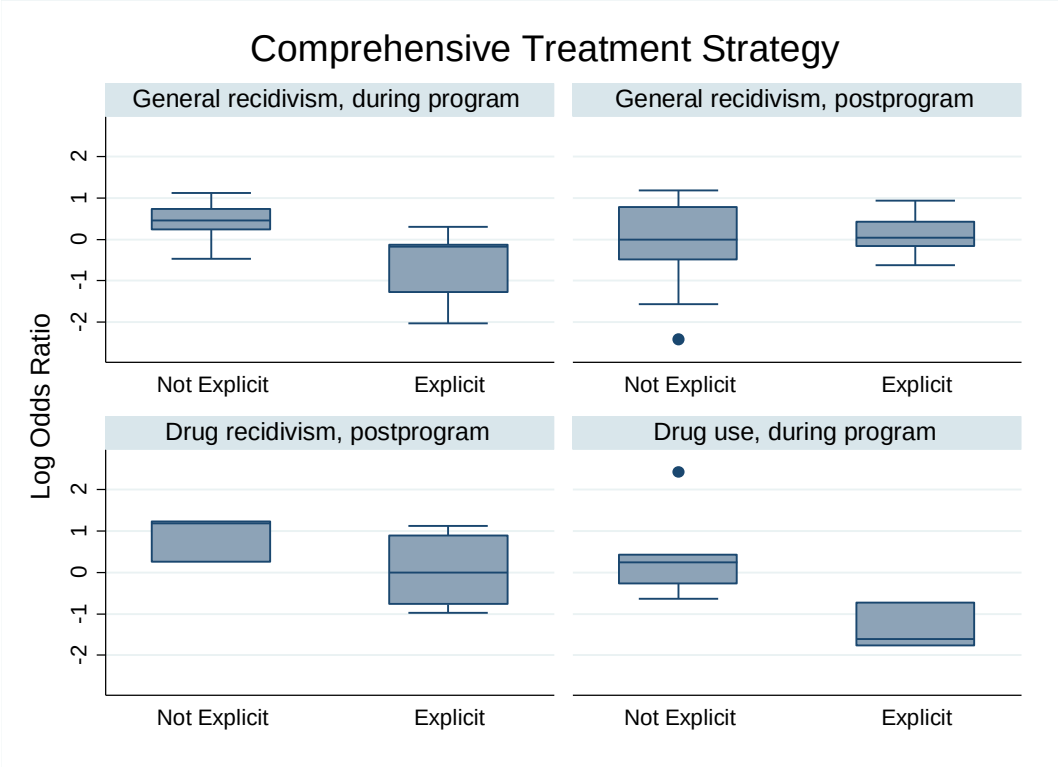


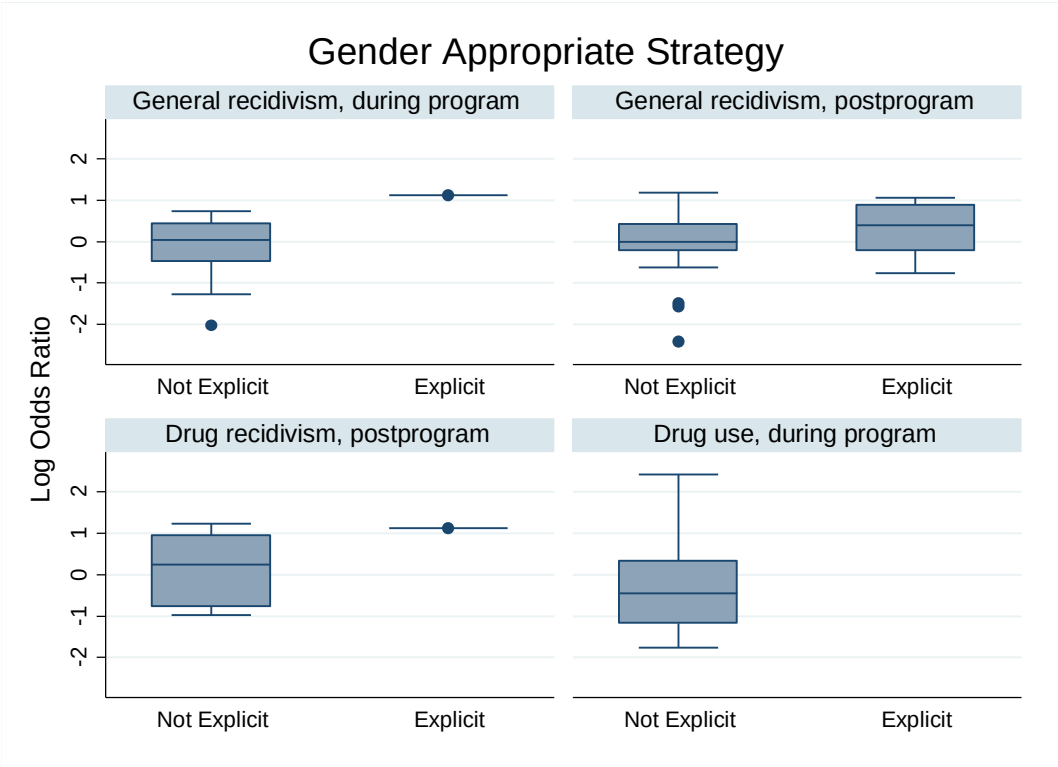


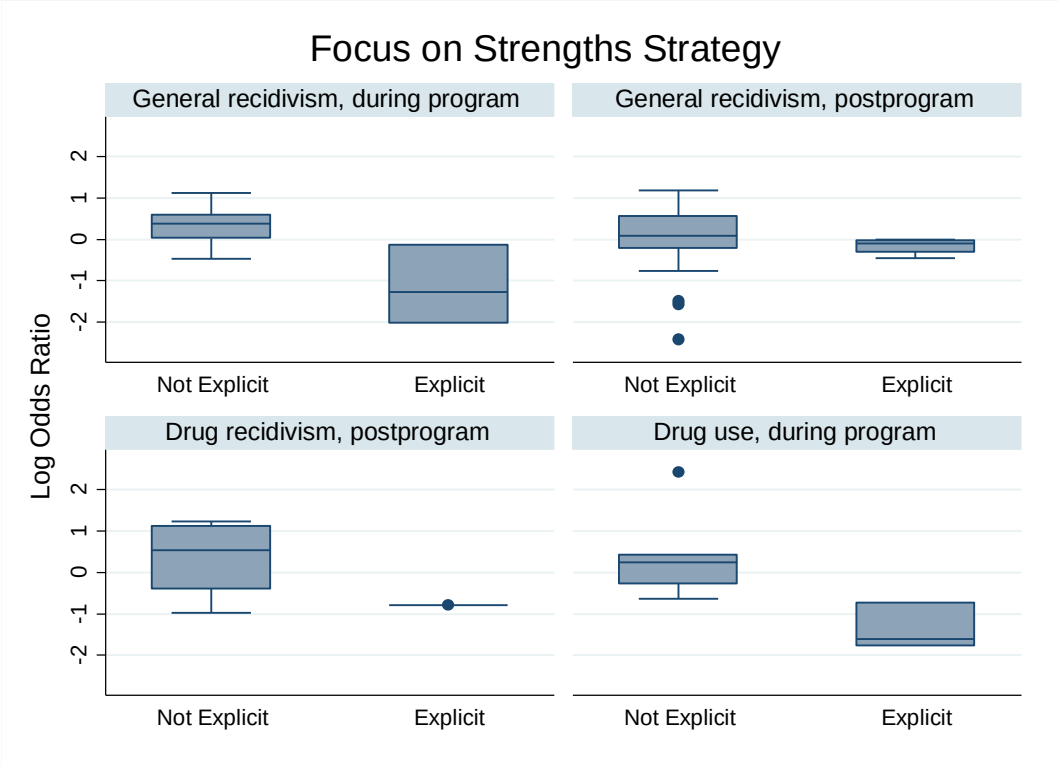


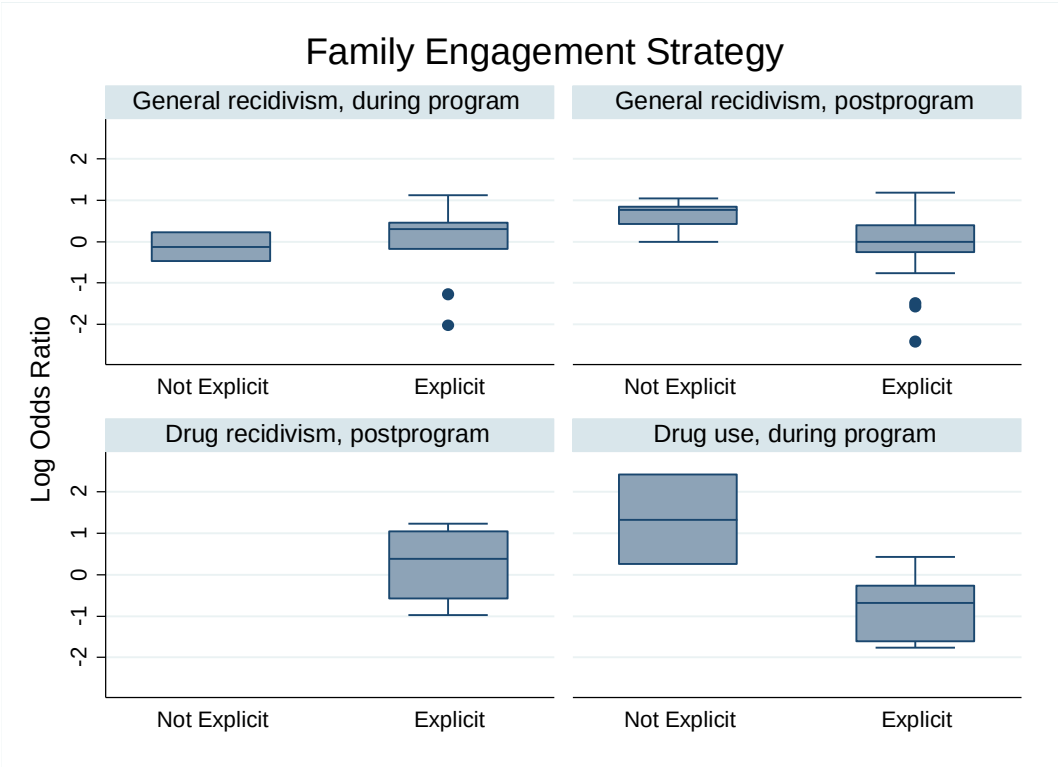


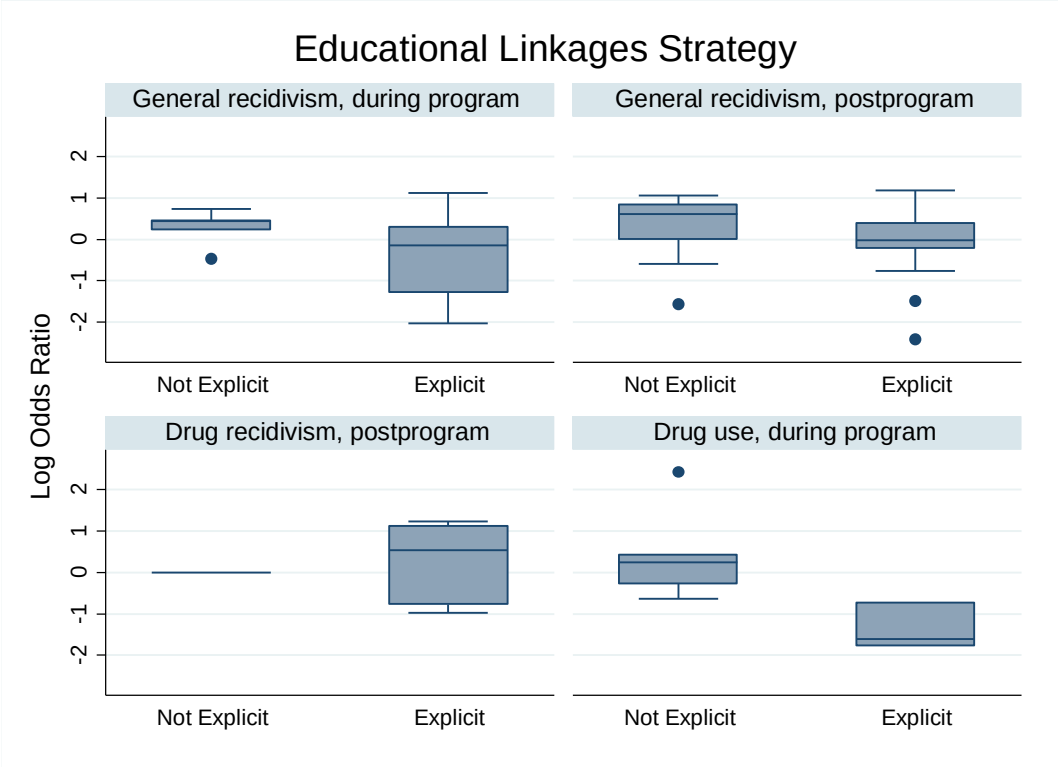


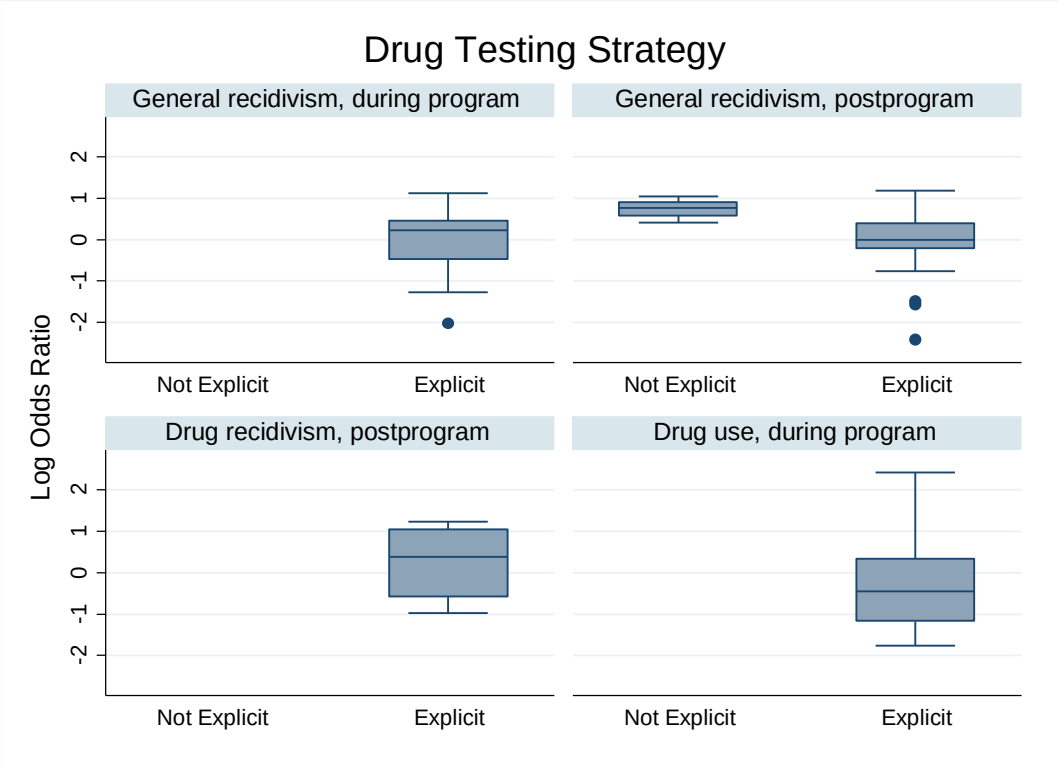


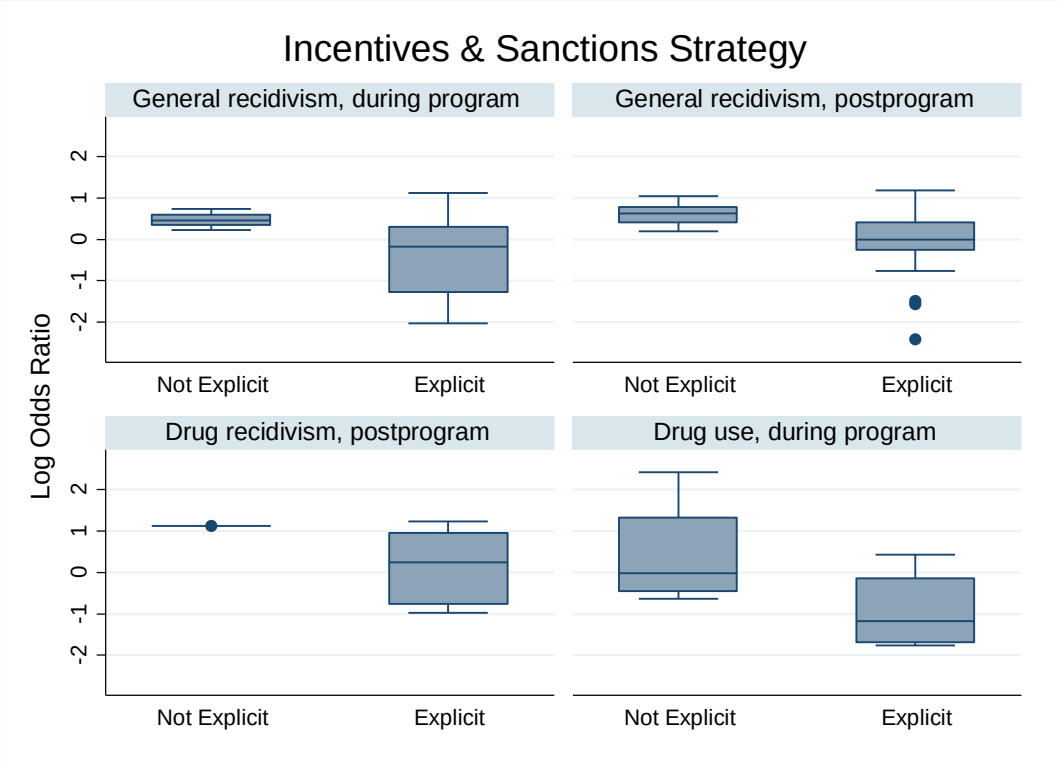


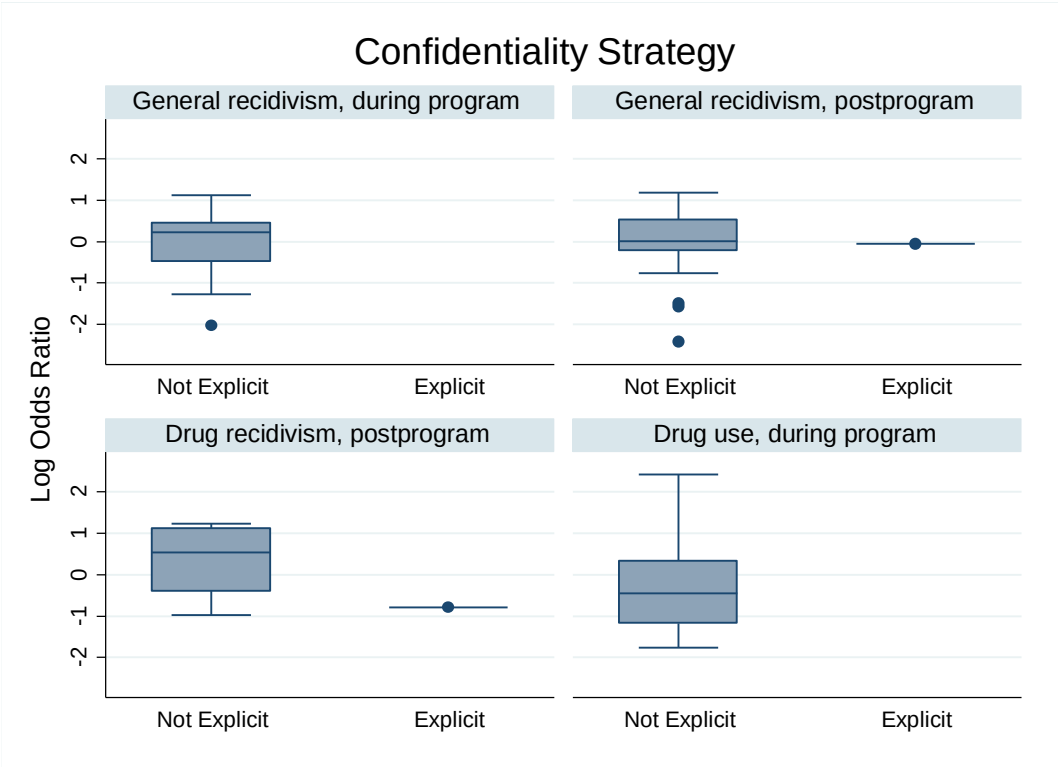












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Our mission is to conduct research aimed at improving the effectiveness of programs for children, youth, and families. Using field research, program evaluation, and research synthesis (meta-analysis), our faculty and staff help determine which programs are actually making a difference in the lives of the people they serve. PRI research addresses many aspects of child and family programs, such as their implementation, costs, dissemination, and social or political support. But the main focus for all of our work is the effects of programs on children and families.

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