

A Sober Assessment of Drug Courts*

“Drug courts work—the research proves it and there are science-based reasons for the research findings . . . But just as compelling as the outcome research is the explanation of ‘why’ drug courts work. The answer to that question is also based on science and predicated upon enhanced training, and the informed use of sanctions and incentives to motivate change.”¹

“Drug courts don’t work, and never have. They don’t reduce recidivism or relapse . . . They have become . . . a form of glorified, and terribly expensive, probation . . . Their continued popularity is a testament to their political appeal, and to the irrational commitment of a handful of true believers.”²

Against a history paved with nearly unbroken failure, drug courts represent one of only a few promising strategies on the horizon for intervening with drug-abusing offenders. The best available research evidence suggests that drug courts can reduce drug use and criminal recidivism on an order of magnitude of two to three times greater than almost any other initiative that has been attempted with this intransigent population.³ Unfortunately, we know next to nothing about *how* drug courts work, for which types of offenders, at what dosage, and whether they may have negative side effects for some individuals. These knowledge-gaps have been a significant source of confusion for criminal justice scholars and a significant source of fodder for policy advocates bent on obfuscation.

As in all situations, the data must be evaluated carefully. It goes without saying that no intervention could possibly “work” for all clients in all locales regardless of how it was administered. In some instances, drug courts may be poorly implemented, provided to the wrong types of clients, or watered down by extraneous political, social, or economic factors. If researchers evaluate average effects over large numbers of studies, the results from poorly implemented programs will inevitably dilute, wash out, or confuse the interpretation of aggregate results. Such disparities in findings across studies should provide insights to researchers and practitioners about the possible indications and contraindications of drug courts. Instead, they have led reputable scholars to diametrically opposed conclusions about the efficacy of drug courts and have permitted advocates to selectively underscore isolated findings to support their a priori agendas.

Furthermore, with little information available on the essential ingredients of drug courts, the field is on infirm ground in attempting to promulgate professional standards for new programs. Who is to say why

fledgling drug courts should not be permitted to experiment by dropping or de-emphasizing the costlier elements of their programs, or by widening or shrinking the net of eligible offenders? As more and more drug courts crop up around the country, the quality of these programs could be declining progressively from the originally conceived drug court model; yet, little information is available to guide the drug court field in understanding this divergence or in justifying a reversal of the process.

This article briefly reviews what we know, and what we need to know, about the effects of drug court programs. Based upon our review of the literature as well as our own program of research in several drug courts, we conclude that drug courts are promising but understudied. At this point in time, drug courts are the leading contender as a potentially effective intervention for a large population of seriously impaired individuals who otherwise would have a very poor prognosis. Unfortunately, little information is available to guide the field in improving upon the performance of drug courts or in reducing unintended negative consequences. We need more research and less hyperbole.

What We Know

We know that drug courts outperform virtually all other strategies that have been attempted for drug-involved offenders. They owe this relative success to two reliable facts: (1) drug abusers respond better to treatment than to any other disposition, and (2) drug abusers eschew treatment.

It is clear that drug abusers do not respond to imprisonment. In some studies, over 95% of drug-abusing offenders returned to drug use within three years of their release from prison, with the lion’s share (85%) relapsing within only the first six to twelve months.⁴ Moreover, approximately two-thirds of drug offenders, nationally, are re-arrested for a new crime



DOUGLAS B. MARLOWE, J.D., PH.D.

DAVID S. DEMATTEO, J.D., PH.D.

DAVID S. FESTINGER, PH.D.

Drs. Marlowe, DeMatteo, and Festinger are Behavioral Scientists in the Section on Law & Ethics Research at the Treatment Research Institute (TRI) at the University of Pennsylvania, and the authors of numerous papers on drug courts and drug court data. TRI’s Section on Law & Ethics Research is dedicated to employing rigorous scientific methods to evaluate the impact of criminal justice programs, legal policies, and ethical mandates on substance abuse clients, their families, and the community.

Federal Sentencing Reporter, Vol. 16, No. 1, pp. 113–28, ISSN 1053-9867, electronic ISSN 1533-8363. © 2003 by the Vera Institute of Justice. All rights reserved. Send requests for permission to reprint to: Rights and Permissions, University of California Press, Journals Division, 2000 Center Street, Suite 303, Berkeley, CA 94704-1223.

within three years of release from prison and roughly one-half are convicted of a subsequent crime or reincarcerated.⁵

Drug abusers are similarly indifferent to probation. Between 50% and 70% of probationers fail to comply adequately with applicable conditions for drug testing and attendance in drug treatment.⁶ Moreover, no incremental benefits are obtained from intensive supervised probation (ISP) programs, which involve specially trained probation officers, reduced client caseloads, and enhanced resources for urinalysis testing and community surveillance.⁷ In fact, the enhanced monitoring of offenders in ISP programs has been paradoxically associated with seemingly *worse* outcomes because the offenders were more likely to be detected for their infractions. Finally, results of dozens of evaluations have revealed *no* effects on criminal recidivism or drug use for “intermediate sanctions” including boot camps, electronic monitoring, house arrest, shock incarceration, or restitution programs.⁸

Drug abusers fare little better in traditional community-based drug treatment settings because they fail to remain long enough to receive a minimally adequate dosage of services. Research indicates that three months of drug treatment may be the minimum threshold for detecting dose-response effects for the interventions, and six to twelve months may be a threshold for observing clinically meaningful reductions in drug use.⁹ In fact, twelve months of drug treatment appears to be the “median point” on the dose-response curve; that is, approximately 50% of clients who complete twelve months or more of drug abuse treatment remain abstinent for an additional year following completion of treatment.¹⁰

Unfortunately, few drug abuse clients reach these critical thresholds. Between 40% and 80% of drug abusers drop out of treatment in fewer than three months,¹¹ and 80% to 90% drop out in fewer than twelve months.¹² These attrition rates change little even when clients are under the supervision of probation officers, parole officers, or TASC case managers.¹³ Thus, considering these figures in their most optimistic light, one should expect less than half of drug-involved probationers or parolees to receive a minimally adequate dosage of drug treatment, less than 20% to receive a reasonably sufficient dosage of drug treatment, and less than 10% to attain a sufficient interval of continued sobriety.

Drug courts exceed these abysmal projections. Reviews of nearly 100 drug court evaluations concluded that an average of 60% of drug court clients attended twelve months or more of drug treatment and roughly one-half graduated from the program.¹⁴ This represents a *six-fold* increase in treatment retention over most previous efforts. In light of such findings, it would seem foolhardy to revisit discredited strategies that were incapable of retaining offenders in treatment long

enough for discernible effects.

In the majority of evaluation studies that have included a suitable comparison condition (15 of 21 published studies to date), drug court clients also achieved significantly greater reductions in drug use, criminal recidivism, and unemployment compared to individuals on standard probation or ISP.¹⁵ The magnitudes of the during-treatment effects were typically in the range of 20 to 30 percentage points, and the magnitudes of the post-treatment effects were typically in the range of 10 to 20 percentage points. Although far from ideal, this is roughly two to three times greater than what is commonly obtained from prison, intermediate sanctions, probation, or community-based drug treatment programs.

The Congressional General Accounting Office has rightly criticized the majority of drug court evaluation studies for using weak research designs and failing to follow participants for an acceptable period of time following their graduation or termination from the program.¹⁶ In particular, many studies employed unacceptably biased comparison samples such as offenders who refused, were deemed ineligible for, or dropped out of the interventions. Further, many studies failed to perform “intent-to-treat” analyses on the entire original sample, excluding offenders who absconded or were terminated from the program, and instead focusing on outcomes for individuals who had the motivation or inclination to complete the entire regimen. This is quite likely to have overestimated positive outcomes for the interventions because it restricted the analyses, after the fact, to the most successful cases.¹⁷

It should be noted, however, that two randomized experimental studies have also reported superior outcomes for drug court clients. In one study, the Maricopa County (Arizona) Drug Court was found to have had a significant effect on re-arrest rates over an extended follow-up period, with 33% of the drug court clients being re-arrested within three years of discharge from drug court, compared to 47% of drug-abusing offenders in various probationary conditions.¹⁸ Similar findings were reported in a randomized evaluation of the Baltimore City Drug Treatment Court, in which 48% of drug court clients vs. 64% of adjudication-as-usual controls were re-arrested within twelve months of admission.¹⁹ At 24 months post-admission, 66% of the Baltimore drug court participants and 81% of the controls had been re-arrested for some offense, and 41% of the drug court participants and 54% of the controls had been re-arrested for a drug-related offense.²⁰

In sum, we know that drug offenders, as a group, have been relatively impervious to intervention. Punitive strategies such as imprisonment or intermediate sanctions have had little impact on their trajectory for drug use and criminal recidivism. Moreover, when left to their own devices, they have simply not remained in

treatment long enough to receive minimal benefits. When, however, the force of the judiciary has been called upon to apply immediate and consistent consequences for their performance in the program, tenure in treatment has generally increased six-fold and positive treatment outcomes have increased two- to three-fold. It defies logic to ignore such promising evidence of success.

What We Don't Know

The worst thing that can happen to a promising intervention is for it to become a "movement" supported by wide-eyed believers. Once this occurs, lines become drawn, unsupportable claims are made, and failure or marginalization is ensured. The drug abuse treatment field has witnessed more than its fair share of would-be panaceas sweeping the field, failing to live up to undue expectations, and becoming either an historical footnote or being selectively adopted by a circumscribed group of followers. Some examples are the "twelve-step" model and the "Minnesota" model, both of which are championed by adherents and mocked by detractors. Proponents of these schools of thought rarely acknowledge reasonable limitations in their approach or recognize that their methods may be unhelpful or counter-productive for some clients, and few engage in appropriate scientific research to uncover the indications or contraindications for their interventions.

Drug courts have fallen victim to this insidious process. Influential proponents of drug court have linked its fate to that of "therapeutic jurisprudence" (or "TJ"), a liberal philosophy which holds that the law ought to advance psychological health as an important or "fundamental" legal interest.²¹ From this perspective, drug courts are no longer viewed as being a circumscribed intervention; instead, they stand as a proxy for the proper role of the judiciary. Critics of drug courts have taken a contrary tack by linking drug courts to conservative political philosophy. To these critics, drug courts are the embodiment of a "law and order" mentality that criminalizes private conduct and unacceptably extends the sphere of government influence over its citizens.²²

Drug courts are *neither* of these things. They are a specific type of intervention, nothing more. They appear to improve outcomes for many clients but are unlikely to be useful for all clients. Some individuals will undoubtedly fail in drug court and others may be harmed. It would be very important to be able to identify such individuals before the fact so as to assign them to a more promising intervention. Further, it is unclear whether all of the ingredients in drug courts are essential for all clients. Some components may be indispensable, others may not be worth the cost, and still others may have negative side effects. Research is needed to pinpoint the operative components of drug

court and to identify the optimum dosages for each of those components for various types of offenders.

The National Association of Drug Court Professionals (NADCP) defines the "key components" of drug court as including: (1) access to a wide range of drug abuse treatment and rehabilitative services, (2) on-going status hearings before the judge in court, (3) random weekly urinalyses, and (4) graduated sanctions for infractions and rewards for achievements.²³ At the time these standards were promulgated in 1997, they were based almost entirely on anecdotal evidence, with *no* scientifically rigorous data available to support any one of the prescriptions.

More recently, a few controlled studies have, in fact, confirmed the importance of some of these components. In one study of the D.C. Superior Court Drug Intervention Program,²⁴ drug-abusing pre-trial supervisees were randomly assigned to a (1) standard drug diversion docket, (2) substance abuse day-treatment condition, or (3) graduated sanctions condition in which they received progressively escalating negative sanctions for positive urinalysis results. Participants in both of the experimental conditions had better outcomes than did participants in the standard docket, indicating that both drug abuse treatment and graduated sanctions improved outcomes beyond standard pre-trial monitoring.

Our own program of research has confirmed that judicial status hearings are also a key component of drug court. In a series of scientifically rigorous studies, we randomly assigned drug court clients either to attend judicial status hearings on a *bi-weekly* basis throughout their enrollment in drug court, or to be monitored by their treatment case managers who petitioned the drug court for status hearings only *as needed* in response to infractions. For the clients as a whole, we learned that status hearings had *no* impact on treatment attendance, drug use, alcohol use, or criminal activity during their enrollment in drug court or at six months or twelve months post-admission to drug court.²⁵

Importantly, however, we found that certain "high-risk" drug court clients performed significantly better when they were assigned to bi-weekly status hearings, whereas "low-risk" clients performed better when they were assigned to as-needed hearings. Specifically, clients who (1) met official diagnostic criteria for Antisocial Personality Disorder (APD) or (2) had a prior unsuccessful history in drug abuse treatment achieved more drug abstinence and were more likely to graduate from the program when they were assigned to bi-weekly hearings, whereas clients without these risk factors performed more favorably when assigned to as-needed hearings.²⁶ The differential effects for the high-risk vs. low-risk offenders "canceled each other out" in the analyses of the clients as a whole, and would have been missed entirely if we had not looked specifically for such interaction effects.

We reproduced these same findings in several adult drug courts located in both urban and rural jurisdictions and serving both felony and misdemeanor offenders.²⁷ This satisfies stringent criteria for scientific proof and leaves little room for doubt that the judge *is* a key ingredient of drug court—at least in some instances. The data also shed considerable light on one of the major controversies that have plagued drug courts since their inception. Critics of drug courts commonly argue that judicial status hearings unnecessarily divert scarce resources from the provision of “real” treatment. Moreover, they may interfere with the therapeutic process because clients may be hesitant to confide in their counselors for fear the information will be disclosed to the judge and used against them. Proponents of drug court take the contrary position that drug-abusing offenders rarely meet their obligations unless they are closely monitored and face immediate and consistent consequences for noncompliance in treatment. Our research suggests that *both* of these positions are correct but are referring to *different clients*. Low-risk offenders might be expected to perform well in drug abuse treatment if they are left alone to develop a therapeutic alliance with their counselor and to focus on their recovery. High-risk offenders, on the other hand, will require consistent and intensive judicial supervision to succeed.

More research is needed to evaluate other components of drug court and to determine whether they, too, may have differential effects for different types of clients. For instance, in the broadest strokes, the research evidence does favor drug abuse treatment; however, we know next to nothing about what may be the most effective type, dose, or modality of treatment for various types of drug court clients. Many drug court programs predominately administer psycho-educational group treatments, which have been shown to have virtually *no* effect on outcomes among offenders.²⁸ Although educational interventions might be effective as a preventative measure for youthful offenders, it is illogical to expect them to yield meaningful benefits for individuals who, for example, are physiologically addicted to drugs and suffering symptoms of withdrawal. It is essential to identify specific drug abuse treatment services that are likely to have more robust effects for drug court clients. In addition, many drug court programs are scheduled for a blanket length of six to twelve months. Research is needed to determine whether this is a minimally adequate, or excessive, period of treatment and surveillance for various types of offenders.

It is also noteworthy that some professional standards for drug courts may not be supported by general lessons in the research literature. For instance, according to the NADCP, sanctions and incentives should be delivered in drug court on a “graduated” schedule, with the magnitude of the sanction or reward increasing

progressively in response to successive infractions or accomplishments. Behavioral research suggests, however, that ratcheting sanctions up slowly could lead some clients to become “habituated” (accustomed) to being sanctioned, thus making it more difficult to suppress their negative behaviors in the future.²⁹ Similarly, some research suggests that rewards might have greater effects if clients could earn higher-magnitude rewards from the outset.³⁰ Building up rewards slowly could lead some clients to become disenchanted. This may be especially true for drug-abusing offenders who are characteristically short-sighted and have difficulty working productively toward long-term goals.

Finally, it is assumed that a major factor in the success of some drug courts is that clients may have their criminal charges “nolle prossed” at graduation, and may have their arrest record expunged following a prescribed waiting period. It is unclear, however, whether negative behaviors such as drug use or criminal activity might be expected to re-emerge once clients knew they were no longer in jeopardy. Some behavioral research would support the prediction of a spontaneous resurgence of negative behaviors when the aversive consequence was lifted.³¹ Research is needed to determine whether drug court clients tend to relapse or recidivate precipitously following graduation or expungement. Research is also needed to identify specific criteria for graduation and specific waiting periods for records-expungement that are most effective in maintaining positive gains over the longer-term.

Conclusion

Scientists implicitly distrust extreme positions because they are rarely borne out by research. Unfortunately, extreme arguments are persuasive to uninformed listeners because they are easy to articulate and to understand. The not-so-simple fact is that drug courts are neither successful nor unsuccessful. They “work” for some clients under some circumstances but are ineffective or contraindicated for others. They can be administered poorly and inefficiently and, unfortunately, we do not know enough to identify specific errors in implementation.

If drug courts were required to undergo the same type of approval process as new medications, they would probably be labeled as “experimental” and might not be approved for specific uses. This is because we do not yet understand their mechanism of action, do not know their contraindications, and do not know their appropriate dosage. On the other hand, to take the analogy a step further, there is ample scientific support for drug courts to warrant further research on them, and to make them available to desperate clients who have not responded favorably to currently available treatments. Few disorders have a poorer prognosis than drug abuse or crime, and few interventions have shown any

promise for treating these individuals. There is ample justification for continuing to assign drug offenders to drug courts so long as research continues to understand and improve upon this novel intervention.

Notes

- * This article was supported by grants #R01-DA-13096 and R01-DA-14566 from the National Institute on Drug Abuse (NIDA) with supplemental funding from the Center for Substance Abuse Treatment (CSAT). The views expressed herein are solely those of the authors and do not represent the views of NIDA or CSAT. Address correspondence to Douglas B. Marlowe, J.D., Ph.D., Treatment Research Institute at the University of Pennsylvania, 600 Public Ledger Bldg., 150 S. Independence Mall West, Philadelphia, PA 19106-3475. (215) 399-0980. (215) 399-0987 (fax). Marlowe@Tresearch.org (e-mail)
- ¹ William G. Meyer & A. William Ritter, *Drug Courts Work*, 14 FED. SENTENCING REP. 179, 179 (2002) (emphasis added).
- ² Morris B. Hoffman, *The Rehabilitative Ideal and the Drug Court Reality*, 14 FED. SENTENCING REP. 172, 172 (2002) (emphasis added).
- ³ See Douglas B. Marlowe, *Effective Strategies for Intervening with Drug Abusing Offenders*, 47 VILL. L. REV. 989 (2002).
- ⁴ See, e.g., Steven S. Martin et al., *Three-Year Outcomes of Therapeutic Community Treatment for Drug-Involved Offenders in Delaware: From Prison to Work Release to Aftercare*, 79 PRISON J. 294 (1999).
- ⁵ See PATRICK A. LANGAN & DAVID LEVIN, *RECIDIVISM OF PRISONERS RELEASED IN 1994* (2002).
- ⁶ See, e.g., LAUREN E. GLAZE, *PROBATION AND PAROLE IN THE UNITED STATES, 2001* (2002); DOUGLAS YOUNG ET AL., *ALCOHOL, DRUGS, AND CRIME: VERA'S FINAL REPORT ON NEW YORK'S INTERAGENCY INITIATIVE* (1991); Faye S. Taxman et al., *Graduated Sanctions: Stepping Into Accountable Systems and Offenders*, 79 PRISON J. 182 (1999).
- ⁷ See, e.g., Joan Petersilia & Susan Turner, *Intensive Probation and Parole, in CRIME AND JUSTICE: A REVIEW OF RESEARCH* (Michael Tonry ed., 1993); Paul Gendreau et al., *Intensive Rehabilitation Supervision: The Next Generation in Community Corrections?*, 58 FED. PROBATION 72 (1994).
- ⁸ See, e.g., Paul Gendreau et al., *The Effects of Community Sanctions and Incarceration on Recidivism*, 12 CORRECTIONS RES. 10 (2000); Faye S. Taxman, *Unraveling "What Works" for Offenders in Substance Abuse Treatment Services*, 2 NAT'L DRUG CT. INST. REV. 93 (1999).
- ⁹ See Robert L. Hubbard et al., *Overview of 1-Year Follow-Up Outcomes in the Drug Abuse Treatment Outcome Study (DATOS)*, 11 PSYCHOL. ADDICTIVE BEHAV. 261 (1997); D. Dwayne Simpson et al., *Treatment Retention and Follow-Up Outcomes in the Drug Abuse Treatment Outcome Study (DATOS)*, 11 PSYCHOL. ADDICTIVE BEHAV. 294, 300-301 (1997).
- ¹⁰ See A. Thomas McLellan et al., *Drug Dependence, A Chronic Medical Illness: Implications for Treatment, Insurance, and Outcomes Evaluation*, 284 JAMA 1689 (2000).
- ¹¹ See, e.g., Michael J. Stark, *Dropping Out of Substance Abuse Treatment: A Clinically Oriented Review*, 12 CLINICAL PSYCHOL. REV. 93 (1992).
- ¹² See, e.g., SALLY L. SATEL, *DRUG TREATMENT: THE CASE FOR COERCION* (1999).
- ¹³ See, e.g., John S. Goldkamp, *The Drug Court Response: Issues and Implications for Justice Change*, 63 ALB. L. REV. 923 (2000).
- ¹⁴ See STEVEN BELENKO, *RESEARCH ON DRUG COURTS: A CRITICAL REVIEW: 2001 UPDATE* (2001); Steven Belenko, *Research on Drug Courts: A Critical Review*, 1 NAT'L DRUG CT. INST. REV. 1 (1998); Steven Belenko, *Research on Drug Courts: A Critical Review: 1999 Update*, 2 NAT'L DRUG CT. INST. REV. 1 (1999); see also Joseph Gudyish et al., *Drug Court Effectiveness: A Review of California Evaluation Reports, 1995-1999*, 33 J. PSYCHOACTIVE DRUGS 369 (2001).
- ¹⁵ See Steven Belenko, *Drug Courts, in TREATMENT OF DRUG OFFENDERS: POLICIES AND ISSUES* 301 (Carl G. Leukefeld et al, eds., 2002).
- ¹⁶ See GENERAL ACCOUNTING OFFICE, *DRUG COURTS: BETTER DOJ DATA COLLECTION AND EVALUATION EFFORTS NEEDED TO MEASURE IMPACT OF DRUG COURT PROGRAMS* (2002).
- ¹⁷ See Douglas B. Marlowe & David S. Festinger, *Research on Drug Courts: Do the N's Justify the Means?*, CONNECTION NEWSL. (Acad. Health Servs. Res. & Health Pol'y, Washington, D.C.), Dec. 2000, at 4-5.
- ¹⁸ Susan Turner et al., *Perceptions of Drug Court: How Offenders View Ease of Program Completion, Strengths and Weaknesses, and the Impact on Their Lives*, 2 NAT'L DRUG CT. INST. REV. 61 (1999).
- ¹⁹ See Denise C. Gottfredson & M. Lyn Exum, *The Baltimore City Drug Court: One-Year Results From a Randomized Study*, 39 J. RES. CRIME & DELINQUENCY 337 (2002).
- ²⁰ Denise C. Gottfredson et al., *Effectiveness of Drug Courts: Evidence From a Randomized Trial*, 2 CRIMINOLOGY & PUBLIC POL'Y (forthcoming 2003) (manuscript on file with authors).
- ²¹ See Peggy Fulton Hora et al., *Therapeutic Jurisprudence and the Drug Treatment Court Movement: Revolutionizing the Criminal Justice System's Response to Drug Abuse and Crime in America*, 74 NOTRE DAME L. REV. 439 (1999); Peggy Fulton Hora & William G. Schma, *Therapeutic Jurisprudence*, 82 JUDICATURE 8 (1998).
- ²² See, e.g., John F. Anderson, *What to do About "Much Ado" About Drug Courts?*, 12 INT'L J. OF DRUG POL'Y 469 (2001); Morris B. Hoffman, *The Drug Court Scandal*, 78 N.C. L. REV. 1437 (2000).
- ²³ NATIONAL ASSOCIATION OF DRUG COURT PROFESSIONALS, *DEFINING DRUG COURTS: THE KEY COMPONENTS* (1997).
- ²⁴ ADELE HARRELL ET AL., *FINAL REPORT: FINDINGS FROM THE EVALUATION OF THE D.C. SUPERIOR COURT DRUG INTERVENTION PROGRAM* (Urban Inst. ed., 1998).
- ²⁵ Douglas B. Marlowe et al., *Are Judicial Status Hearings a "Key Component" of Drug Court? During-Treatment Data From a Randomized Trial*, 30 CRIM. JUST. & BEHAV. 141 (2003); Douglas B. Marlowe et al., *A Randomized, Controlled Evaluation of Judicial Status Hearings in Drug Court: 6 and 12-month Outcomes and Client-Program Matching Effects*, 66 DRUG & ALCOHOL DEPENDENCE 111 (2002).
- ²⁶ David S. Festinger et al., *Status Hearings in Drug Court: When More is Less and Less is More*, 68 DRUG & ALCOHOL DEPENDENCE 151 (2002).
- ²⁷ Douglas B. Marlowe et al., *The Role of Judicial Status Hearings in Drug Court*, 3 OFFENDER SUBSTANCE ABUSE REP. 33 (2003); Douglas B. Marlowe et al., *The Judge is a Key Component of Drug Court*, NAT'L DRUG CT. INST. REV. (forthcoming 2003) (manuscript on file with authors).
- ²⁸ See, e.g., Frank S. Pearson & Douglas S. Lipton, *A Meta-Analytic Review of the Effectiveness of Corrections-Based Treatments for Drug Abuse*, 79 PRISON J. 384 (1999).
- ²⁹ See Douglas B. Marlowe & Kimberly C. Kirby, *Effective Use of Sanctions in Drug Courts: Lessons From Behavioral Research*, 2 NAT'L DRUG CT. INST. REV. 1 (1999).
- ³⁰ See Kimberly C. Kirby et al., *Schedule of Voucher Delivery Influences Initiation of Cocaine Abstinence*, 66 J. CONSULTING & CLINICAL PSYCHOL. 761 (1998).
- ³¹ See MURRAY SIDMAN, *COERCION AND ITS FALLOUT* (1989); Nathan H. Azrin & W. C. Holz, *Punishment, in OPERANT BEHAVIOR: AREAS OF RESEARCH AND APPLICATION* 380 (Werner K. Honig ed., 1966).