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Foreword

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) is pleased to announce the inaugural issue of the *Journal of Juvenile Justice (JOJJ)*. This semi-annual, peer-reviewed journal, sponsored by OJJDP, is designed to be an accessible, practical tool for a diverse audience of researchers and practitioners. We believe this Journal is an overdue contribution to the world of criminal justice research periodicals and will fulfill a critical need in the juvenile justice field. Its creation is both a tribute to OJJDP's rich research legacy and an acknowledgment of OJJDP's unique mandate.

Created in 1975, as a result of the Juvenile Justice and Delinquency Prevention (JJDP) Act, OJJDP was charged with the coordination of programs, policies, and research related to juvenile delinquency and juvenile justice. Within the Act is authorizing language that requires OJJDP to coordinate federal juvenile delinquency programs; administer formula funds to States, as well as award discretionary grant funds; provide training and technical assistance to juvenile justice practitioners; develop juvenile justice standards; conduct research and evaluate juvenile justice programs; and disseminate juvenile justice information to the field.

The JJDP Act was revolutionary in many respects—not only in codifying broad systemic changes, such as the deinstitutionalization of status offenders, but in recognizing the value of research and ensuring it was among OJJDP's fundamental responsibilities. Since its establishment, OJJDP has developed a wide-ranging research program that includes ground-breaking longitudinal work; unprecedented data collections and surveys; and many comprehensive program evaluations focusing on juvenile crime, delinquency, and victimization. Housing a juvenile research program within an office that also funds juvenile justice programs and services has allowed OJJDP to seed its research into many other activities. Consequently, knowledge gained through research, evaluation, and statistical efforts has informed and strengthened the development of victimization and delinquency prevention and intervention programs; standards; and training and technical assistance. In addition, OJJDP's responsibility to disseminate information to the field ensures that new research findings make their way into the hands of practitioners and policymakers.

The development of a research journal for OJJDP's constituency is both a natural progression and complement to the Office's research and dissemination duties. Topics covered within each journal will address a variety of issues in juvenile justice, ranging from delinquency prevention to evaluation of treatment approaches. Moreover, the Journal's articles are not limited to OJJDP-funded research. We recognize that while OJJDP's research agenda is ambitious, it cannot possibly answer the diversity of questions generated by an evolving juvenile justice field. Innovative research is being conducted across the country and around the world, and OJJDP welcomes credible submissions from all arenas. Our sole criterion is that all articles are subject to a rigorous peer review and represent sound scientific principles on topics of concern to the field. With that in mind, we anticipate a robust exchange in which the juvenile justice field will be both the journal's contributors and its consumers.

This inaugural issue includes much that will be of interest to our constituents. Topics range from the unique risk factors associated with crossover youth to the benefits of comprehensive restorative justice programs. Articles that report the findings from evaluations of Parents Anonymous and King County's Child Protection Mediation Pilot showcase programs that demonstrate promise in reducing child maltreatment and increasing the efficiency of case processing, respectively. Additionally, the Journal includes items on the development of standards for defining and measuring recidivism and

a method that may be used to improve the reliability of juvenile justice screening and assessment instruments. This information is both timely and practical.

In fact, practical application of research knowledge is a key tenet of the *Journal of Juvenile Justice*. The Journal has been developed with a realistic view of the current fiscal environment. Perhaps at no other time in OJJDP's history has there been such urgency to examine our current programs and policies to identify efficiencies. Evaluations offer us helpful information about programmatic effectiveness, answering the question, "What works?" But it is also important to answer the question, "What works at low cost?" In addition, there is strategic value in understanding the populations we serve. Longitudinal and basic research address questions about the nature and extent of juvenile crime and victimization that help us determine how we may target limited programmatic resources for the utmost benefit.

Of course, pursuing the answers to these questions will do no good if the knowledge does not reach those who need it. It is vital that once credible information is available, it is disseminated quickly and widely so that it can inform the decisions of practitioners and policymakers. The Journal's electronic format ensures that it is accessible to all of OJJDP's stakeholders—from rural Alaska to inner city Baltimore and beyond.

The advent of this journal has afforded us the opportunity to reflect back on OJJDP's history as well as contemplate our future. Looking ahead, we have developed three goals that find their roots in our authorizing mandate: 1) set a research agenda for OJJDP that is scientifically rigorous, timely, and promises maximum impact to the field; 2) seek out opportunities to partner with other research offices and organizations, within the Department, across Federal government, and with private partners; and 3) disseminate relevant research findings widely using the latest tools and resources to increase accessibility. We believe this Journal is a means to help achieve these goals.

We hope you share in our excitement about the *Journal of Juvenile Justice* and join us in looking forward to the many issues to come.



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Measuring Recidivism in Juvenile Corrections

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Key Words: Juvenile justice, corrections, recidivism, outcomes measurement

Abstract

Clear communication of program outcomes and system performance in juvenile justice is often hampered by the lack of standard definitions and inconsistent measurement, especially in relation to recidivism. In juvenile corrections, developing knowledge of best practices and effective programs, and obtaining support for the replication of evidence-based programs, depends heavily on an agency's ability to present performance data clearly and consistently to policy makers. To bring greater consistency and clarity in the use of recidivism as an indicator of system performance, the Council of Juvenile Correctional Administrators (CJCA), the national organization of state juvenile correctional chief executive officers (CEOs), developed standards for defining and

measuring recidivism in 2009. This article presents these standards and describes their development and rationale.

Introduction

In juvenile corrections, recidivism—the commission of repeat offenses—is the most commonly used indicator of program and system effectiveness. Preventing recidivism, the goal of most programs for delinquent youth, is informed by criminological theory as well as state and federal policy. Indeed, the phrase “delinquency prevention” is contained in the name of the federal agency that guides national priorities in juvenile justice, the Office of Juvenile Justice and Delinquency Prevention (OJJDP).

The dominance of recidivism as the central measure of juvenile correctional program performance is, some believe, due to the ease with which recidivism data can be obtained (Maltz, 2001). Criminal justice agencies systematically record arrest, conviction, and re-incarceration data. What's more, recidivism is tied closely to an underlying public concern, that of personal safety.

Demands for performance data on the effectiveness of juvenile justice programs are ubiquitous. State-level policy makers are often interested in reviewing recidivism data to compare their juvenile justice system's performance with that of other states. States publishing recidivism rates create benchmarks against which every state can compare its own rates (Sentencing Project, 2010). These comparisons allow policy makers not only to establish realistic goals, but more importantly to hold juvenile justice agencies accountable for the outcomes of their taxpayer-funded services.

Juvenile correctional agencies are, therefore, under pressure to produce evidence of their achievements. To sustain and improve results of interest to policy makers, state and local governments must fiscally support agency operations and program enhancements. The support provided to an agency in legislative budget hearings, especially in times of spending cuts, is heavily contingent on its ability to document its effectiveness in reducing recidivism.

This article addresses a problem seriously hampering the ability of juvenile correctional agencies to effectively produce meaningful performance data for purposes of accountability, as well as creating outcome information to support quality improvement efforts. Specifically, this article addresses the lack of uniform research and reporting standards for tracking recidivism, provides a new set of standards for measuring recidivism adopted by CJCA, and describes the process by which the standards were developed.

Defining and Measuring Recidivism

Recidivism data have been reported in terms of a variety of measures, including re-arrest, re-adjudication, and re-incarceration. As a result, policy makers are often unable to make sense of seemingly disparate findings or draw meaningful conclusions about program or system performance. Common definitions and indicators are necessary to clearly communicate the meaning of outcome study results, to unambiguously describe the methods used to obtain research findings, to enable replication of research designs, to make possible comparisons across studies and regions, and to facilitate our understanding of program or system effectiveness.

Defining Recidivism

By definition, recidivism comprises two elements: 1) the commission of an offense, 2) by an individual already known to have committed at least one other offense (Blumstein & Larson, 1971). To have a truly operable definition, one must clarify and qualify both parts.

Regarding the first half of the definition, one must ask: What constitutes "commission of an offense?" Does the definition include status offenses? Would parole violations fall under the definition? One might assume that the phrase "commission of an offense" refers to a criminal act and thus excludes status offenses and parole violations. Consistency requires that the phrase "commission of an offense" be defined explicitly.

For the second half of the definition, one must ask: Who is considered to be "an individual already known to have committed at least one other offense?" In the case of a juvenile, must the juvenile have been found guilty of an offense? If the juvenile had been arrested but diverted prior to adjudication, is she included in this definition? A policy maker might argue that diversion does not imply innocence; in fact, it implies or requires admission of guilt. Thus, if a youth who was previously diverted comes before the court on a subsequent offense, is that not recidivism?

Evaluators must agree on uniform answers to these questions or their findings will be difficult to interpret or compare.

Measuring Recidivism

The terms “define” and “measure” are often confused by non-researchers. Whereas “define” refers to the meaning of a word—in this case, recidivism—“measure” refers to a method of systematically determining its extent or degree within a given sample. In program evaluations, the measures are the types of data used to determine recidivism levels. These data types include, among others, self-reports of re-offending, arrest records, and court records of adjudication and disposition.

The distinctions among these measures are important, as their use will generate vastly disparate results. Snyder and Sickmund (2006) found that when measuring recidivism as re-arrests, there is an average; however, when measuring recidivism as re-incarceration, they find only a 12% recidivism rate (see also Mears & Travis, 2004). In general, we can expect measures derived from actions occurring later in the case processing system to produce lower recidivism rates. The shrinkage stems from the decisions of officials to remove (dismiss or divert) some cases at each decision point, allowing only the remaining cases to continue to the next stage in the process.

Choosing appropriate measures of recidivism also requires consideration of implications for which cases are excluded. For example, requiring a finding of guilt excludes diversion cases, a decision option often favored by policy makers and juvenile justice advocates.

Recidivism and Follow-up

A program evaluation’s follow-up methods can also dramatically affect the level of recidivism researchers detect. For example, researchers may measure recidivism from different starting points, such as when juveniles are released from institutions to aftercare or when their cases are

terminated by the court (Barnoski, 1997; Maltz, 1984). Researchers also may employ follow-up periods of different durations (longer periods of follow-up are likely to increase the proportion of youths found to reoffend). Furthermore, instead of using the same follow-up duration for each case, researchers may terminate follow-up on a particular date, thus limiting the time of follow-up for some cases.

Another common oversight is the omission of adult offenses. If a juvenile transitions to the adult system (as a result of age or the case being waived), evaluators will not detect his or her re-offenses if data are restricted to juvenile corrections records. This omission would result in an undercount of recidivism. The major obstacle to obtaining these data is, of course, access. Political and technical barriers need to be removed if recidivism studies are to follow cases for a reasonable period of time. Our review of the juvenile justice program evaluation literature (see below) showed a preference for a follow-up of two years.

Obviously, researchers may choose not to follow cases for as long as several years, in part because data collection costs increase with time. As long as the follow-up period is sufficient to capture a large proportion of new offenses, there is little justification for incurring additional costs. Second, except for studies with randomized or well-matched controls, factors not accounted for in the research design will, as time passes, increase or decrease the probability of a new offense. Finally, internal use of recidivism data for purposes of program improvement is most beneficial if the time between the delivery of services and measurement of their impact is relatively short. Thus, consideration must be given to the pros and cons of different follow-up time periods when establishing standards.

Contextual Differences Affecting Recidivism Measurement

Sanborn (2004) notes the absence of an American juvenile justice system. Instead, the United States has 52 different juvenile justice systems, each differing in ways that can account for a large

proportion of differences in recidivism rates. To this number we can add the numerous tribal juvenile justice systems operating on American Indian reservations. If system differences are not taken into account, anyone comparing state-level recidivism rates is likely to draw erroneous conclusions.

Policy differences among the states, such as jurisdictional age, influence the characteristics of juvenile justice populations. For example, New York, which treats 16-year-olds as adults, will have different recidivism rates from Pennsylvania, where the jurisdiction of the juvenile justice system ends at 18. Pennsylvania's data would include youths 16 and 17, while New York's would not. A comparison of New York and Pennsylvania recidivism data would be biased unless youths older than 15 were excluded from the analysis.

Other factors likely to cause recidivism rates to vary include differences in police practices, the quality of aftercare services, arrest and conviction standards, policies on waivers to the adult system, and guidelines for diverting and dismissing cases. For example, Josi and Sechrest's (1999) experimental study of the "Lifeskills '95" program in California demonstrated the effectiveness of an aftercare program that combined structured socialization training, positive expectations, individualized treatment, vocational training, and employment on reducing recidivism. At the same time, these researchers observed that negligence on the part of parole and correctional agencies often undermined successful reintegration.

As an example of the potential influence of police practices on the measurement of recidivism rates, Philadelphia recently implemented a training curriculum for law enforcement. Created by local policy makers and supported by the Pennsylvania Commission on Crime and Delinquency and the MacArthur Foundation's Disproportionate Minority Contact (DMC) Action Network, this four-stage training is designed to equip police officers with the skills and understanding needed

to use their discretion more effectively in reducing minority group arrests (Scott & McKitten, n.d.). These examples indicate that innovations in practice that change decision-making at critical points in the official processing of juvenile cases may produce differences in the outcomes we wish to compare.

Recidivism rates may also be affected by environmental factors within a jurisdiction. These include economic conditions, population density, levels of access to health care, and quality of education. For example, economically disadvantaged urban areas lacking social capital are likely to have high rates of crime and delinquency (Sampson & Groves, 1989). More specifically, neighborhoods characterized by sparse friendship networks, unsupervised teens, and low participation in organizations had higher rates of crime and delinquency than neighborhoods with greater social supports. More recently, Mennis and Harris (2011) found that juvenile recidivism is concentrated in specific neighborhoods and that different types of neighborhoods produce different rates, and different types, of offenses. For example, a neighborhood with well-organized drug markets increases the chances of recidivism, especially the commission of drug-related offenses. Thus, characteristics of the neighborhoods in which youth reside can influence patterns of recidivism observed by researchers.

Development of the CJCA Standards

Clear communication and more effective use of performance data would increase if definitions and measures of recidivism were standardized. This belief led CJCA to create standards for defining and measuring recidivism. The purpose of its work was to: 1) increase knowledge needed to reduce recidivism; 2) increase support for evidence-based programs, both proven and promising; and 3) support continuous quality improvement of programs and systems of services.

Methods

The strategy adopted by CJCA to develop standards for defining and measuring recidivism consisted of the following five components:

1. A Recidivism Work Group¹ was created, consisting of CJCA members and research staff² from their respective state agencies, to provide an agency perspective and feedback to the principal researchers³;
2. CJCA included in its annual survey of member agencies questions regarding state-agency practices in measuring recidivism;
3. The principal researchers reviewed recent program evaluations of juvenile correctional programs and related studies to gather information on how recidivism was defined and measured;
4. The Recidivism Work Group members contributed to and commented on drafts of the standards and supporting materials; and
5. Major findings were presented to the full CJCA membership at its January and August meetings in 2008 and 2009 to obtain consensus on standards recommended by the Recidivism Work Group.

The process of standards development was iterative, with the principal researchers reviewing and summarizing recidivism studies, the Recidivism Work Group members requesting clarification and adding measurement challenges not considered, and the CJCA membership examining summaries of findings from the literature reviews and recommendations from the Work Group. The variety of measurement practices found in the literature presented an important opportunity, since consensus among the CJCA members was seen as essential. Our emphasis on consensus was based on recognition that successful implementation of the resulting standards would depend heavily on each member's willingness to champion the standards within their agencies and states. In no case, however, did consensus supersede the body of research reviewed.

Measurement Practices in Juvenile Corrections and Program Evaluation

Occasionally, juvenile correctional agencies conduct in-depth studies of system-wide outcomes, including recidivism rates. Contracted external evaluators generally perform these studies. In January 2009, CJCA's Recidivism Work Group collected ten of these reports from state agencies,

Table 1: **Recidivism Measurement by State Juvenile Correctional Agencies**

State	Recidivism Measure	Other Information
Arizona	Return to custody	Up to 36 month follow-up; Differentiates new offense from technical violation
Colorado	Filing for new offense	12 month follow-up
Kansas	Return to custody	12 month follow-up
Louisiana	Re-adjudication and return to custody	36 month follow-up; Includes adult cases
Maine	Re-adjudication	18 month follow-up; First adjudication cases only
Massachusetts	Re-adjudication	24 month follow-up
North Carolina	Rearrest; Re-adjudication	24 month follow-up; Includes adult cases
Ohio	Return to custody or adult sentence	Not reported
Virginia	Return to custody	Up to 36 month follow-up
Wisconsin	Return to custody	Up to 24 month follow-up; Differentiates new offense from technical violation

¹ This committee was chaired by the fourth author of this article.

² In two states, these individuals were independent researchers working under contract with the state agency.

³ The first three authors of this article.

listed in Table 1.⁴ Six of these studies measured recidivism as re-incarceration (e.g., “return to custody”), while four used adjudication (“re-adjudication”), and one used re-arrest. Follow-up periods used in these studies also varied, ranging from one to three years, with no particular time period dominating.

Aside from these occasional reports, most agencies also routinely monitor recidivism data. Through its annual survey, CJCA gathered information on how state agencies conduct such studies.⁵ Of the 51 responding agencies, 40 reported that they track recidivism data.

Most agencies use more than one measure for recidivism (see Table 2). Relatively few agencies (28%) use arrest (5% use arrest only), but nearly one-half (48%) use adjudication and/or commitment decisions. Also notably, less than one-half (45%) follow clients into the adult system, perhaps because of difficulty in obtaining this information. In fact, only 32 of 40 agencies have access to data on youths transferred to the adult system. Moreover, most of the agencies (60%)

follow juveniles for at least 24 months after their release to the community. Differences in follow-up periods may also be related to data access, as some agencies may have more difficulty in obtaining long-term follow-up data than others.

The program evaluation literature, which consistently uses recidivism data to measure program effectiveness in juvenile justice, is another source of information on recidivism research practices. By scouring online databases,⁶ the principal researchers found 45 published studies evaluating recidivism outcomes for adjudicated juveniles participating in residential and community-based programs. These studies used a variety of measures and commonly employed multiple measures and data sources to measure recidivism. A list of these studies can be found on pages 21-26 of Harris et al. (2009).

Comparing these studies with the survey data illustrates several differences in recidivism quantification, as seen in Table 3. The most striking difference is the use of commitment as a recidivism measure. State correctional agencies use this

Table 2: Recidivism Measures Used by Juvenile Correctional Agencies

Recidivism Measure	Number of States Using this Measure	Percentage of States Using this Measure
Arrest (total)	11	28
Arrest only	2	5
Arrest plus one or more other actions	9	23
Adjudication (total)	19	48
Adjudication only	8	20
Adjudication plus one or more other actions	11	28
Commitment to juvenile corrections (total)	19	48
Commitment to juvenile corrections only	4	10
Commitment to juvenile corrections plus one or more other actions	15	38
Commitment to adult corrections (total)	18	45
Commitment to adult corrections only	2	5
Commitment to adult corrections plus one or more other actions	16	40

Source: Harris et al., 2009. Copyright © 2009 by the Council of Juvenile Correctional Administrators. Reprinted by permission.

⁴ Copies of these studies are available from the first author of this article.

⁵ Survey questions can be found in Harris, Lockwood and Mengers (2009).

⁶ Including Academic Search Premier, Sage Journals Online, and PsycINFO

Table 3: Recidivism Measures by State Agencies and Program Evaluations

	Probation/ Parole Violation	Petition	Arrest	Petition or Arrest	Adjudication/ Conviction	Juvenile Commit	Adult Commit	Multiple Measures
State Surveys (n=40)	7.5% (3)	5% (2)	28% (11)	28% (11)	48% (19)	49% (19)	45% (18)	60% (24)
Evaluations (n=45)	13% (6)	20% (9)	28.8% (13)	48.8% (22)	51.1% (23)	4% (2)	4% (2)	48.8% (22)

measure (juvenile commitment, 48%; adult commitment, 45%) with far greater frequency than do program evaluations (juvenile commitment, 0.4%; adult commitment, 0.4%). This difference is likely due to state correctional agencies having limited access to police and court data. However, there is some similarity: approximately one-half of program evaluations (51.1%) and state agencies (48%) measure recidivism either as adjudication or conviction.

Another difference between the program evaluation literature and survey data is the use of rearrests and court petitions (or filings) to measure recidivism. The CJCA survey did not specifically ask respondents about petitions, but two states reported use of petitions, or filings, in the “other” category. The Work Group therefore created a combined “arrest or court petition” variable. Using this variable, we find a much higher proportion of program evaluations (48.8%) use petition or arrest as a measure of recidivism than do state agencies (28%).

Based on these differences, it can be said that state juvenile justice agencies most often use

“back-end” measures (adjudication and re-incarceration) to measure recidivism, while program evaluations most often use “front-end” system decisions (arrest and petition). As Snyder and Sickmund (2006) observed, rates of recidivism decline with each subsequent case processing decision point. Consequently, program evaluators will, on average, find higher recidivism rates than state correctional agencies.

State agencies also use a one-year follow-up period (60%) nearly twice as often as program evaluators (33.3%), as seen in Table 4. Similarly, state agencies were more likely than program evaluators to use follow-up periods of three years or longer. Undoubtedly, time constraints of program evaluation projects reduce the feasibility of longer follow-up periods. A critical observation for the purposes of developing standards is that the average maximum follow-up for both state agencies and program evaluations is more than two years. Moreover, approximately one-third of the studies use multiple follow-up points. These observations suggest a preference for not terminating follow-up before two years have passed.

Table 4: Follow-up Time Periods, State Agencies and Program Evaluation Studies

	Less than 1 Year	1 Year	1.5 Years	2 Years	3 Years	More than 3 Years	Average MAXIMUM Followup	Variable	Other	Multiple Followup
State Surveys (n=40)	15% (6)	60% (24)	5% (2)	37.5% (15)	37.5% (15)	15% (6)	2.2 years*	7.5% (3)	7.5% (3)	35% (14)
Evaluations (n=45)	8% (4)	33.3% (15)	4% (2)	37.7% (17)	13.3% (6)	11% (5)	2.4 years	35.5% (16)	2% (1)	33.3% (15)

*These values are based on 38 of the 40 surveys.

State agencies and program evaluations generally use similar starting points for tracking recidivism: that is, either discharge from a residential facility or discharge from a program. However, in a small number of program evaluations of community-based services, recidivism measurement begins at the court disposition of the case, and thus includes the time period of program participation.

Feedback to CJCA Membership

The CJCA Recidivism Work Group developed standards for recidivism measurement through a collaborative process, beginning with a working document that included a literature review and the findings summarized above. To facilitate shared development of the standards, the Work Group exchanged emails with literature summaries attached. The Work Group participated in monthly conference calls during which emailed materials were clarified, detailed questions were asked and answered, detailed data elements were identified and recommendations formulated; and the draft document was posted on Google Docs, a service enabling Work Group members to suggest revisions.

The Work Group presented its findings and recommendations to the full membership at the organization's 2009 January and August meetings, revising the recommended standards between meetings. There was general agreement on a two-year follow-up standard for tracking recidivism, and on starting the follow-up period upon release to the community (for youths in residential care) or case termination (for youths in community-based programs), both of which were consistent with the bodies of research reviewed.

The one issue on which there was disagreement involved the system decision point used to measure recidivism. Blumstein and Larson (1971) observed that as measurement moves from decision point to decision point, false positives decrease but false negatives increase. If the goal is to estimate actual offending, arrest is most

likely to capture real recidivism rates (although Elliot, 1995, argues even arrest rates fail to adequately measure actual delinquency).

State juvenile correctional directors, however, did not consider arrest decisions trustworthy; instead, they indicated a strong preference for adjudication, a decision point at which prosecutors and independent fact-finders conclude that the evidence is sufficient to prove guilt. At the August 2009 meeting of the full membership, CJCA members arrived at consensus giving precedence to adjudication as the measure of recidivism best reflecting correctional goals. At the same time, they strongly recommended the collection of multiple measures of recidivism to facilitate comparisons among studies using different measures. The vote on this decision was unanimous.

The membership further agreed that research on recidivism must clearly distinguish between delinquent offenses and probation or parole violations, as well as between offenses committed following discharge and those committed during a program or confinement. Only post-discharge offending was considered consistent with the common definition of recidivism (see also Barnoski, 1997).

Another concern raised at the August 2009 meeting was the fundamental differences between youth populations of different states. As mentioned earlier, state laws differ in the age jurisdiction of juvenile court, as well as criteria and methods for transfer to the adult system. Furthermore, states differ in a number of significant ways, including population demographics, existence of large urban areas, and the jurisdictional scope of the juvenile justice agency's authority.

As such, CJCA members agreed on the need to differentiate among youth so that comparisons of recidivism rates are based on similar samples. For one thing, some form of risk assessment data is necessary to contextualize recidivism data within varying expectations of treatment impact. For instance, low-risk youth who are unlikely to reoffend prior to treatment may not demonstrate

any program impact. Second, agencies often track subgroups of youth (e.g., first-time offenders) who may not represent all delinquent youth. Selecting population subgroups for data collection will undoubtedly skew interpretation and limit opportunities to compare outcome data. These issues required the Work Group to add standards regarding the collection of individual-level data that would permit analysis of similar subgroups of youth.

CJCA adopted its final standards in October 2009 at a special all-directors' training, funded by OJJDP. Members received a final draft of the white paper (Harris et al. 2009) in advance of the meeting. The standards were designed with database development in mind; consequently, coding instructions were included for some variables. Moreover, the standards are specifically designed to facilitate collection of common data without limiting the ability of agencies to collect more complex or additional data. The final standards, which appear on pages 30-34 of Harris et al. (2009), are appended to this article.

Conclusion

Demands for accountability within juvenile justice will undoubtedly continue to grow as governments become accustomed to increased information and as fiscal concerns mount. Many CJCA members have struggled with the issue of presenting data to policy makers that are appropriate and fairly represent the outcomes of their agency's work. Unfortunately, comparisons of recidivism rates often appear illogical due to differences in the measures of recidivism applied. The CJCA standards attempt to address the many challenges of providing accurate and fair data on recidivism that can stand up to close examination and that can be used to compare individual programs, types of programs, and correctional agencies.

There are clearly some limitations to the findings we have used to construct these standards. First,

many program evaluations are not published and were therefore not included in our literature review. Our findings may have been biased by the selection of studies for publication. Second, the standards grew incrementally through many discussions and revisions, the details of which have not been fully described. A large number of people contributed to this project; their names and affiliations are listed in Harris et al. (2009). A process such as the one used by the CJCA Recidivism Work Group naturally introduces personal experiences, preferences, and perceptions that bring a degree of subjectivity to the end result. CJCA's goal was to achieve consensus among its members while recognizing the knowledge developed and disseminated by the research community. Finally, the standards were created by and for public juvenile correctional agency leaders. They do not reflect the views of juvenile courts, juvenile probation, or private juvenile correctional agencies. Given that these other juvenile justice organizations have similar needs for outcome data, further development of the standards may be necessary as implementation of the standards moves forward.

Implementation of these standards continues and has already encountered several challenges. First, not all agencies have access to the data recommended by the standards, especially police records and adult court records. A significant implementation task, then, is to improve access to these data and strengthen collaboration among juvenile justice agencies. Second, some agencies lack the technical expertise and support to collect and analyze the data recommended. CJCA is working to share its resources to assist in making this support available. Several states, notably Maine, Rhode Island, Kansas, and Oregon, have already begun implementing the CJCA standards. We and all of the members of CJCA are committed to making measurement of outcomes a core element of CJCA's strategy for building a more effective juvenile justice system.



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Appendix A: The CJA Standards⁷

Defining and Measuring Recidivism

The first step in developing standards for the measurement of recidivism is to define the term. Recidivism is defined as commission of an offense that would be a crime for an adult, committed by an individual who has previously been adjudicated delinquent.

Because most delinquent offenses and crimes are not known to the justice system, recidivism is typically measured in terms of actions taken by justice system officials. Below are the actions most likely to be used for the measurement of recidivism.⁸

1. **Arrest:** An arrest for any offense that would be a crime for an adult. Source of information: Police department files.
2. **Filing of Charges:** Filing of charges with the juvenile court or adult criminal court based on accusations of an offense that would be a crime for an adult. Source of information: Juvenile court files.
3. **Adjudication or Conviction:** Adjudication by a juvenile court or conviction by an adult criminal court of guilt, based on charges filed by the prosecutor. Source of information: Juvenile court files if tried as a juvenile, or criminal court files if tried as adult.
4. **Commitment to a juvenile facility:** Commitment to a juvenile residential facility by a juvenile court following an adjudication of delinquency. Source of information: Juvenile court files.
5. **Commitment to an adult facility:⁹** Commitment to an adult residential facility following a trial in which the defendant was

found guilty of a crime. Source of information: Criminal court files.

Standards for Measuring Recidivism (these standards apply to all measures of recidivism)

1. When reporting program or system outcomes, population parameters of the study should be specified: e.g., age boundaries, public agency programs only (versus a combination of public and private programs), first-time offenders only, secure care programs only. At a minimum, age and gender boundaries of the population should be delineated. Any comparisons of outcome data can, then, take into account differences in populations studied.
2. The source or sources of data for each data element should be clearly identified as well as who is responsible for collecting the data, and the frequency of data collection.
3. Adult convictions should be included to ensure that offenses occurring at some point in the follow-up time period are not excluded. It should not matter whether the offense resulted in adult system processing.
4. All recidivism tracking should include adjudication or conviction as a measure of recidivism. More than one measure of recidivism should, however, be used in order to increase opportunities for comparison. Multiple measures of recidivism, such as re-arrest for a new offense, or adjudication and reincarceration for a new offense, make comparisons more meaningful and provide options for selecting appropriate comparison data. Since not all states will collect exactly the same data, and since some data sources are known to store more reliable data than others, reporting several measures of recidivism increases the chances that two states will have collected at least one measure on which comparisons can be made.
5. Measurement of recidivism should start with the date of disposition. Recidivism should be reported separately, however, for the

⁷ Source: Harris et al., 2009. Copyright © 2009 by the Council of Juvenile Correctional Administrators. Reprinted by permission.

⁸ Other actions are available prior to adjudication in some states. Our aim in developing standards was to limit available decision points to those common to all states.

⁹ It is possible in some jurisdictions for a juvenile to be tried and convicted as an adult and committed to a juvenile facility to serve some or the entire sentence. This information should be obtained from criminal court files.

following categories of cases:

- a. Youths who are adjudicated for new offenses while in custody.
- b. Youths released from custody to the community or who are under court-ordered supervision.
- c. Youths discharged from juvenile court jurisdiction.

Aggregate recidivism rates should not include category a. above: Youths in custody.

6. The follow-up period for tracking an individual's recidivism should be at least 24 months from either of the two date options mentioned in Item 5 above, and should include data from the adult criminal justice system. Outcome reports may examine recidivism at shorter time intervals, such as 6 months, 12 months, 18 months, and 24 months. In order to measure known [offense episodes] occurring within 24 months, data collection will need to continue to 30 months to account for a time lag between arrest and adjudication/conviction.
7. Sufficient data about individual youths should be recorded to make possible appropriate comparisons and future classification. At a minimum, the data recorded should include characteristics often associated with risk of re-offending (see item 13, below), such as demographic information (age [in years], gender, race, ethnicity) and offense history (age at first arrest, number of adjudications and types of offenses (see item 12, below). Special needs youth (mental health, substance abuse, and special education) should be clearly identified, since the probability of this population being arrested and reincarcerated is disproportionately high.
8. Timeframes must be clearly recorded, since recidivism is always time specific:
 - a. Record date of adjudication or conviction – all cases.
 - b. Record date of disposition or sentencing – all cases.
 - c. In the case of persons committed to residential facilities, record the date the offender is released to the community.
 - d. For all youths, record the date when juvenile court jurisdiction was terminated.
 - e. No matter what measure of recidivism is used (e.g., re-arrest, new adjudication/conviction, or reincarceration), **it is the date of the offense event that should be used to determine the date when the recidivism event occurred.**
 - f. In order to determine the completeness of the data, the date that the data were last updated should be recorded.
 - g. In order to create the possibility of reporting recidivism following termination of all court-ordered services, the date of discharge from court jurisdiction should be recorded.
9. Typically, a delinquent event will produce more than one charge. All charges should be recorded if there is more than one; the most serious charge should be identified, and the charges on which the youth was adjudicated or convicted should be recorded.
10. If more than one offense [episode] is being processed at the same time, the information in item 9, above, should be recorded for each offense.
11. Probation or parole technical violations confirmed by the court and related dispositions should be recorded separately from data on new offenses. Technical violations may result in incarceration or re-incarceration, but they do not imply commission of an offense.
12. For system comparison purposes, offense type is more useful than a more precise offense term unique to a given state. The following general offense categories are recommended.

In addition, the following ordering of offense categories should be used to reflect offense seriousness, with a. being the highest, and g. being the lowest.

- a. Offense against persons
- b. Property offense
- c. Weapons offense
- d. Drug trafficking/possession (felony)
- e. Other felony
- f. Drug or alcohol use (misdemeanor)
- g. Other misdemeanor or lesser offenses

13. Different jurisdictions use different risk assessment tools. On occasion, the same tool is used but cut-off scores for classification differ. Consequently, resulting risk scores and levels cannot be used to classify all juveniles. This problem was addressed by Lowenkamp and Latessa (2005), who created a simple measure using commonly-available items: age at first arrest and offense history items. We have adopted that method here, adding drug, school, family, and peer items that are known predictors of recidivism.

In order to group similar cases for comparison of recidivism rates, the following person characteristics should be collected for each youth. The first set of items will be used to identify demographic subgroups. The second set, labeled risk items, will be used to construct a generic risk score. The scoring plan is indicated to the right of each item.

Demographic Characteristics

- a. Age in years
- b. Gender (female, male)
- c. Ethnicity (Hispanic or Latino: yes or no)
- d. Race (Black or African American, Asian, American Indian or Alaskan Native, Native

Hawaiian or Other Pacific Islander, White)¹⁰

Risk Items¹¹

The risk score based on these items can range from 0 to 9. Risk groups will be defined as: low = 0-3; medium = 4-6; high = 7-8; very high = 9).¹²

- a. Age at first adjudication, in years (less than 14 = 1; else = 0)¹³
- b. Total number of prior adjudicated [offense episodes] (3 or more = 1; else = 0)
- c. Number of prior adjudications for felony [offense episodes] (3 or more = 2; 1 or 2 = 1; 0 = 0)
- d. Youth has been diagnosed with a substance abuse problem (yes = 1; no = 0)
- e. Youth has dropped out of school and is currently not attending school (yes = 1; no = 0)
- f. Youth has been the subject of substantiated abuse or neglect (yes = 1; no = 0)
- g. One or both parents have been convicted of a crime (yes = 1; no = 0)
- h. Youth is a gang member or is gang involved (yes = 1; no = 0)

14. If a formal risk (of recidivism) assessment was conducted near the time of disposition and prior to delivery of services to a youth, record the level of risk (low, medium, or high). Also

¹⁰ These racial categories were taken from the 2000 U.S. Census. A discussion of how to bridge different race/ethnicity coding schemes appears in Ingram et al. (2003).

¹¹ Studies examining the predictors of juvenile recidivism have uncovered a number of individual-level factors that influence the likelihood of a juvenile re-offending. We can provide only a small sample of this research here. Research has shown that juveniles at highest risk to offend are those who have done so in the past (Cottle, Lee, & Heilbrun, 2001; Snyder & Sickmund, 2006). Other individual-level predictors of recidivism include substance abuse (Stoolmiller & Blechman, 2005), current age (Snyder & Sickmund, 2006), age at first arrest (Katsiyannis & Archwamety, 1997), participation in education (Katsiyannis & Archwamety, 1997; Myner, Santman, Cappelletty, & Perlmutter, 1998), delinquent peer relations (Hoge, Andrews, & Leschied, 1996; Myner et al., 1998), parental criminality (Rowe & Farrington, 1997), and family conflict (Hoge et al., 1996). We have selected obvious indicators of these constructs.

¹² This risk measurement design is considered by CJCA to be preliminary and will be revised once data are available to be analyzed.

¹³ Based on 2007 data, the case rate for 13-year-olds (36.3 per 1,000) is substantially lower than for 14-year-olds (61.1), after which the increase in case rate declines in size (Puzzanchera, Adams, & Sickmund, 2010). Still, juveniles under 14 represent a small proportion of adjudicated youth.

record the specific risk assessment instrument that was used.

Risk Classification: Low, Medium, High, Very High

Name of Risk Assessment Instrument:

15. In addition to an individual's likelihood of recidivating, neighborhood risk factors should be included in creating comparison groups of youth. The following community risk factors should be attached to each case as neighborhood environmental risk indices:
- a. A higher number of gun violence incidents in last year than average for the larger community

- b. A higher crime rate than average for the larger community
- c. A higher residential mobility rate (U.S. Census data)
- d. A higher than local average percentage living under the poverty level (U.S. Census)
- e. A lower than local average of persons over age 25 with a high school education (U.S. Census)¹⁴

¹⁴ These risk factors were adapted from the risk factors utilized by Communities that Care (http://beta.ctcdata.org/?page=static_files/risk_factors.html). The first two items are often available on police department Web sites. The others are common census data items. Each item should be scored yes (= 1) or no (= 0). The total score of these items should be used as an index of environmental risk. Each item requires a comparison. This comparison can be at the census tract level, in the case of a city, or the county level in a suburban or rural area.

Barron County Restorative Justice Programs: A Partnership Model for Balancing Community and Government Resources for Juvenile Justice Services

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Abstract

Since its inception in 1999, Barron County Restorative Justice Programs (BCRJP), in partnership with government-based agencies in Barron County, Wisconsin, has demonstrated the benefits of integrating greater community-based services with juvenile justice systems. An overview of BCRJP programming shows how its wide array of services enriches the county's capacity to provide comprehensive services. With 12 years of strong partnerships and positive outcome data, a symbiotic relationship between BCRJP and its referral partners is a positive example of a balanced integration of community resources with justice systems.

BCRJP has resulted in a number of benefits, including the following: crime and recidivism have declined; higher-level interventions have been reduced, as demonstrated by an increase in the number of diversionary referrals; the county has saved on related costs with an average cost of \$378 per offender; and youth offenders have been reintegrated into the community, exemplified by the post-sanction volunteerism of Restorative Teen Court. The effectiveness of BCRJP interventions are aligned with the recommendations of the Georgetown University study, *Improving the Effectiveness of Juvenile Justice Programs* (Lipsey, Howell, Kelly, Chapman, & Carver, 2010).

Introduction

One often finds the word 'balance' in the language of restorative justice. Central to restorative philosophy is the way in which communities, victims, and offenders should receive balanced attention in any society's response to crime. The Balanced and Restorative Justice Project (BARJ), reflecting this emphasis in its very name, was awarded an Office of Juvenile Justice and Delinquency Prevention (OJJDP) grant in 1992; since then, BARJ has had a significant influence on the spread and acceptance of restorative models within government-based justice agencies in the United States (OJJDP, 1996). A more recent development that raises the topic of balance is the Parallel Justice movement, promoted largely by Susan Herman (Herman, 2010). Responding to the imbalance of offender-centric services in the United States, Herman maps out a vision for providing greater services to victims of crime as a way to provide a long overdue counter-balance.

In addition to balancing effective services for offenders and victims, proponents of restorative justice have spoken of the need to balance government and community resources. This balance will be highlighted in this article. Starting with the catalytic moment of the 1974 "Elmira case" in Ontario, Canada (Kelly, 2004), the restorative justice movement has consistently mobilized greater

community resources to assist with justice processes. Howard Zehr, in the now vintage video, "Restorative Justice: Making Things Right," spoke of how the state's role throughout much of the mid-20th century was enlarged at the expense of the community's role in justice processes (Zehr, 1990). The state plays a key role in providing safety and supervision, which must be balanced with the community's role of fully supporting victims and offenders so both can be fully reintegrated into society. Governments and communities each have distinct strengths while having distinct limitations. According to Daniel Van Ness, "We must re-think the relative roles and responsibilities of the government and the community. Government is responsible for preserving a just order and the community for establishing a just peace" (Van Ness, 2006). In this light, the community not only has a stake in good outcomes, but a stake in the very means that ensure good outcomes (McCold, 1995).

This article documents the way in which balancing government and community resources is working to provide comprehensive restorative justice programming in one county in rural Northwest Wisconsin. This article does not consider restorative justice models in general or review the literature available on this subject (although a brief resource list appears at the end of this article). Neither does this article reach general conclusions about how a balanced partnership between government and community resources results in effective programming, restorative or otherwise. Effectiveness can result from many factors, along with many combinations of stakeholder collaborations. This article does, however, present positive outcomes that demonstrate, in the case of BCRJP, the effectiveness of programming over time to strengthen this partnership model between government agencies and community-based operations. Statistics and testimonial statements are woven into the article to document the scope of programming and to illustrate positive outcome measures, but it will require other writers, with greater research

methods than those reflected here, to fully substantiate program effectiveness and to draw conclusions that may serve to justify the replication of this Wisconsin example.

As stated earlier, governments and communities each have distinctive strengths. Key to forming and maintaining good partnerships is for both entities to recognize what they need from the other, thus enabling them to establish a symbiotic 'two-way street' that can be sustained over time. Examples of what community-based operations can do better than government justice agencies include mobilizing volunteers, creating and implementing new programs quickly, and adapting processes to best fit the needs of particular cases. In short, community programs offer the distinctive strength of flexibility, which can compensate for the limitations inherent in government structures. At the same time, the rigid structures of government agencies and policies are part of their strength, and community operations can benefit from a framework that ensures safety and professional quality control.

This vision of partnership was evident in Judge Edward R. Brunner's effort to establish BCRJP in 1998, having at that time been influenced by the training and expertise of BARJ researchers Gordon Bazemore, Dennis Maloney, and Mark Umbreit. Brunner understood that the best way to fulfill the three BARJ priorities (accountability toward victims, competency development, and community safety) was to mobilize greater community resources in partnership with government resources (OJJDP, 1997). In a 2010 video interview, Judge Brunner stated his interest in basing a new restorative justice initiative outside the walls of government agencies precisely because of the limits and restrictions of county justice agencies, and the distinct strengths and resources of a community-based operation (Lewis, 2010). At the same time, he envisioned restorative justice opportunities available to and integrated with every government-based agency and school in the county.

Thus started Barron County Restorative Justice Programs in 1999, an independent non-profit organization serving all residents of rural north-western Barron County, Wisconsin, a perfect 30-mile-wide square with a population of 45,000, 96% of whom are Caucasian. But the word 'independent' is misleading. It would be more accurate to say 'interdependent.' The success of the agency's work over the past 12 years is due largely to the strong partnerships that have existed since its first year. One needs only to scan the titles of the agency's board of directors over the past decade to understand the power of this interdependency: a circuit judge, a district attorney, a director of adult corrections, a director of human services (who oversees juvenile justice), a sheriff, a police chief, a municipal judge, a school superintendent, a principal, a university dean, a teacher, a counselor, and the list goes on. These stakeholders are not only vital in their support for restorative practices, but most represent the very agencies that refer cases to BCRJP, and thus are agencies that benefit from work done to complement their own missions and interests.

A symbiotic relationship between county agencies, schools, and BCRJP has evolved to the extent that if BCRJP ceased to exist, the referral agencies would experience some degree of loss due to the pressures of handling extra casework. Additional partnerships for BCRJP include Goodwill Industries of North Central Wisconsin, where BCRJP operates as a Goodwill program while operating as a separate 501(c)3 (an organization with nonprofit status). BCRJP's full involvement with the Safe & Stable Families Coalition is another partnership vital to promoting agency-community collaboration throughout the county. As a show of the value that BCRJP brings to Barron County, local tax-payer monies account for 55% of BCRJP's annual budget. This includes not only general county funds, but also monies that go through schools and social services. Currently, BCRJP has a staff of nine (five full-time, two at 30 hours, and two full-time AmeriCorps workers). A balanced partnership between community and

government resources has allowed BCRJP to grow over the years. As a non-profit agency, BCRJP is a gateway to community involvement when it comes to resolution processes for crimes and conflicts. In turn, this mobilization of community-generated resources through coordinated volunteerism has saved the county money and has relieved government agencies of additional work.

Another example of this partnership model is Restorative Justice Nova Scotia (NSRJ), also in its twelfth year, which is now showing "promising results in schools and communities through a vibrant partnership between government and the community" (Shafer, 2011). Jennifer Llewellyn, Director of the Nova Scotia Restorative Justice Community University Research Alliance (NSRJ-CURA), explains that an integrated approach to all youth crime requires a collaborative approach in which government resources can sustain a network of community-based agencies. "This model is one of the core strengths of the success of our program," according to Llewellyn (Shafer, 2011).

The foundation of this model is a positive, collaborative relationship between community stakeholders and government stakeholders. Building this relationship is a requirement for success. The remainder of this article will 1) provide an overview of BCRJP's programming to show how its internal menu of comprehensive services enriches the county's broader continuum of comprehensive services, and 2) demonstrate how BCRJP programming yields many outcome-based benefits that reinforce its ongoing partnership with government agencies, including schools. Finally, the effectiveness of restorative models will be viewed in sympathetic relation to the recommended evidence-based programming presented in the recent Georgetown University study of effective juvenile justice programs (Lipsey et al., 2010).

Overview of BCRJP Programming

Even in the agency's early years, BCRJP developed a variety of programming as a strategic way to emphasize BCRJP's value to the county.

The agency was also able to show its capacity to handle both minor and major offenses. While promoting front-end prevention work in the schools through restorative discipline trainings (in 1999) and receiving diversion-level cases for first-time teen offenders through the Restorative Teen Court (which started in 2001), BCRJP was developing its Victim Impact Panel for adult offenders with drunk driving offenses. BCRJP created this Victim Impact Panel in conjunction with Victim-Offender Community Conferencing for adult offenders due to the interest of family members of a victim in a vehicular homicide case in 2001.

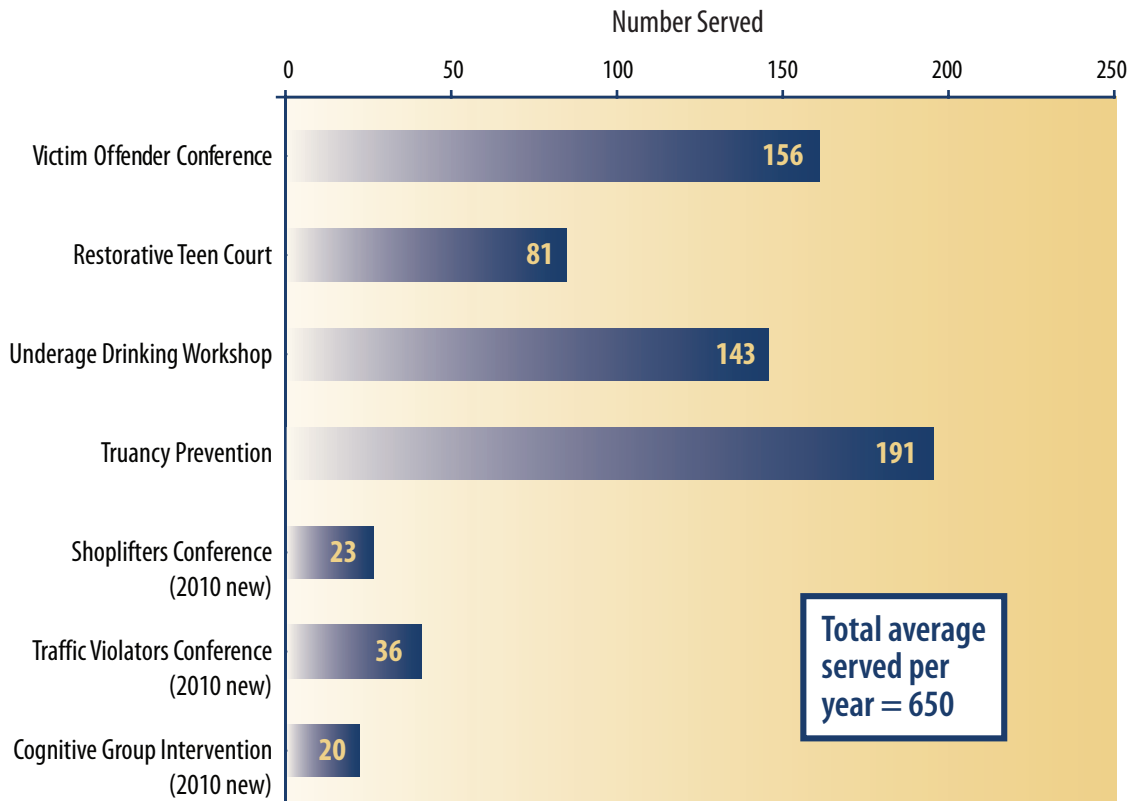
As the 2000-2010 decade unfolded, BCRJP, under the leadership of Polly Wolner, was responsive to areas of need highlighted by the courts, corrections, social services, and schools. BCRJP consistently introduced new programming in full collaboration with leaders in these agencies. Victim-Offender Community Conferencing, for example, began in collaboration with stakeholders at the Department of Corrections in Barron County, handling adult offender cases before referral processes were developed for juvenile offenders through the Barron County Department of Health and Human Services (DHHS). The Restorative Truancy Prevention Initiative, beginning in 2003, developed in partnership with school districts and the DHHS. This initiative resulted in a unique program in which BCRJP staff (Community Outreach Workers mentoring students) could also serve as needed liaisons between families of truant students, schools, and social services. Consequently, the resolution work associated with restorative justice has uniquely blended with the therapeutic/family work associated with social workers, allowing root causes (and not just incidents) to be more effectively addressed. While keeping students in school longer, a key goal of this initiative has been to keep them out of formal court processes.

Another significant development during these formative years was the incorporation of new

workshops to deepen the learning (and thus responsibility) of offenders. These include an 8-hour workshop for underage drinkers, a 2-hour Teen-Parent Communications workshop, and a 2-hour Anger Management workshop. In January 2010, BCRJP launched the 16-hour Cognitive Group Intervention course for 13-to-17-year-old chronic offenders. Forthcoming in 2011 is SHIFT, an 8-hour workshop for teen drug users spread over four sessions in a single month. (Significantly, this program was seeded, developed, and launched within a 10-month period, demonstrating BCRJP's adeptness in responding to new situations and needs.) Some BCRJP workshops are stand-alone referrals, while others are sanctions of the Restorative Teen Court. This educational work, by supplementing the resolution work of restorative justice, is a way for members of the county to see how BCRJP aims to change offenders' behavior by first changing their thinking. And BCRJP's fundamental premise is, if you do not change the thinking, you will not change the behavior.

A review of programs operative in 2010 shows the scope of current interventions that comprise approximately 85% of BCRJP programming (see Figure 1). This figure reflects the primary program areas of BCRJP. BCRJP added Cognitive Group Intervention courses for chronic offenders (CHOICES for youth; THINK for adults) in 2010. These eight 2-hour group sessions explore the thinking patterns of offenders that justify negative behaviors, giving participants the tools and inner resources to self-monitor their future impulses toward negative activities. Traffic Violator and Shoplifter Conferencing allow teens to hear from police officers and retail managers about the impact of their choices on the community, and thereafter comply with pre-set sanctions that include community service, essay writing, and apology letters.

Figure 1: Restorative Justice Average Number Served Per Year 2006-2010



All BCRJP programming could be placed on a continuum of services ranging from prevention to intervention; however, constructing such a continuum accurately would not be either easy or neat. This is because all referrals to various programs involve a response to an actual incident or circumstance, and because all BCRJP interventions use prevention-intensive strategies to positively influence a client’s future. What can be charted on a continuum of low-to-high interventions is the point of entry at which youth can be referred to any BCRJP program or workshop. Starting at the low end, these services and referral points would rank as follows:

1. Restorative Discipline training for school staff (for training in handling situations internally);
2. Restorative Conferencing for school-referred misconduct and pre-charge crimes;
3. Truancy Prevention referrals from schools

resulting in mentoring and conferencing prior to court involvement;

4. Diversion cases referred by the police and sheriff;
5. Municipal Court referrals for various violations;
6. Juvenile referrals from social workers (DHHS); and
7. Circuit Court referrals as a condition of a sentence.

By way of illustration, if a 17-year-old has a drinking violation, depending on the circumstances, he or she could be referred to the KnoW Alcohol workshop at any point along this continuum from number 2 to number 7.

Not included in Figure 1 are the following services offered by BCRJP, comprising the remaining 15% of its programming with respect to client numbers and/or time. The first four services listed

all have elements that are purely preventive in nature:

- Victim Impact Panels for adult offenders with drinking/driving violations (average 500 per year from multiple counties) and driver education students sent by school districts;
- Restorative Practices/Circles Trainings for school staff, providing school discipline resources to help keep students in school;
- RE-Group Clubs in high schools (engaging issues of RE-spect, RE-pair, etc.);
- Somali Community Support Services (Response Team and Prevention Team)
- Teen-Parent Communication Workshop
- Anger Management Workshop;
- Community service projects;
- NOT (No Tobacco, a tobacco cessation program); and
- SHIFT: a drug-use prevention workshop for teens.

While emphasizing the benefits of receiving referrals sooner rather than later (as described in the next section), BCJRP has maintained referral ties at all levels of the county’s continuum of services. This has allowed referral sources to play an active role in determining whether restorative justice could add a greater dimension, in terms of learning, to a particular case. Actively involving referral sources breaks down the false but common perception that restorative justice is suitable only for first-time youth offenders or offenders who get “a favor” from lawyers or justice workers. To the contrary, BCJRP has established itself as effectively holding offenders accountable in meaningful ways that largely satisfy victims. Over the years, BCJRP has been known for its availability to handle complex cases at most levels of crime, assuming the offender expresses full ownership. Types of cases referred to Victim-Offender Community Conferencing include a wide range of offenses, as represented by charges referred in 2009 (see Figure 2).

Figure 2: 2009 Charges for Victim-Offender Community Conferences (Youth and Adult Offenders)

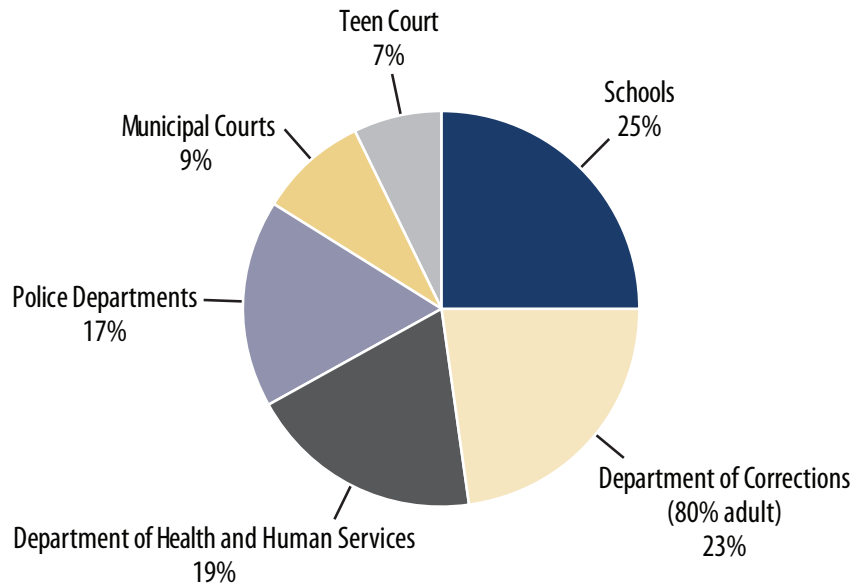
Arson	3
Bail jumping	1
Battery	6
Bullying	3
Burglary	2
Criminal damage to property	18
Defamation of a teacher	1
Disorderly conduct (50% non-criminal fighting cases)	75
Drug possession	2
Fraud	3
Harassment	5
Injury by use of vehicle while intoxicated	1
Misuse of 911	1
Negligent handling of burning materials	1
Obstructing an officer	1
Operating a vehicle without the owner’s consent	1
Being party to a crime	1
Retail theft	9
Sexual assault	3
Theft	19
Trespassing	2
Vandalism	4
Vehicular homicide	1
Total offenders	163

For Victim-Offender Community Conferencing at BCJRP (83% juvenile offenders, 17% adult offenders), the same intake model and joint meeting work with parties (described below) takes place with front-end cases from schools and police, mid-range cases from municipal youth courts and DHHS, and back-end cases from circuit courts and departments of corrections. Figure 3, showing the various referral sources for Victim-Offender

Community Conferencing, indicates the majority of referrals take place in the early stages, before formal court processes are involved. BCRJP has its own internal screening processes at the intake stage; when the screening process reveals an offender is unsuitable for conferencing, BCRJP returns the case to the referring agency. Given BCRJP’s flexibility to tailor the process to the

particular needs of the offender and victims, however, it is rare that the agency sends cases back, especially because Victim-Offender Community Conferencing includes community members as surrogate victims in all cases in which victims choose to not sit in on resolution meetings with offenders.

Figure 3: **BCRJP Victim Offender/Community Conferencing Average Referral Source Numbers 2006–2010**



In past years, as with many new restorative justice programs, BCRJP held conferences when victims chose to participate. Currently, victims have more choices, including the Victim Shuttle option, in which a victim takes part through non-face-to-face communications; in all cases in which a victim is not present, community members sit in on resolution conferences to ensure full dialogue on impacts and reparations. In this framework, no offender’s case is ever returned for contingencies related to other participants. The most important feature of conferencing is pre-conference meetings to separately prepare offenders and victims before joint meetings. These essential intake processes build trust with facilitators and lead to constructive dialogue, resulting in greater victim satisfaction and offender motivation. Written and signed reparation agreements are standard practice, and BCRJP tracks all conditions of agreement.

Completion statistics for BCRJP juvenile offenders are comparable to those of juvenile offenders who, from 2000 to 2008, went through Victim-Offender Community Conferencing at Community Mediation Services, a non-profit agency serving Lane County, Oregon. Of all offenders who had final conferencing and signed consensual agreements, approximately 85% fulfilled all conditions, 10% fulfilled more than one-half of the conditions, and 5% were unsuccessful in fulfilling their conditions (Lewis, 2008). These conditions included monetary restitution and community service work.

Through the conferencing program, BCRJP serves approximately 300 victims and other impacted persons annually, viewing them as clients of the justice process no less than offenders. BCRJP aspires to eventually have a victim support program that works in concert with Victim Service

workers, and can even assist victims of crimes with no identified offenders. Altogether, every BCRJP program listed above includes some component of building empathy for how other people are impacted by crimes and misconduct. This is a primary way that restorative principles thread through all BCRJP programming. Wherever possible, BCRJP supports and engages victims and impacted communities so they have choices about their involvement and voices in the resolution process. If they are not involved (such as in substance abuse and traffic cases), BCRJP supports offenders and violators so they can learn how their actions have had or can have negative ripple effects far beyond their awareness. BCRJP considers empathy a key competency for offenders and believes that offenders' self-reflection, and reflection on the impact of their actions on others, is needed to motivate them to take the reparation stage seriously. Building empathy promises self-sustaining behavioral change, the chief goal of all effective interventions for youth offenders.

Benefits of BCRJP Programming that Strengthens the Community-Government Partnership Model

There are multiple benefits from BCRJP programming, and many of these cannot be easily quantified. It has been said in a quote attributed to Albert Einstein, "Not everything that can be counted counts, and not everything that counts can be counted (Cameron 1963)." Dignifying victims through a long, hard journey, building cultures of respect, raising trust levels between people who would otherwise stay apart, mobilizing volunteerism, helping offenders move beyond their own protectiveness—all of these and more represent benefits that create healthier communities. At the same time, any restorative process can have unintended consequences in which parties are not satisfied or amends are not completed; a good restorative agency will responsibly address every negative consequence that falls

short of its declared mission through proactive follow-up communications and supports.

At least four areas of benefit, however, reveal quantifiable outcome data. These areas, as they apply to BCRJP's work in Barron County, are:

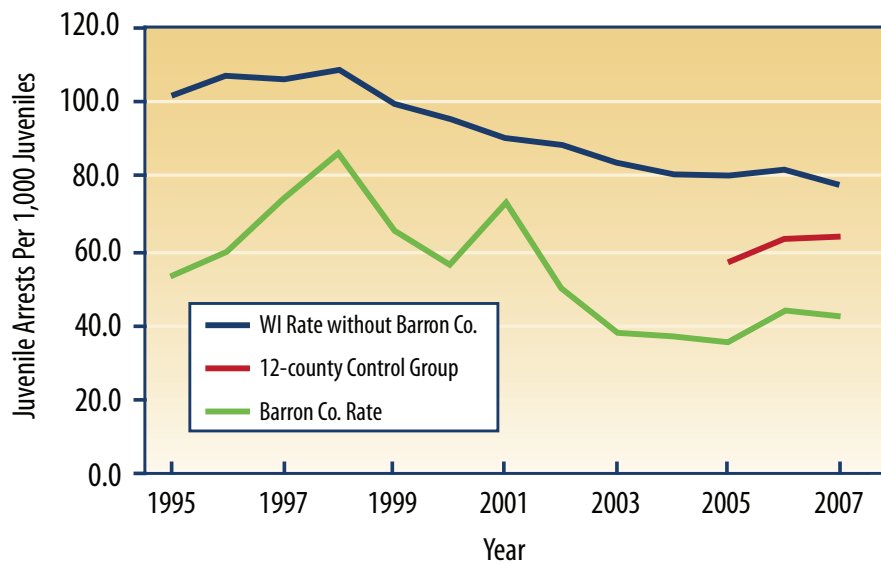
1. Lower crime and recidivism rates;
2. Reduced higher-level interventions;
3. Cost savings; and
4. Reintegration of youth offenders into the community.

A review of these areas will illustrate how BCRJP's partnership with government-based agencies and schools within Barron County has been strengthened over the years of its operation and has been vital for BCRJP's sustainability.

Based on statistical information from the Wisconsin Office of Justice Assistance (OJA), a 2007 study, published in 2009, compared Barron County's juvenile crime and arrest rates with those of 12 other counties of similar size, as well as with all Wisconsin counties combined (Kasper, 2007; Hoeft & Kasper, 2009) (see Figure 4). Researchers noted the correspondence between the start of BCRJP in 1999 and the subsequent drop in arrest rates in Barron County, then compared this with arrest rates in other Wisconsin counties:

"Clearly, the juvenile arrest rate in Barron County has dropped compared to the late 1990s. Furthermore, this rate has decreased at a pace faster than the other 71 counties combined in Wisconsin. The average juvenile arrest rate in Barron County from 2000 through 2007 was 30.0% lower than over the period of 1995 through 1999, dropping from an average arrest rate of 68.3 to 47.8. In the rest of Wisconsin, the juvenile arrest rate was only 19.2% lower during 2000 through 2007 than it was during 1995 through 1999, dropping from an average of 104.5 to 84.4." (Hoeft & Kasper, 2009, p.14).

Figure 4: Total Juvenile Arrest Rate (for Wisconsin and Barron Co.)



To summarize, while the juvenile arrest rate was increasing in Barron County in the late 1990s at a greater rate than the rest of Wisconsin, the arrest rate in Barron County after 2000-2001 dropped to a greater degree than the arrest rate state-wide. “This drop in the crime rate occurred during a time when juvenile populations in Barron County and the rest of the state decreased by the same small percentage” (Hoeft & Kasper, 2009, p. 17). These researchers also compared Barron County’s arrest rates with those of 12 other Wisconsin counties of similar size (with populations approximately 20% of Barron County’s population), noting a stark contrast. “Barron County’s juvenile arrests for non-index and status offenses were substantially lower than in comparable Wisconsin counties. This makes sense, as many of the offenses dealt with by BCRJP involve non-index and status offenses” (Hoeft & Kasper, 2009, p. 12). On the basis of these data, coupled with case narratives of representative property offenses, the authors concluded that “BCRJP was a major factor behind the substantial decrease in juvenile crime in Barron County. As our case studies demonstrate, restorative justice, particularly VOC (Victim-Offender Community Conferencing), has a powerful impact on all participants and

helps make communities whole again. In none of our cases was there a re-offense” (Hoeft & Kasper, 2009, p. 17).

With respect to the temporary spike in Barron County trends for 2000-2001, it should be noted that in the first two years of operation, BCRJP handled primarily adult offender cases compared with youth offender cases in its conferencing program. In addition, the Restorative Teen Court started in 2001; thereafter, the number of youth offender cases increased significantly. In brief, the dramatic post-2001 drop in the arrest rate fits well with the period in which youth offenders were the primary population served, and, in the main, were not re-offending.

The referral partnership with law enforcement has allowed BCJRP to receive greater numbers of cases at a diversionary level before they ever reach juvenile intake divisions or courts. Within a four-year period of handling 150 juvenile cases sent to BCRJP by the Rice Lake Police Department, Captain Mike Nelson had this to say with respect to recidivism: “In reviewing our cases forwarded to Barron County Restorative Justice Program between the years 2007 through 2010, it appears that less than approximately 10% of the referrals

indicate repeat offenses” (Mike Nelson, personal communication, January 2011). These cases cover a range of crimes including property crimes, disorderly conduct, and substance abuse, as well as ordinance violations. Appropriate cases are referred to Rice Lake Municipal Court, and current Municipal Judge Kasper stated that “BCRJP’s staff and volunteers have been invaluable resources for our communities, particularly when it comes to lowering juvenile recidivism rates; through programs such as KnoW ALCOHOL and Youth Educational Shoplifting, BCRJP has helped to lessen the amount of underage drinking and youth shoplifting in our area” (Lewis, 2011).

The second area of benefit reveals how BCRJP’s preference for earlier intervention has reduced higher-level interventions in Barron County. According to Terry Holmstrom, Youth and Family Manager at Barron County Department of Health and Human Services (DHHS), “Since 2005 Barron County has noticed a reduction in delinquency cases due to the cases being handled by Barron County Restorative Justice Programs prior to the juvenile entering the county system” (Terry Holmstrom, personal communication, January 18, 2011). In addition to receiving “prior” cases from schools and police, a significant prevention plan has been to provide BCRJP services to truant students whose life circumstances can often be a factor in subsequent delinquency. Commenting on the three-way partnership of schools, social services, and BCRJP that formed around truancy prevention work, Judy Demers, Director of Barron County’s DHHS, wrote that the Restorative Truancy Prevention Program “has proven to be an effective method to prevent youth and their families from becoming involved in the Child Protection and Juvenile Justice systems by connecting them to local resources before their situations escalate. This early intervention has facilitated the ability of families to stay together with the help of supportive services and has reduced the need to place children out of home” (Lewis, 2011). A three-year study conducted by

the DHHS from 2006-2008 showed that of 318 students served by BCRJP’s program, only 45 (or 14%) were identified as being referred to juvenile justice services under the DHHS for subsequent interventions or court processes (Lewis, 2010a).

District Administrator Randal Braun wrote how the School District of Cameron has “benefited not only by the way students are kept in school more, but by the way the liaison work of our Community Outreach Worker has saved our county valuable time and money. It is gratifying to look at our current graduating class and see several students who will be walking across the stage to receive their diplomas in June. I know that without the Truancy Initiative it is likely that they would have dropped out of high school” (Randal Braun, personal communication, January 2011). Presiding Circuit Court Judge James C. Babler, acknowledging how difficult it is for higher courts to effectively address the root causes of truancy, wrote about how BCRJP’s truancy program “has been a true benefit to our county [as it has] helped to keep children in the elementary, middle, and high schools and out of the formal juvenile system” (Judge James Babler, personal communication, January 2011).

Parallel to this work has been BCRJP’s effort to support restorative practices that reduce the utilization of suspensions and expulsions. Barron High School Principal Kirk Haugestuen stated, “Since the inception many years ago with Restorative Justice of Barron County, our school has been transformed from a reactive educational setting to a relationship-centered, positive and proactive culture on campus, allowing professionals to focus on curriculum, instruction, and learning” (Lewis, 2011). Haugestuen, presiding since 1992, describes how in the zero tolerance period of the late 1990s, there were 18 expulsions in 1996-97 and 14 expulsions in 1997-98. Restorative practices were launched in 1999, and from 2002 to 2010 there has only been one expulsion (Kirk Haugestuen, personal communication, January 26, 2011).

At every rung on the ladder of interventions, BCRJP has a way of preventing higher-up case-work. At the low end, BCRJP equips school staff with resources for addressing misconduct with restorative practices and circle processes. If a teacher uses an effective measure, it keeps a principal out of it; if a school principal sends a case to BCRJP, it keeps the police out of it; if police send a case, it keeps a juvenile justice worker or the municipal court out of it; if a juvenile justice worker or municipal court sends a case, it frees them up to focus on higher-level work. And if, in fact, a case does require formal handling at a district attorney and circuit court level, BCRJP still receives referrals to provide victim participation and offender reparation. And some cases, due to a victim's readiness years later, are handled neither in lieu of sentencing nor as conditions of sentencing, but on post-sentencing terms because the time is right for a healing dialogue. The main point, though, is that BCRJP's preference for handling cases earlier rather than later results in significant case-load relief to government agencies, which allows them to do their work with less pressure.

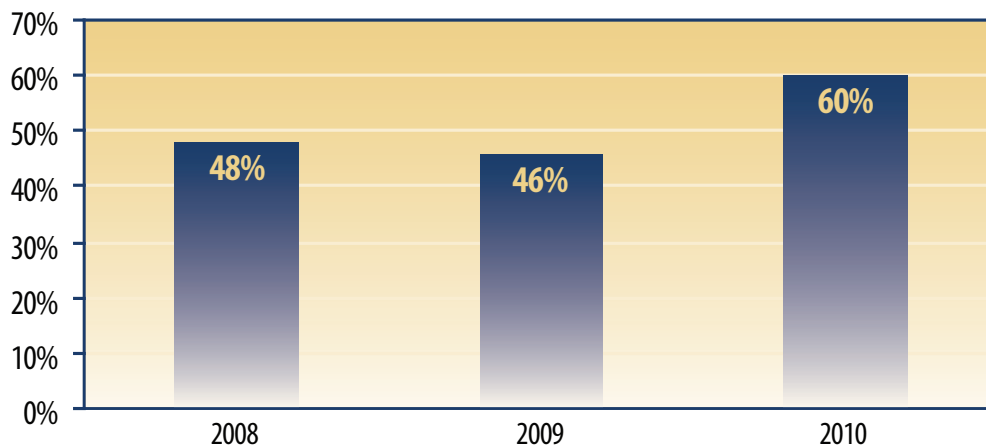
Third, the cost savings to Barron County has been a key factor in BCRJP's sustainability. A cost-analysis done by BCRJP in May 2010 revealed that the average cost to handle one offender case (averaging one to three months of casework) comes to \$378 (Lewis, 2010a). This figure was based on a total population of 846 juvenile and adult offenders served, including a 10% segment of offenders from the Victim Impact Panel. A more current estimate takes the average 650 offenders served from the Programs Chart in Figure 1 (which accounts for approximately 85% of BCRJP programming) and, dividing it into 85% of BCRJP's average annual budget of \$300,000, the cost per offender comes to \$392. In light of the higher costs of supervision and detention, County Administrator Jeffery French made this written statement: "Barron County Restorative Justice is a place where victims receive a voice, offenders

accept responsibility, and where success is not measured in dollars spent but rather in dollars not spent" (Lewis, 2011a).

The provision of services through the coordinating efforts of a non-profit staff is itself one way for monies to be saved, but the monetary value of volunteerism cannot be overlooked. In 2010, some 150 volunteers provided 3507 hours, with approximately 1500 of those hours provided by youth in the context of the Restorative Teen Court; 2007 hours were donated by adults. Not included in these numbers are volunteers who participated in trainings, school club meetings, and presentations. Translating this hour-power into a monetary asset would range from \$25,426 (at the \$7.25 minimum wage level) to \$61,372 (at the \$17.50 per hour federal level). Averaging this to a \$10 per hour level, this \$35,000 asset to Barron County speaks loudly to the way a community-based program can leverage maximal community resources at minimal expense to the county. In summary, BCRJP's capacity to provide low-cost interventions out of its non-profit, volunteer-based operation has allowed it, in part, to be highly valued in Barron County.

The final area of benefit that shows positive outcome data speaks to the very reason why BCRJP interventions are effective with youth offenders. Successful reintegration of youth offenders into the community is illustrated by their outcomes in moving through the Restorative Teen Court process. On average, 92% fully complete their sanctions, which include complying with peer jury duty two to four times, in addition to sanctions such as attending workshops, performing community service, and the like. Even after these sanctions and jury duty requirements have been fulfilled, the program has benefited from the fact that nearly one-half of all offenders in previous years, and 60% of those in 2010, chose to stay on as Restorative Teen Court volunteers in some capacity (see Figure 5).

Figure 5: BCRJP Teen Court Offenders Who Volunteered with Teen Court After Sanctioned Jury Duties



In some cases, these youth offenders have grown into positions of leadership. One can see how a restorative process provides a context not only for a teen to take full responsibility for negative actions of the past, but a greater responsibility for positive actions in the future. This is where Restorative Teen Court has been adapted from conventional Teen or Youth Court models. The emphasis is not on youth learning how conventional court processes work, but rather how the three restorative building blocks of Ownership, Empathy and Reparation, within a setting that gives high support without compromising high accountability, can effectively bring about major life changes to set youth walking down better paths. By helping peer offenders go through a process of learning, awakening, and taking charge of their lives, each Restorative Teen Court youth repeatedly reinforces for himself or herself positive messages that replace the negative thinking patterns that initially led them into delinquent activity. In a profound way, youth end up helping themselves precisely because they are committed to a framework that is all about helping others.

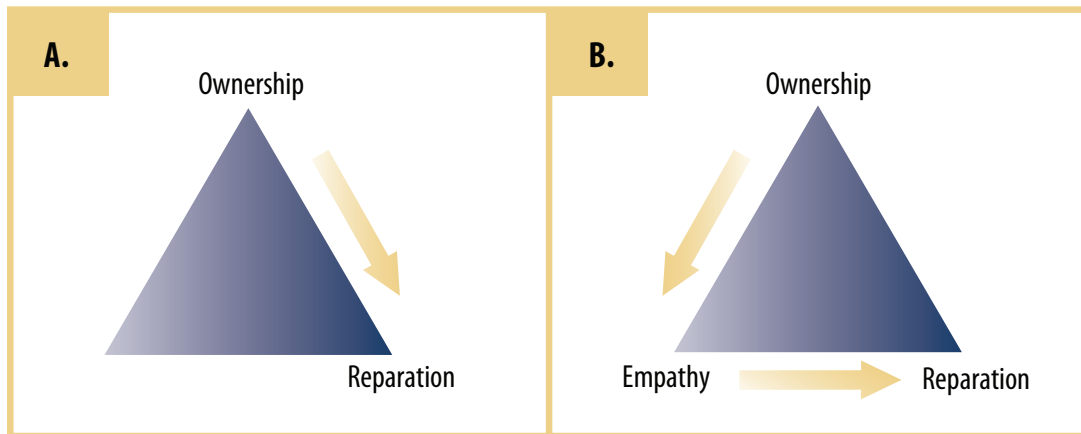
Central to all restorative interventions is the concept of helping offenders to understand their actions in the broader context of relationships. Given our societal orientation to individualism, in addition to our utilitarian bent toward fixing things, there is always a temptation in modern

culture to move quickly from ownership to reparation (see Figure 6, Box A). But a restorative approach takes the longer route through empathy; that is, through an opportunity for offenders to hear and understand how their actions have affected people beyond themselves (see Figure 6, Box B.) This is where the real learning happens. And when the learning is heightened, it heightens the taking of responsibility not just for past actions but for future actions. In this way, the 'long route' ensures a richer reparation due to the fact that an offender has greater internal motivation for making amends to those affected and taking steps to overcome the impulse to re-offend.

The bottom line is this: If youth do not learn something new and then internalize the learning, they are apt to repeat negative behaviors. Barron County Sheriff Chris Fitzgerald stated, "Restorative justice is a great tool that allows law enforcement to give juvenile offenders a chance to realize their mistakes and learn from them, instead of just paying a fine" (Chris Fitzgerald, personal communication, January 14, 2011). Such realizing and learning is vital to fostering a young person's ability to make more responsible choices in the future.

The perennial question, however, is "What best fosters such learning?" There is, of course, the conventional thinking that accompanies the sting

Figure 6: The Short and Long Routes to Reparation




of the belt: “That’ll learn ya.” But there are other ways to learn from misdeeds that might prove to be better for the community and the offender in the long run. An article published by The Center for Juvenile Justice Reform at Georgetown University, based on a meta-analysis of 548 studies dating back to 1958, supports the effectiveness of evidence-based programs that promote “self-sustaining behavioral change” in contrast to programs that rely on external control techniques and punitive measures, which in some cases were found to be detrimental (Lipsey et al., 2010). Included in their category of treatment programs recognized for cost-savings and lower recidivism rates is “victim-offender mediation” and “cognitive behavioral therapy,” both of which are central to BCJRP. Along with skill-building and counseling-based models, they equally recognize a “restorative” category for effecting “behavior change by facilitating personal development through improved skills, relationships, insight, and the like” (Lipsey et al., 2010, p. 24). At the heart of BCRJP’s effort is the commitment to help socialize offenders through learning opportunities, building empathy as a competency for future decision-making, and emphasizing relationships as a framework for future accountability, all of which serve to prevent re-offending. Out of this study came the recommendation for justice systems “to provide an array of effective programs that

provides sufficient diversity to allow matching with offenders’ needs” (Lipsey et al., 2010, p. 5).

It has been shown above that BCRJP’s own effort to provide comprehensive services allows for a flexible framework for matching the needs of offenders with the right BCRJP programs. But there is a second dimension that ties into the justice system: Through BCRJP’s restorative work, the broader continuum of programming throughout Barron County is rich and plentiful. As Youth and Family Program Manager Terry Holmstrom has written, “Barron County Department of Health and Human Services has various programs to assist juveniles, along with a plethora of Barron County restorative justice programs, in matching juveniles’ needs. In collaborating with restorative justice, we have been highly effective in meeting the needs of juveniles through this array of complimentary services” (Terry Holmstrom, personal communication, January 18, 2011).

In conclusion, the programming of BCRJP within the context of working closely with Barron County justice agencies and schools has yielded multiple benefits which, over the past decade, have strengthened a sustainable and symbiotic partnership. This article has attempted to document the foundations for that partnership, the scope of restorative programming, and the benefits of that programming for the Barron County experience.



The key stakeholders within Barron County have supported the blending of government and community resources because they have recognized the distinctive strengths of each side while being realistic about each side's limitations. The hope is that more research and writing can be done to not only substantiate the effectiveness of restorative justice programming, but specifically to substantiate how a community-based restorative justice agency can provide an ideal nexus for government and community resources in ways that are cost-effective and outcome-effective. This

restoration of community involvement, as demonstrated in Barron County, Wisconsin, can affirm a much older tradition in which community members had a larger stake in both the means and the ends for resolving conflicts and crimes.

About the Author

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Parents Anonymous® Outcome Evaluation: Promising Findings for Child Maltreatment Reduction

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ABSTRACT

This article describes the findings of a national evaluation of Parents Anonymous® group participants conducted by the National Council on Crime and Delinquency (NCCD) from 2004-2007 (National Council on Crime and Delinquency, 2007) and funded by the U.S. Office of Juvenile Justice and Delinquency Prevention (OJJDP). The study sample included 206 parents new to Parents Anonymous®, representing 54 Parents Anonymous® groups in 19 states. The study contributes to research on child maltreatment prevention by assessing whether participation in Parents Anonymous® is associated with changes in child maltreatment outcomes and in risk and protective factors. After attending Parents Anonymous® mutual support group meetings, parents with a wide range of demographic and background characteristics and needs indicated statistically significant reductions in risk factors

for child abuse and neglect. The study demonstrated that Parents Anonymous® is a promising program for the reduction of child maltreatment.

Introduction

Child maltreatment affects 10.6 children per 1,000 in the United States annually (U.S. Department of Health and Human Services, 2008), indicating a serious public health problem. There are often immediate consequences from child maltreatment, but research in the neurobiological, behavioral, and social sciences indicates that these early childhood experiences also affect long-term brain development and increase vulnerability to multiple mental and physical health problems (Center on the Developing Child at Harvard University, 2010; National Center for Injury Prevention and Control, 2010; Felitti et al., 1998). Given the magnitude and impact of child maltreatment on the

health and well-being of children, the need for prevention is clear.

Founded in 1969, Parents Anonymous® Inc. has become an international network of accredited and affiliated organizations that apply the Parents Anonymous® model in more than 400 groups for adults, children, and youth. Groups for adults in a parenting role are ongoing, free of charge, and held weekly in a non-stigmatized community setting (e.g., in a church or community center). Parents find out about a group from community resources or other group participants. Often, but not always, parents discuss group expectations with the Group Facilitator before attending for the first time. Groups are open to anyone in a parenting role. Parents can come as often and whenever they wish—the group is there for them every week. The Parent Group Leader—a parent from the group—opens each group with a welcoming statement that emphasizes confidentiality and lets participants know that the Group Facilitator is a mandated reporter. The group then decides what they want to talk about that week. Parents Anonymous® Inc. network database reports indicate that the most frequently discussed topics in fiscal year 2010 were parenting skills, discipline, parent/child relationships, and communication, consistent with previous years (Parents Anonymous® Inc., 2010). There are no eligibility requirements, attendance requirements, or fees for Parents Anonymous® group participants. This model was established at the inception of Parents Anonymous® and was in place during the NCCD evaluation.

Numerous studies of Parents Anonymous® attribute its effectiveness in preventing child maltreatment to its model that incorporates the four principles and 13 group standards described in the *Best Practices for Parents Anonymous® Groups* manual: mutual support (help is reciprocal in that parents give and receive support from each other), parent leadership (parents recognize and take responsibility for their problems, develop their own solutions, and serve as role models

for other parents), shared leadership (parents and staff build successful partnerships to share responsibility, expertise, and leadership roles), and personal growth (parents experience change through exploring their feelings, identifying their options, and acting on their decisions) (Parents Anonymous® Inc., 2008). Unlike other parenting programs that are strictly didactic or purely self-help, Parents Anonymous® groups are ongoing (there is no specific dosage), open to anyone in a parenting role (there are no eligibility criteria), and operated in shared leadership jointly led by a trained Parent Group Leader and Group Facilitator (Rafael & Pion-Berlin, 2000). A central precept of Parents Anonymous® is the belief that parents are in the best position to help other parents and, in so doing, also help themselves (Reissman & Carroll, 1995).

Studies of Parents Anonymous® groups, although varied in their methodology (e.g., cross-sectional, longitudinal, observational, case review, or comparison), have consistently found reductions in risk factors such as parent physical and verbal abuse of children, and increases in protective factors such as coping abilities, knowledge of child development, problem-solving abilities, self-esteem, social support, and parent and child resiliency (Alexander, 1980; Behavior Associates, 1976; Blizinsky, 1982; Borman & Lieber, 1984; Cohn, 1979; Hunka, O'Toole, & O'Toole, 1985; Lieber & Baker, 1977; National Council on Crime and Delinquency, 2007; Nix, 1980; Powell, 1979, 1981; Savells & Bash, 1979). However, although more than 800,000 families are referred to parenting programs annually (Barth et al., 2005), few rigorous studies have been conducted and relatively little is known about the effectiveness of any parenting program on preventing child maltreatment (Daro & McCurdy, 1994; Kaminski, Valle, Filene & Boyle, 2008; Mikton & Butchart, 2009).

The NCCD evaluation of parents new to Parents Anonymous® groups took place from 2004-2007, was comprehensive in nature and included standardized measures of risk and protective

factors, as well as child maltreatment outcomes. The study was unique in its inclusion of previously unstudied risk factors in relation to parent support groups, including substance abuse, mental health problems, family functioning, and domestic violence. Although understanding and responding to these risk factors has become fundamental in designing, implementing, and evaluating parenting programs (Barth, 2009), this was not the case when this study was designed in 2001. The NCCD evaluation also included more commonly studied areas such as social support, family functioning, and parenting skills (Daro & McCurdy, 1994; Dukewich, Borkowski & Whitman, 1996; Horton, 2003; Mash, Johnston & Kovitz, 1983; Reid, Kavanagh & Baldwin, 1987).

METHODS

Study Design

This study was informed by a year-long NCCD process evaluation, which helped to define research goals and objectives, develop data collection instruments, and facilitate sampling (National Council on Crime and Delinquency, 2002). The outcome study reported on here utilized a longitudinal design wherein parents new to Parents Anonymous® groups were recruited and followed for six months with structured interviews at baseline, one month, and six months.

Before study recruitment began, the evaluators conducted a stratified random sampling of the 230 open Parents Anonymous® groups in the U.S., based on geographic location and organizational size. The selected groups were then notified and the Group Facilitator for each group was trained in procedures for recruiting parents who were new to their Parents Anonymous® group. Parent recruitment and

interviewing occurred from 2004-2006. Study eligibility requirements were that parents must be at least 18 years old, living with at least one child younger than 18, and had not attended more than five Parents Anonymous® group meetings prior to recruitment. The first interview occurred as soon as possible after the parent's first Parents Anonymous® meeting and included re-establishing eligibility, an informed consent process, and a one-hour structured interview. The second interview was one month after the first; the third interview was six months after the first. Each interview was the same as the previous one and included a mix of quantitative and qualitative questions. The interviews were conducted by trained interviewers using a Computer Assisted Telephone Interviewing (CATI) system. Parents were compensated with \$50, \$75, and \$100, respectively, for baseline, one-month, and six-month interviews. Confidentiality was assured through the assignment of identification numbers and the storing of contact information in a password-protected computer file accessible to research team members only.

Measures

Sixteen study measures chosen for their association with child maltreatment were administered at each interview. Each measure assessed an indicator of potential child maltreatment (e.g., parenting distress or rigidity, psychological or physical aggression toward children), a risk factor (e.g., life stress, parenting stress, domestic violence, substance abuse), or a protective factor (e.g., good quality of life, social support, parenting competency, non-violent discipline, good family functioning). Each measure was based on published scales with proven reliability and validity in child maltreatment research. See Table 1 for a description of these measures.

Table 1. Measures Used in the Study

Measure	Definition	Source
Measures of Child Maltreatment Outcomes		
Parenting Distress	Personal adjustment problems that can increase likelihood of child abuse.	Child Abuse Potential Inventory (Milner, 1986)
Parenting Rigidity	An attitude that children need strict rules and “should be seen but not heard”; parents with high parenting rigidity are more likely to aggressively enforce those rules in ways that may be abusive.	
Psychological Aggression toward Children; Physical Aggression toward Children	The frequencies of threatened or active aggression toward one’s children; these are not necessarily measures of abuse but, rather, measures of a tendency toward aggression and potential maltreatment.	Parent-Child Conflict Tactics Scale (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998)
Measures of Risk Factors		
Life Stress	A measure of general, not parenting-specific, life stress.	Life Stress Scale (Kanner, Coyne, Schaefer, & Lazarus, 1981)
Parenting Stress	The Total Stress scale from the Parenting Stress Index-Short Form was used, which measures the stress a parent is feeling specifically regarding parenting and interactions with their child.	Parenting Stress Index-Short Form (Abidin, 1995)
Emotional Violence between Intimate Partners; Physical Violence between Intimate Partners	Subscales used to measure the frequency of psychological and physical attacks between participants and their partners in the last month; these scales were only completed by parents who reported having an intimate partner in the month prior to the interview.	Conflict Tactics Scale (Straus, 1995)
Alcohol Abuse	Extent of problems related to alcohol use.	Short Michigan Alcoholism Screening Test (Selzer, Vinokur, & VanRooijen, 1975)
Drug Abuse	Extent of problems related to drug use.	Drug Abuse Screening Test (Skinner, 1982)
Measures of Protective Factors		
Quality of Life	One’s level of satisfaction with aspects of life, such as personal safety, family responsibilities, independence, and health.	Quality of Life Scale (Andrews and Withey, 1976)
Social Support – Emotional and Instrumental (Concrete); Social Support - General	How much the people closest to the parent provide emotional and concrete support (e.g., love, encouragement, food, clothing, transportation). How much people are generally available when needed to preclude feelings of isolation or loneliness.	Norbeck Social Support Questionnaire (Norbeck, Lindsey, & Carrieri, 1981)
Parenting Sense of Competence	One’s confidence and satisfaction with issues of parenting and child behavior.	Parenting Sense of Competence (Gibaud-Wallson & Wandersman, 1978)
Nonviolent Discipline Tactics	The frequency of use of “positive parenting” techniques considered to be alternatives to corporal punishment.	Parent-Child Conflict Tactics Scale (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998)
Family Functioning	The extent of communication, support, and closeness among family members.	McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983)

Data Analysis

All analyses used Statistical Package for the Social Sciences (SPSS, Version 18), including descriptive statistics, frequency distributions, and outlier examination of all variables. There were few significant findings when regression analyses were conducted that assessed scale score change over time, and the differential influence on variability in scale score change by parent characteristics. Therefore, planned higher order analyses were not conducted and change in study measure scores was assessed in the short term (one month) and in the long term (six months) using *t*-tests. Most analyses included only the $n=188$ parents who continued to attend meetings throughout the study and completed all three interviews. The 18 parents who completed all three interviews but did not attend any meetings after the first interview were included only in the analyses of parents who continued versus parents who dropped out.

Key Findings

The Parents in the Study

The initial sample included 206 parents new to Parents Anonymous® who represented 54 Parents Anonymous® groups from 19 states. They were 91% female, 48% African American and 42% White, ranging in age from 19 to 62 years (mean = 35; $SD = 9.8$). Seventy-nine percent were high school graduates. The parents had an average of 2.5 children ($SD = 1.39$). These parents attended an average of eight meetings ($SD = 8.05$) during the six-month study period; some attended every week, others sporadically, consistent with the Parents Anonymous® model. Data were not collected on the number of parents attending group sessions during the recruitment phase or on the number of parents who refused to participate in the study.

At the start of the study, the parents in the sample reported a fair number of parenting-related needs, including no other adult caretaker in the

home (50%), at least one child with special needs (50%), a history of physical or mental illness (50%), and a history of substance abuse (20%).

Most evaluated themselves as needing assistance with the practice of parenting. Almost 75% indicated they had sought help for their parenting issues prior to joining Parents Anonymous®. The vast majority (85%) attended Parents Anonymous® of their own accord, while 15% were mandated to attend meetings by child welfare or other authorities.

Changes Over Time

Considering only the 188 parents who attended meetings for the six months that they were in the study, Table 2 shows that these parents had a strong pattern of reduction in scores on child maltreatment outcome measures over time—at both one month and six months. Improvement was found on all four of the key child maltreatment outcomes, with statistical significance on three: parenting distress, parenting rigidity, and the use of psychological aggression when disciplining children. Also in Table 2, trends showed improvement on parent scores in every risk factor and in 50% of the protective factors. Parents indicated a statistically significant reduction in four of six risk factors measured: life stress, drug and alcohol abuse, and psychological aggression between intimate partners. Parents indicated a statistically significant improvement in one protective factor at one month: an increase in their quality of life.

Scores for Parenting Sense of Competence, non-violent discipline tactics (NVDT), and family functioning unexpectedly dropped over the course of the study when considering the entire sample of parents, and the change was statistically significant for NVDT. Possible reasons for this are noted in the Discussion.

Parents who stopped attending Parents Anonymous® meetings after the first interview showed almost no change over time compared with the strong patterns of positive change

Table 2. **Short-Term (1 Month) and Long-Term (6 Months) Change on All Study Measures (n=188)**

Table Key:

- ✓ = Statistically significant improvement (p < 0.05).
- + = Improvement trend without statistical significance.
- = Worsening (p < 0.05 for nonviolent discipline tactics only).

	All Parents (n=188)		n at Baseline	Parents at "Highest Risk" ^a	
	Short Term	Long Term		Short Term	Long Term
Child Maltreatment Outcomes					
Parenting Distress	✓	✓	47	✓	✓
Parenting Rigidity	✓	✓	44		✓
Psychological Aggression Toward Children	✓	✓	47	✓	✓
Physical Aggression Toward Children	+	+	52	✓	✓
Risk Factors					
Life Stress	✓	✓	46	✓	✓
Parental Stress	+	+	46	✓	✓
Intimate Partner Emotional Violence	+	✓	31	✓	✓
Intimate Partner Physical Violence	+	+	13	✓	✓
Alcohol Abuse	✓	✓	46	✓	✓
Drug Abuse	+	✓	31	✓	✓
Protective Factors					
Quality of Life	✓	+	50	✓	✓
Social Support – Emotional and Instrumental ^b	+	+	43	✓	✓
Social Support – General	+	+	49	✓	✓
Parenting Sense of Competence	--	--	49	✓	✓
Nonviolent Discipline Tactics	--	--	51	✓	✓
Family Functioning	--	--	44	✓	✓

^a Parents who scored in highest 25% of Child Maltreatment Outcomes and Risk Factors measures and in lowest 25% of Protective Factors measures at baseline.

^b Scores for Emotional and Instrumental Social Support were combined during the analysis.

showed by the group who continued attending Parents Anonymous® throughout the study period. Overall, parents who attended meetings over six months showed statistically significant improvement on eight of the 16 measures, including parenting distress, parenting rigidity, psychological aggression toward children, life stress, intimate partner emotional violence, alcohol abuse, drug abuse, and quality of life. In contrast, parents who stopped attending meetings after the first interview indicated significant change at six months on just one measure, a reduction in life stress.

When the parents with the highest risk of child maltreatment at the start of the study were analyzed separately from the overall sample, improvement was found on every measure (see Table 2). These separate analyses showed that parents with particularly severe needs (the 25% with the highest child maltreatment outcomes and risk factors scores and the lowest protective factors scores at the first interview) showed statistically significant improvement in all areas. This was true at both one month and six months, with the sole exception of parenting rigidity at one month.

Forty-eight parents (23%) indicated having a Child Protective Services (CPS) allegation against them at some time prior to the first interview. The charges were substantiated for 21%, dropped for 72%, and still pending for 6%. Eight parents (4%) reported having a CPS allegation made against them during the course of the

study; two were substantiated, and one was still pending. Too few parents reported CPS contact during the course of the study, especially with substantiated allegations, to justify statistical analysis of this subgroup.

Changes Analyzed by Demographic and Background Information

Table 3 shows that when parents were grouped by their demographic and other characteristics and analyzed separately, all showed statistically significant improvement on at least one study measure, and most showed such improvement on several measures. Groups that showed the most improvement across measures included women, high school graduates, African Americans, parents with other child caregivers in the home, parents with no history of physical or mental illness, parents with a CPS history, and parents not mandated to attend the group. Conversely, men, parents with less than a high school education, Whites, parents without another caregiver in the home, parents with no CPS history, and parents mandated to attend the program showed improvement on the fewest scales. However, looking at the Table, it should be noted that for Ethnic Background (African American, White) and History of Illness (History, No History), the difference in the numbers of measures that showed improvement was only one; for all other categories, the difference in the numbers of measures that showed improvement was greater, ranging from two to six.

**Table 3. Changes by Parent Demographic and Background Information
Change ($p < .05$) on Study Measures by Selected Parent Characteristics ($n = 188$)**

Table Key:

✓ = Statistically significant improvement ($p < .05$) in the short and/or long term.

✗ = Statistically significant worsening ($p < .05$) in the short and/or long term.

Measures	Gender		Education		Ethnic Background		Other child Caregiver in the Home		Physical or Mental Illness History		History of CPS Allegations		Mandated Attendance	
	Female	Male	Less than HS	Grad HS	African American	White	Other Caregiver	No Other Caregiver	Health Problems History	No Health Problems History	CPS Allegations	No CPS History	Mandated Attendance	Not Mandated
<i>n</i>	169	19	43	142	109	79	93	95	92	96	51	137	27	156
CHILD MALTREATMENT OUTCOMES														
Parenting Distress	✓			✓	✓	✓	✓	✓	✓		✓	✓		✓
Parenting Rigidity	✓		✓	✓	✓		✓		✓	✓		✓		✓
Psychological Aggression Toward Children	✓	✓		✓		✓	✓	✓	✓		✓		✓	✓
Physical Aggression Toward Children														
RISK FACTORS														
Life Stress	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Parental Stress							✓				✓			
Intimate Partner Emotional Violence	✓					✓		✓		✓	✓			✓
Intimate Partner Physical Violence														
Alcohol Abuse	✓				✓		✓			✓	✓			✓
Drug Abuse	✓	✓		✓	✓		✓			✓		✓		✓
PROTECTIVE FACTORS														
Quality of Life	✓			✓		✓	✓	✓			✓			
Social Support-Emotional & Instrumental														
Social Support-General	✓			✓	✓		✓					✓		
Parenting Sense of Competence					✗					✗		✗		
Nonviolent Discipline Tactics	✗	✗		✗				✗		✗		✗		✗
Family Functioning							✗			✗		✗		✗
# of Measures with Improvement ($p < .05$)	9	3	1	7	6	5	9	5	4	5	7	5	2	7

Adapted from National Council on Crime and Delinquency. (2008). Special Report - Parents Anonymous® outcome evaluation: Promising findings for child maltreatment reduction. A. M. Wolfe & C. Hartney (Eds.).

Discussion

Despite the many needs reported by the parents in the study, average initial scores on the study measures did not indicate a particularly high risk of child maltreatment. For instance, at the start of the study, the parents as a whole reported little abusive behavior toward their children. On the scales for psychological and physical aggression toward children, the average scores indicated the vast majority of parents used such tactics less than once a month, if at all. The average scores on the risk and protective factors measured were similarly “healthy.”

The protective factors measured in the study did not show much statistically significant improvement for the parents as a whole or for most subgroups of parents. Several factors may explain why there was little change in the protective factors measured. The major possibility is that high “healthy” scores at baseline indicated these parents already had a strong foundation of protective factors and thus did not have much room for improvement. Furthermore, protective factor scales generally attempt to measure underlying attitudes and perspectives that are reasonably expected to change only over longer periods of time. Risk factor scales, in contrast, typically attempt to measure mood or specific behavioral change, such as stress or certain parenting techniques—constructs more likely to change in a matter of weeks or a few months.

The findings that continuing parents did better than those who did not continue in Parents Anonymous® cannot be explained by pre-study differences; the group that continued and the one that did not were not statistically different on any demographics, background characteristics, or study measures at the start of the study. This may indicate that the improvements demonstrated over time were related to the Parents Anonymous® intervention.

When considering the analysis of the “most severe” parents only, it is important to note that these findings indicate that some positive

impacts may have been hidden in the analysis of the overall sample. For example, the separate analysis revealed that those parents most likely to use physical aggression toward their children at the start of the study showed statistically significant improvement on that scale, although the sample overall did not. Similar phenomena were found for parental stress, physical and emotional domestic violence, drug abuse, quality of life, nonviolent discipline tactics, parenting sense of competence, and family functioning. Since the sample included only parents new to Parents Anonymous®, the “most severe” parents may have been in a particular crisis at the time of the first interview, which may have lessened over time with or without intervention. But it is equally possible the crisis would continue or that new crises would develop, especially over a six-month period. The consistency of the findings of improvement across the various study measures for these parents implies that Parents Anonymous® attendance is related to the reduced risk of maltreatment in parents most in need of help.

Explanations for decreases in NVDT, Parenting Sense of Competence (PSOC) and Family Functioning (FF) scores are multifaceted. The complex etiology of child abuse speaks both to the difficulty in assessing the effects of interventions as well as the difficulty in measuring and interpreting parental behavior. This study operationalized NVDT, PSOC, and FF as protective factors. For NVDT, it was theorized that positive parenting techniques would supplant unhealthy, aggressive forms of discipline. If that were borne out, scores on NVDT would be expected to rise over time, not show a statistically significant decrease. However, it can also be theorized that, as risk and protective factors improve and a family begins to function in a healthier way, the need for any discipline, aggressive or not, would be reduced. This alternative explanation is supported by the authors of the scale on which the measure was based (Straus, et al., 1998). They reported that parents use a variety

of strategies to address discipline issues and found that nonviolent tactics were correlated with more aggressive tactics. The actual findings in the current study went both ways: NVDT scores dropped overall, but rose for those parents who used them the least at the start of the study. Parents may have reduced the time they spent disciplining overall, while parents who did not have positive parenting techniques as part of their approach to discipline seem to have learned how to incorporate them through their Parents Anonymous® attendance.

For PSOC and FF, the decreases in scores were not statistically significant but some explanation may be possible. For instance, it could be that Parents Anonymous® attendance by one parent, but not the whole family, increased tension and decreased healthy functioning until that parent could engage the other family members in new ways of thinking and behaving. It could also be that the parent did not become aware of better parenting and family functioning approaches until after some time in the group, resulting in initially inflated PSOC and FF scores, followed by decreased scores later.

The inclusion of previously unstudied risk factors *in relation to parent support groups* provided surprising findings, including decreases in drug use, alcohol use, and psychological aggression among intimate partners. Previous investigations have not studied the association of these types of changes with attendance at parent support groups (Barth, 2009; Daro & McCurdy, 2007).

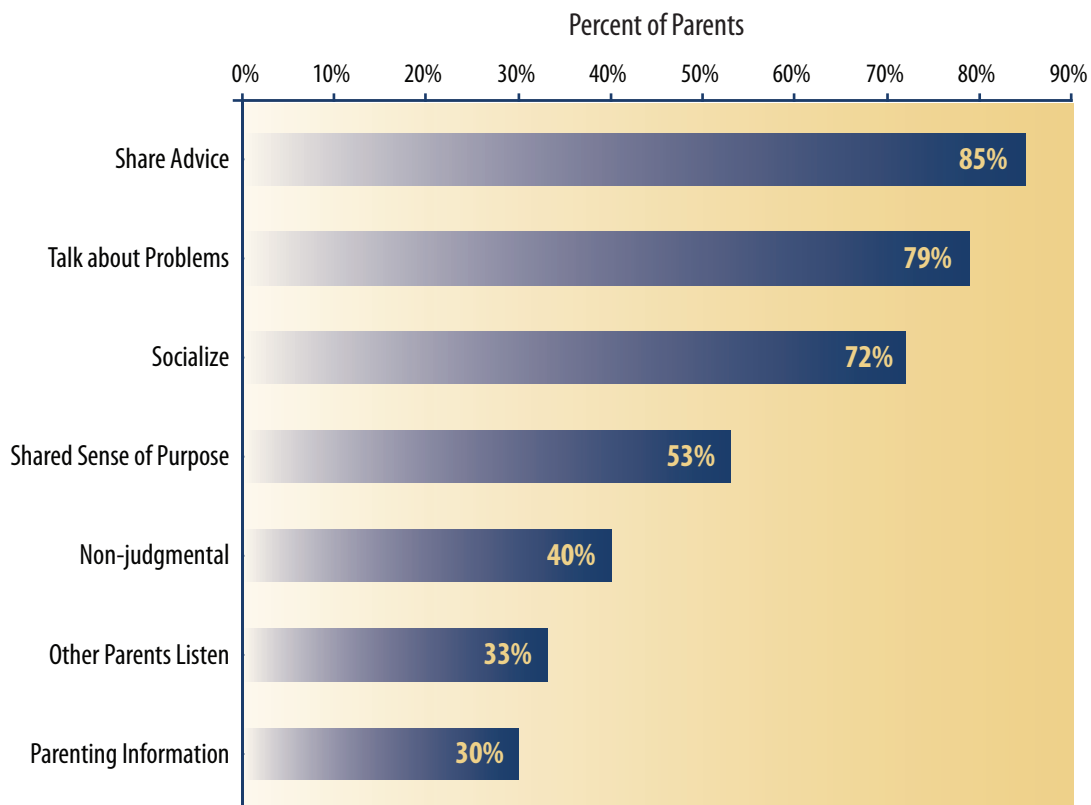
The evaluation literature includes many studies in which interventions produced immediate impacts that did not necessarily last over a longer period (DeGarmo, Patterson & Forgatch, 2004). The one- and six-month intervals studied here are not adequate follow-up periods to identify all possible effects of the intervention or how effects change over time. Nevertheless,

as reported above, these Parents Anonymous® parents demonstrated significant improvement at both intervals. Furthermore, parents showed both one- and six-month improvement on five measures, indicating initial one-month effects were sustained or improved upon over the six-month study period.

In Their Own Words: Qualitative Self-Report

The parent responses to the open-ended interview questions indicated a perception of strong positive change, supporting the quantitative findings. When asked to describe how attending Parents Anonymous® meetings had affected their lives, parents said they were convinced Parents Anonymous® affected them in positive ways, reducing risk factors and increasing protective factors in relation to child maltreatment. They described increasing their parenting skills and confidence, increasing their social support network and even increasing their self-esteem. With regard to the social support of other parents, 72% said they valued the social aspect of the meetings and 53% said they valued the shared sense of purpose—camaraderie, support, and sense of community—they had with the other parents. Seventy-nine percent liked their Parents Anonymous® group because they could talk about problems and 85% valued sharing advice with other parents (see Table 4). Parenting-related problem solving, an understanding of child development, communication skills, and developing patience were the most commonly expressed improvements these parents felt their Parents Anonymous® experience had given them. Also, more than three-quarters of these parents said they had formed relationships with other participants and almost all of the respondents said they spent time with group members outside of meetings. At the final interview, almost all (96%) indicated they planned to continue attending meetings.

Table 4. What Parents Liked About Attending Parents Anonymous® (N=206)*



Study Strengths and Limitations

The study methodology had several strengths not present in previous studies of parent support groups (and, in fact, were primary reasons that the study was funded by OJJDP): the use of a national sample from randomly selected groups representing a wide range of United States geographical areas, measures based on published standardized scales, the inclusion of risk factors not commonly associated with studies of parent support groups, and methods informed by a prior process evaluation.

A limitation of the study was the lack of experimental design—participation was voluntary, allowing for the possibility that parents who volunteered might have been more trusting and thus more likely to benefit from group attendance, whereas non-volunteers may have been more guarded and not as likely to benefit from

a group approach. Also, a major threat to the internal validity of a time series design is *history*; that is, the possibility that other unknown factors besides Parents Anonymous® participation may have contributed to the study findings. However, although the evaluation literature includes many studies in which interventions produced immediate impacts that did not necessarily last, these parents demonstrated significant improvement at both follow-up time points, indicating that the initial one-month impacts were sustained or improved upon over the six-month study period (DeGarmo, Patterson & Forgatch, 2004). In addition, the study would have benefited from a larger sample size and a longer timeframe.

Conclusions

The broad-based approach to family strengthening offered by Parents Anonymous® appeared to have allowed the parents in the sample to

address their most pressing needs while providing a safety net, buffering the impact of the process of change across other factors. Parents Anonymous® seems to allow parents with differing backgrounds and differing needs to address and solve their particular issues. Further, with 96% of the interviewees reporting they planned to continue attending, Parents Anonymous® enjoys a loyal and enthusiastic following.

The study sought to answer the question: Does Parents Anonymous® work to reduce the risk of child maltreatment and, if so, for all parents or for some more than others? The results of this evaluation show that parents were positively affected in a variety of important ways by their experience with Parents Anonymous®. After attending Parents Anonymous® meetings, parents indicated a statistically significant reduction of the following risk factors for child abuse and neglect:

- potential for child maltreatment;
- psychological aggression toward their children;
- experience of life stress;
- intimate partner emotional violence; and
- drug and alcohol abuse.

Further findings, although not statistically significant, showed trends for reduced physical aggression toward children, reduced physical violence between intimate partners, less parental stress, and increased social support. Importantly, the parents with the most pressing needs at the beginning of the study showed statistically

significant improvement on all of the measures at six months. The study revealed improvement in child maltreatment outcomes in parents with a wide variety of demographic characteristics, background characteristics, and needs.

In summary, this study shows that Parents Anonymous® is a promising program for reducing child maltreatment.

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Assessing Efficiency and Workload Implications of the King County Mediation Pilot

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Abstract

Child protection mediation has been used for more than 25 years to improve case processing and outcomes in juvenile dependency cases. Prior research has been primarily descriptive, and has focused on the effect of mediation on efficiency measures and on parents' perceptions of the process. The current assessment of a mediation pilot program implemented in King County, Washington examines early case mediation as a tool for improving case efficiency to reduce judicial workload. Twenty-two mediated cases are compared to 28 randomly selected non-mediated cases in order to ascertain differences in case timeliness, continuance use, number of hearings, and agreement rates. Results indicate that mediation is effective in increasing the efficiency of case processing. Directions for future research on efficiency and judicial workload are discussed.

Assessing Efficiency and Workload Implications of the King County Mediation Pilot

Mediation is a practice of alternative dispute resolution involving a neutral third party who facilitates discussion and resolution of contested case issues among parties. Mediators meet with all interested parties involved in a case to facilitate resolution of disputes and help expedite case processing (Stack, 2003). The job of mediators is not to make decisions; rather, the job is to help the involved parties work together to reach an amicable resolution of contested issues in their case (Coleman & Ruppel, 2007). Mediators typically employ either a facilitative or evaluative style. The facilitative style is the traditional form of mediation, in which the neutral third party guides the parties to come to an agreement by facilitating communication and allowing parties to make their own decisions. The evaluative approach offers a less neutral style, as the

mediator gives advice, expresses opinions and urges the parties to accept specific outcomes (Hughes, 1998). It is important to note, however, that there is some overlap between the two styles, and that the dynamic nature of the mediation process may require a change in typical style if it is better suited for the case at hand (Roberts, 2007). Mediation is used in many facets of the law, but may be particularly well suited to juvenile and family law cases in which there is a need to come to an agreement while still preserving ongoing relationships, such as that between the parent and child (McConnell, 1996).

Publication of the *Resource Guidelines: Improving Court Practice in Child Abuse and Neglect Cases* (National Council of Juvenile and Family Court Judges [NCJFCJ], 1995) drew national attention to the use of mediation in child protection proceedings, identifying alternative dispute resolution as a “best practice” in child abuse and neglect case processing. The use of mediation has also been encouraged by the Department of Health and Human Services as an accepted alternative to adversarial court hearings (Duquette, Hardin, & Dean, 1999). Mediation provides an effective and efficient way to address core child protection case issues, and positively influences the timeliness of case processing (Dobbin, Gatowski, & Litchfield, 2001; Thoennes, 1997). Further, mediation can be an effective way to alleviate the congestion of the juvenile court system (Airey, 1999). With high caseloads and budget concerns, any improved efficiency could result in reallocations of resources or reductions in workload for judges and other key stakeholders.

Mediation Use in Child Protection

The use of mediation in child protection cases began more than 25 years ago at pilot sites in California, Colorado, and Connecticut (Giovannucci & Largent, 2009). The process of utilizing mediation in child welfare cases was developed to meet goals such as reducing the length of time to permanency; reducing court time in handling the case; reducing the number

of contested trials; engaging parents in the process; empowering parents as decision-makers; facilitating the development of more detailed service agreements; facilitating parental compliance with the case plan; promoting communication, including culturally relevant services; engaging extended family; and removing barriers to permanency (Dobbin et al., 2001; Giovannucci & Largent, 2009). Mediation has been used to resolve contested issues that arise during the dependency case. In a study of mediation in New York State, researchers conducted a multi-method assessment incorporating a multi-site process study, satisfaction surveys, and permanency outcomes. Findings from the process study of 403 cases referred for mediation indicated that mediation initiated discussion of issues such as placement, visitation, service plans, compliance, behavior problems, communication problems, and reunification (Coleman & Ruppel, 2007).

Mediation can be used at any point in the case. In fact, the *Resource Guidelines* (NCJFCJ, 1995) recommends that mediation (or other forms of alternative dispute resolution) be available throughout the life of the case, from prior to petition filing to termination of parents’ rights. Despite these recommendations, mediation is often used post-disposition as a means of addressing issues at the permanency planning phase of a case.

Benefits of Mediation

Since its initial implementation, mediation has become an evidence-based practice with a great deal of literature on its effectiveness in helping children and families involved in the child abuse and neglect system (Thoennes, 2009). The majority of research on child protection mediation has been based on qualitative and descriptive work, bringing awareness to the use and importance of mediation in child protection proceedings. These studies have focused primarily on mediation as a means of engaging parents, examining parental satisfaction, and compliance. A few studies (Gatowski, Dobbin, Litchfield, & Oetjen,

2005; Thoennes, 2001, 2002; Thoennes & Pearson, 1999) have employed empirical research designs to examine outcomes related to timeliness, safety and permanency. Overall, these studies have varied a great deal in their methodology and outcome measures, ranging from true experimental to quasi-experimental designs with a multitude of process and outcome measures related to timeliness, permanency, and safety. Other more descriptive studies have focused on the mediation process and outcomes, without comparison groups. Across all studies, there has been a consistent trend to focus on factors related to mediation as it pertains to parents and case processing.

Mediation as a Means of Engaging Parents

The use of mediation as an alternative dispute resolution technique provides a means of resolving case issues in a respectful and open forum as opposed to the adversarial atmosphere often found in contested hearings. As such, mediation offers many advantages to the families involved in the court process. One advantage in using mediation is that it can increase the level of satisfaction of the involved parties. Satisfaction survey results show that a majority of parents engaged in mediation find it to be helpful, feel that they are treated with respect, believe that mediation is better than going to court, and believe it helps them to better understand the roles and expectations of everyone involved in the case (Coleman & Ruppel, 2007; Thoennes, 2001).

A second advantage of using mediation is that it may increase parental engagement in the juvenile dependency process. In surveys, parents have indicated that they had more time to talk about important issues and said that they felt that others listened and understood what they said (Coleman & Ruppel, 2007; Thoennes, 2001). Further, a large majority of parents felt that they were part of the decision-making process (Coleman & Ruppel, 2007).

Parents who feel more engaged in the process may be more likely to comply with court-ordered

services because they believe they have a voice in treatment decisions (Airey, 1999). Therefore, mediation may also improve parent compliance with such services. In a Santa Clara County mediation study, 45% of mediated cases had full parental compliance and 44% had partial compliance (Thoennes, 2001). In comparison, non-mediated cases had full compliance in only 16% of the cases and partial compliance in only 28% (Thoennes, 2001). In a Colorado study comparing 146 mediated cases with 48 comparable cases, 62% of parents who participated in mediation were found to be in compliance with the case plan compared with 41% of parents who did not participate (Center for Policy Research, 1999).

Ultimately, one of the most important advantages of mediation is that it may improve permanency outcomes for children. Coleman and Ruppel (2007) found that families in Washington, D.C. receiving mediation obtained permanency more quickly (1 ½ months sooner for the mediation group as opposed to the non-mediation group) and more often (72% in mediation cases versus 61% in non-mediation cases). A more rigorous study of mediation, which employed a true experimental design, comparing 200 cases randomly referred to mediation with 200 cases not referred to mediation, also found positive results. Families who were involved in mediation showed significantly fewer repeated instances of maltreatment than families not involved in mediation —7% compared with 21% (Gatowski et al., 2005). The decrease in repeated maltreatment not only signifies better outcomes for the family, but also may inadvertently unburden the court system. Fewer re-entries into care mean fewer cases for judges, attorneys, and social workers, effectively reducing workload. Thus, mediation may serve as a means of improving case processing efficiency in the courts.

Mediation as a Means of Improved Efficiency

Mediation can improve case processing efficiency by decreasing the time between key court events, such as hearings and reviews. Research findings

on mediation and timeliness have been mixed. In one study, Gatowski et al. (2005) found that mediated cases reached adjudication and disposition more quickly than non-mediated cases but did not reach permanency more quickly. In a similar study, mediated cases took longer to reach disposition but took less time to reach permanency than non-mediated cases (Center for Policy Research, 1999). Another study of timeliness found that mediated cases resolve earlier than non-mediated cases, with children spending less time in state custody (Institute for Families in Society, 2003; Office of the Executive Secretary of the Supreme Court of Virginia, 2002). As the literature on child protection mediation is still developing, these differences are to be expected. The differences may be explained by a difference in analytic methodology, sampling, timing, reasons for mediation, and the location of specific practices.

Mediation might also improve case process efficiency by reducing the number of hearings or the number of contested hearings in a case, thereby reducing workload for attorneys, agency workers, and judges. Mediation can help resolve contested case issues that would ultimately result in contested hearings or trials. Statistics indicate that, on average, between 60% and 80% of mediated cases reach full agreement on contested issues, and 90% or more reach some form of agreement (Kathol, 2009; Kelly, 2004; Office of the Executive Secretary of the Supreme Court of Virginia, 2002; Resolution Systems Institute, 2010; Thoennes, 2001; Trosch, Sanders, & Kugelmass, 2002). Some settlements occur within one or two mediation sessions, further reducing the need for protracted legal proceedings (Kathol, 2009; Office of the Executive Secretary of the Supreme Court of Virginia, 2002; Thoennes, 2000). For example, one study found that mediated cases were less likely than non-mediated cases to require a contested six-month review hearing (Thoennes, 1997). If mediation resolves the issues, there is no need for lengthy or multiple hearings to achieve resolution.

Mediated cases may also reduce the number of hearings by reducing the number of continuances. Often, when workload is high and dockets are full, it is difficult to estimate appropriate times for contested hearings. If a hearing is taking a long time to reach resolution, it may be continued to another day or another week. The practice of continuing contested cases may delay the hearing and prevent statutory timeliness. Further, continuing one hearing may delay setting future hearings and delay the entire case process, increasing time to reviews and permanency hearings. Mediation provides a means of resolving contested issues without delaying the hearing process. This means that judges will spend less time on contested matters in court and can move cases through the system more quickly, potentially achieving permanency at a faster rate. If cases are resolved in mediation, there is no need for contested hearings, which could be continued due to time constraints. However, research on continuances in mediated cases is limited.

Finally, mediation may improve cost efficiency for the court. Few studies have actually assessed the financial benefits of mediation. Across the State of California, cases are referred to mediation through the Consortium for Children's Permanency Planning Mediation program. Estimates of the financial benefit of mediation compared with normal case processing have indicated that mediation could save California millions of dollars (Stack, 2003). Furthermore, a mediation study conducted in San Francisco by Thoennes (1998) found that sending one case to mediation every day would create an annual savings of \$545,225 when considering the added cost of subsequent contested review hearings. Improved cost efficiency also increases stakeholders' perceptions of the court process. Qualitative reports suggest stakeholders perceive increased savings result from the reduced time and money spent preparing for contested hearings (Thoennes, 2001). In sum, research indicates that mediation is a valuable tool for engaging parents and can improve court efficiency.

Study Overview

Prior studies on mediation have focused on mediation as a tool for improved party engagement in the system, parental outcomes, and measures of timeliness and cost effectiveness. The majority of these studies are descriptive, with only a handful of empirical studies that employ experimental or quasi-experimental designs, making generalization of findings problematic. Although the majority of these studies point to the potential benefits of mediation, it is difficult to paint a clear picture of the true advantages of a mediation program. This problem is complicated by the diversity of mediation programs and evaluation techniques. Prior research has studied mediation at all points in the case process, making it difficult to determine where mediation is most effective. Furthermore, the methodologies employed have been diverse, depending greatly on the goals of the study. Some have used surveys to better understand parent perceptions, while others have employed experimental designs with case file review to determine differences in timeliness. This makes it difficult to determine the true overall effectiveness of child protection mediation. Since most mediation occurs later in the case (e.g., permanency), the majority of studies focus on outcomes that occur later in the case. The few studies that have examined early mediations have looked at parental engagement, timeliness, and permanency outcomes, but few have focused on the use of mediation to frontload services and increase efficiency in the court process. With courts and social work agencies continually facing tight budgets, it is important to identify means of improving the efficiency of case processing. The current study offers an empirical assessment of the King County pilot mediation program, focusing on the short-term benefits of mediation as a means of improving efficiency in case processing. Short-term effects related to timeliness, continuance practice, and the number of hearings are examined.

King County Child Welfare Mediation Pilot Program

In King County, Washington, the juvenile dependency court process consists of multiple hearings prior to case adjudication. Adjudication (or fact-finding as it is called in Washington) occurs when the court makes a legal ruling on the dependency allegation. The court will either substantiate allegations of abuse or neglect, making a legal ruling that the child is dependent, or dismiss the petition, returning the child to the legal custody of his parents. The case begins when child protection services (CPS) files a petition for removal of a child. If the child is removed from the home, a shelter care hearing must be held within 72 hours to decide key issues related to placement and visitation (Washington Rev. Code § 13.34.060). Because these hearings are held so quickly after the child's removal, the court may not have all the information needed to make an informed decision. In King County, the court addresses this issue by scheduling a second shelter care hearing 30 days later to address any contested issues relating to placement, visitation, or other case issues. Following the 30-day shelter care hearing, a pre-trial conference is scheduled. At the pre-trial conference, parties have the ability to waive their right to a fact-finding (i.e., adjudication) hearing if they stipulate to the allegations in the petition and all parties come to an agreement (Washington Rev. Code § 13.34.110). If no agreement is reached, a fact-finding hearing is held to resolve all issues and make a formal finding regarding case allegations. The fact-finding hearing is statutorily required (Washington Rev. Code § 13.34.070) to occur within 75 days from the petition filing, indicating that judicial officers must oversee up to four hearings within 75 days from the petition date. With an adequately resourced court, this might not be problematic. However, a recent evaluation of workload in King County indicated that judicial officers have a higher caseload than is typically manageable (National Council of Juvenile and Family Court Judges, 2010). This assessment recommended

the addition of at least one more full time judicial officer to meet the minimum needs of the court and parties. Since funding for additional judicial officers is limited, other avenues of improving court efficiency have been explored, including the mediation pilot program.

The pilot mediation program began in the King County Juvenile Court in Seattle with case referrals from one of the CPS offices. All incoming cases to this office were referred to mediation but were not ordered by the court to attend, ensuring the process was voluntary. All parties involved in the case were invited and encouraged to participate in the mediation. This included parents, children, parents' attorneys, social workers, agency attorneys, children's guardian *ad litem*, and extended family. One mediator, trained in the facilitative mediation style, conducted all the mediations. The mediator employed a facilitative approach in all mediations. In order to reduce possible bias, the mediator was unaware that the program was going to be evaluated.

Because the number of cases was relatively low, all cases were chosen rather than a sample of cases. After four months, mediation expanded to the Kent court in King County. The mediation pilot program offered mediation to families coming in to the system to help resolve issues prior to a contested fact-finding hearing so that agreement over contested matters, including visitation and services, could be reached in a non-confrontational and supportive environment. One of the goals of the mediation program was to help improve court efficiency by increasing timeliness from petition filing to fact-finding, decreasing case continuances, decreasing the number of hearings that judicial officers oversee, and increasing the agreement or stipulation rate in order to decrease the number of contested, lengthy hearings. As of March 2010, 25 cases had been mediated in the pilot program.

Method

Cases

Fifty King County child abuse and neglect cases were reviewed for this study. All of these cases had a new petition filed between February, 2009 and February, 2010. Of these cases, 22 went to mediation and 28 did not. Three additional cases were mediated but had not yet reached adjudication, and were therefore not included in the study.

Research Design

The assessment of the King County mediation pilot program examines case processing and efficiency outcomes for the first 22 mediated cases compared with a group of randomly selected child abuse and neglect cases that did not receive mediation. The 22 mediated cases all came from one CPS office in Seattle and all 28 non-mediated cases came from similar CPS offices across the city. The research design compares the efficiency of mediated cases to non-mediated cases through the adjudication hearing stage of juvenile dependency case processing. The cases are compared for outcome measures related to efficiency of case processing, including timeliness of case processing, number of continuances, number of hearings, and case agreement or stipulation.

Measures

To assess the effectiveness of the mediation pilot program, a standardized case file review instrument was constructed and used to code cases. The case file review instrument captured petition information (i.e., type and number of allegations), the scheduled and held dates of key court events, the parties present at the early hearings, the number of continuances for early case hearings, and whether or not agreement was reached prior to adjudication.

Results

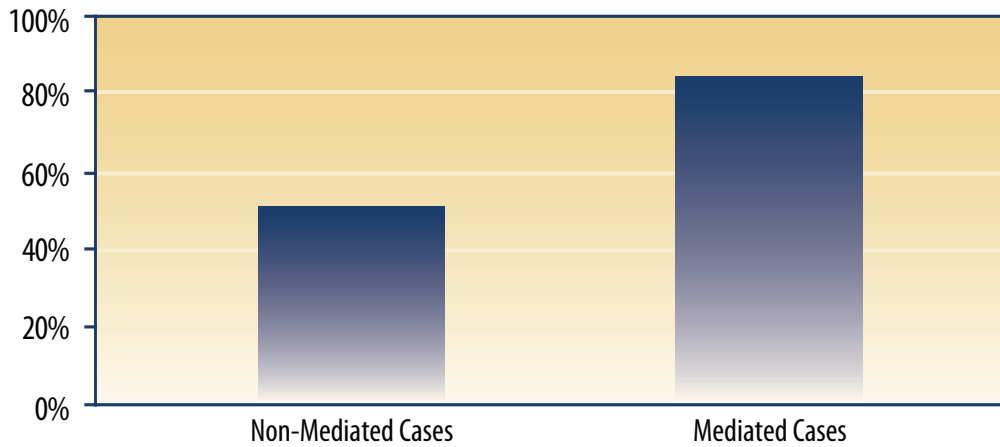
Preliminary Analysis

Prior to examining differences in mediated and non-mediated cases, researchers conducted a preliminary analysis to determine whether cases in the two groups were comparable. The mediated and non-mediated groups did not show any notable differences in case types. The number of allegations, initial placements, and presence of parties were relatively similar between the two groups, indicating that comparisons in outcomes between the two groups are likely to be valid. The number of allegations was close to being significantly different between the two groups ($p = .07$), with members of the mediation group having slightly more allegations, on average, and was thus controlled for in further analyses.

Timeliness

In Washington, it is a statutory requirement that cases reach adjudication within 75 days of the petition filing. Eighty-four percent of mediated cases reached adjudication within this timeframe, compared with 50% of non-mediated cases. The average time from petition filing to adjudication for the mediated group was 51 days ($SD = 20.3$) compared with an average time of 85 days ($SD = 32.9$) from petition filing to adjudication for the non-mediated cases. This indicates that mediated cases reach adjudication an average of 34 days sooner than non-mediated cases. A linear regression, controlling for number of allegations, found that this difference was statistically significant, $\beta = 32.05$, $t(38) = -3.51$, $p < .01$. The use of mediation accounted for a significant proportion of variance, $R^2 = .29$, $F(1, 38) = 14.79$, $p < .001$.

Figure 1. Percentage of Cases Reaching Adjudication within 75 Days of Petition Filing



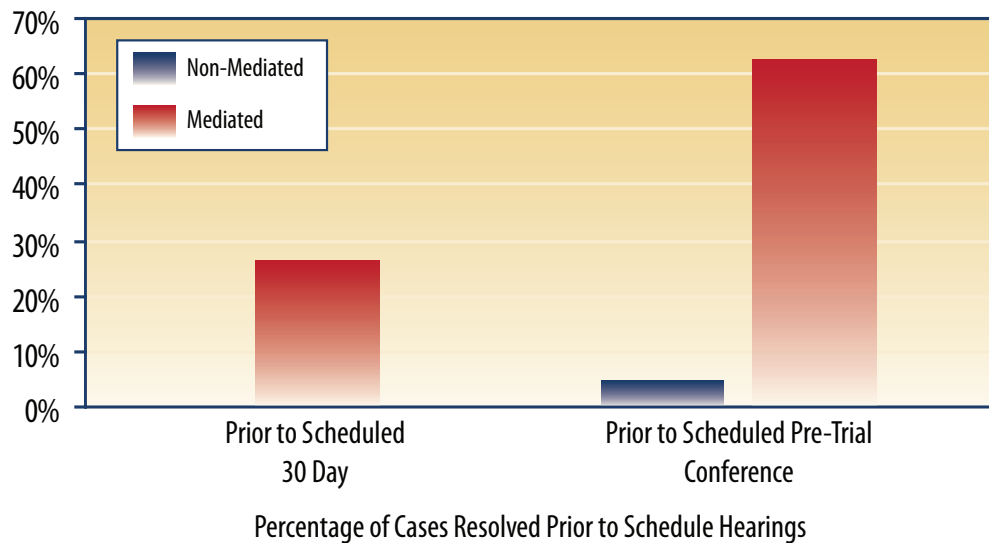
Continuances

In juvenile dependency cases, continuances are often ordered when more time is needed to discuss contested case issues. Linear regression analysis revealed that mediated cases experienced fewer continuances at adjudication ($M = .45$) when compared with non-mediated cases ($M = 1.58$), $\beta = -1.04$, $t(22) = -3.03$, $p < .01$. Again, the use of mediation accounted for a significant proportion of variance, $R^2 = .39$, $F(2, 22) = 6.40$, $p < .01$.

Number of Hearings

In King County, new cases are automatically scheduled for a 72-hour shelter care hearing, a 30-day shelter care hearing to address contested issues, a pre-trial conference to resolve contested adjudication issues, and an adjudication trial date to facilitate timely case processing. If parties come to an agreement (i.e., stipulated adjudication) prior to any of these hearings, the remaining scheduled hearings are canceled and the case is scheduled for a review hearing to examine case

Figure 2. Percentage of Cases That Reached Case Resolution (i.e., Adjudication) Prior to Scheduled Hearings



progress. A chi square analysis was used to assess whether cases achieved agreement prior to or on the date of their next scheduled hearing. The analysis showed that mediated cases achieved agreement prior to or on the scheduled date of the 30-day shelter care hearing in 26% of cases, whereas none of the non-mediated cases reached agreement by this point, $\chi^2(1) = 6.32, p < .05$. That indicates that for 26% of mediated cases, judicial officers had two fewer hearings to oversee. Chi square analysis also revealed a significant difference in the percentage of cases reaching agreement by the scheduled pre-trial conference date, $\chi^2(1) = 15.51, p < .001$. Sixty-three percent of mediated cases achieved case agreement prior to or on the date of their schedule pre-trial conference compared with only 5% of the non-mediated cases. This indicates that 63% of mediated cases had one less hearing for judicial officers to oversee.

Agreement/Stipulation

A final measure of efficiency was assessed by examining the agreement/stipulation rate between mediated and non-mediated cases. When parties stipulate or come to an agreement on allegations and cases plans, the hearings are often shorter and require less judicial time to

oversee. Of the cases in the sample, 90% of the mediated cases had agreed upon orders; only 75% of non-mediated cases had agreed upon orders. These differences were small and did not reach the level of statistical significance ($p = .26$).

Discussion

Pilot findings suggest that court processing of mediated cases is timelier and more efficient than non-mediated cases. Mediated cases reached adjudication more quickly than non-mediated cases. This finding is consistent with prior research indicating that mediation can improve timeliness (Gatowski et al., 2005). The timeliness finding in King County not only means that cases are more likely to be in compliance with statutory requirements, but also increases the likelihood that there will be fewer hearings for the judicial officers. The mediated cases were much more likely than non-mediated cases to reach adjudication prior to their scheduled hearing dates. When this occurred, the scheduled hearings were canceled, resulting in fewer hearings that the judicial officers had to conduct. As with the earlier findings of fewer contested hearings (Thoennes, 1997), this suggests the creation of a direct reduction in judicial workload. If the scheduled hearings do not need to take place, the judge's

workload is reduced, freeing up time for judges to spend more time preparing for and conducting other hearings.

Improved efficiency is also noted in the findings regarding continuances. Fewer continuances also mean fewer hearings. Many cases are scheduled for a hearing, only to be continued in court. The parties must reconvene to finish the hearing, taking up valuable judicial time and stakeholder resources. As mediation reduces the number of continuances, it is lessening judicial workload and freeing up much-needed resources.

Limitations

The current research project did have some limitations. Random assignment of cases to the mediation and control group would have been ideal. However, the limited number of cases made this impractical. The participating CPS office referred every incoming case to mediation, and it still took almost a year to amass enough cases for comparison. The limited resources (i.e., only one trained mediator) also precluded expansion. Therefore, random assignment would not have been feasible or meaningful. Despite the small number, researchers found significant results, indicating that mediation appears to have positive effects. Researchers also employed random selection of comparison cases to further enhance the methodological design.

A second limitation was that the analysis did not take into account the skills, experience, and style of the mediator. Because only one mediator was used, there was no way to compare the mediator to other mediators or the mediation style to other styles. The results are likely influenced by the abilities of the mediator and the mediation style used. This could be an area for future research to expand upon.

One final limitation was that the majority of cases had yet to reach permanency or case closure. Because most of the cases were still in an early phase in the dependency process, it was impossible to examine the long-term effects of mediation

on case efficiency. Although the study demonstrated that mediation can improve efficiency of the process, it does not demonstrate that mediation can change permanency outcomes for children and families. Having later data to inform this piece would have allowed researchers a more in-depth look at both the efficiency and effectiveness of mediation in changing the process and outcomes of child abuse cases.

Future Research

Evaluation of the King County mediation pilot has identified some of the potential short-term benefits of using a mediation program to resolve early case issues prior to adjudication. Mediation appears to be helpful in increasing efficiency early in the case. While this adds new dimensions to previous research regarding efficiency, it still does not answer all of the questions regarding the benefits of mediation. In particular, future research should seek to determine whether mediation used early in the case has continued effects on efficiency. That is, research should examine whether early case mediation reduces the overall number of hearings, the overall time spent in hearings, and the overall time spent for children in foster care.

This research clearly has shown that mediation improves efficiency in case processing. This is an important finding because many courts need additional resources to ensure appropriate levels of judicial staffing. Judges with excessive workloads may not be able to carefully prepare for hearings or schedule and complete hearings within appropriate timeframes. As budgeting may not allow for additional judicial officers, it is important to identify means of improving efficiency in order to reduce overall workload. Mediation clearly is one tool for doing this. However, it is not the only tool. Other methods of improving case efficiency, such as implementing time certain calendaring, might also improve court efficiency. Future studies should build on the research reported herein and examine other potential methods of improving efficiency.

In-depth analysis of multiple methods of improving efficiency can identify the best possible means of improving the court system. For courts with limited resources, understanding the cost and benefits of varying methods may help in making difficult decisions about which improvements can and should be implemented. Future research should also be conducted to determine the effect of improved court timeliness on outcomes for children in the foster care system.

Conclusion

This report confirms what some have already suggested, that mediation provides an ideal system for reducing the workload of an overburdened juvenile court system (Airey, 1999). As noted above, King County workload assessments indicated a need for at least one more full-time judicial officer. With budget concerns, this may not be an option. However, a cost-saving alternative is the implementation of a mediation project. Mediation has been demonstrated to increase agreement, increase case processing timeliness, and reduce the workload of judges by reducing the number of hearings they have to oversee. This not only reduces the judges' workload, it

also reduces workload of all system stakeholders who must be present at the hearings, giving them more time to work with other families. While this project only examined the initial stages of a juvenile dependency case, the results were quite promising. With future research, the role of mediation can be explored further, identifying the effects on case outcomes and permanency. If mediation continues to be effective throughout the life of the case, it can mean better outcomes for families and children and a more efficient court system, saving money and time for all system stakeholders.

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Impact of Juvenile Drug Courts on Drug Use and Criminal Behavior

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Abstract

Juvenile drug courts (JDC) have borrowed the philosophy and models of adult drug courts but the success of JDCs in reducing drug use and criminal behavior has been mixed. This study compared JDC youth with youth receiving standard probation on alcohol and other drug (AOD) and delinquency/criminal re-offending at three through 30 months post-exit from the JDC program or probation. This quasi-experimental study tested JDC effectiveness by examining re-arrests for AOD and criminal offenses 30 months post-intervention and into adulthood. Participants included youth who participated in either JDC ($n = 622$) or probation only ($n = 596$) between the years 2003 and 2007. JDC and probation youth did not significantly differ at any of the follow-up time intervals on AOD offending. On the other hand, JDC youth had statistically significantly fewer delinquency/criminal offenses than probationers at all follow-up points, with the difference

between the groups getting larger with longer follow-up periods. Implications for practice, policy, and future research with JDC are discussed.

Introduction

Juvenile drug courts (JDCs) were created in the mid-1990s following the initial success of problem-solving courts in the adult system and an overall shift toward therapeutic justice (American University, 1999; Applegate & Santana, 2000). As of December 2007, there were 455 juvenile drug courts in operation throughout the country (Huddleston, Marlow, & Casebolt, 2008). Evidence supporting the effectiveness of adult drug courts in reducing recidivism has been consistent (Belenko, 2001; Gottfredson, Najaka, & Kearley, 2003; U. S. Government Accountability Office [GAO], 2005). However, recent studies note that the support for the effectiveness of JDCs is limited (Fradella, Fischer, Hagan Kleinpeter, & Koob, 2009; Ruiz, Stevens, Fuhrman, Bogart, &

Korchmaros, 2009). Several evaluations report that JDC youth fare better than non-JDC youth on measures of during and post-program recidivism (Anspach & Ferguson, 2005; Dickie, 2000; Latessa, Shaffer, & Lowenkamp, 2002; Thompson, 2001; Willard & Wright, 2005). On the other hand, some studies show no better outcomes for JDC youth than those receiving more traditional interventions, particularly when increased supervision among JDC youth leads to increased detection of substance use and delinquent behaviors (Rodriguez & Webb, 2004). Furthermore, because JDCs vary widely in their program structure and target populations, their relative success compared with youth processed through traditional court procedures also varies (Thompson, 2004).

The present quasi-experimental study seeks to contribute to the growing body of literature on JDC effectiveness by examining post-program alcohol/other drug (AOD) offenses and delinquency/criminal offenses. Participants from four JDCs were compared with juvenile AOD offenders who received probation. We hypothesized that JDC youth will fare better than similar probationers on post-program AOD offenses and delinquency/criminal offenses when tracked into adulthood.

Juvenile Drug Courts

Although the specific treatment and content of the programming is different for each JDC, the primary drug court philosophy and components are consistent. There are a number of elements to the drug court model. These include: 1) screening and assessment, 2) an individualized treatment plan, 3) judicial supervision, 4) community-based treatment, 5) a designated courtroom, 6) regular status hearings, 7) accountability and compliance monitoring, 8) sanctions and incentives, 9) comprehensive services, 10) a non-adversarial team approach, and 11) case dismissal or reduction for successful completers (National Association of Drug Court Professionals (NADCP), 1997; Office of Justice Programs (OJP), 1997).

In the case of JDCs, changes were made to the model to address the differences between juveniles and adults. While the model still emphasizes addressing the underlying issues, there are some specific considerations unique to adolescence substance abuse treatment, such as: the conflict between a desire for independence and the juvenile's dependence on their family, limit testing, physical and emotional maturation and development, and peer pressure (Belenko & Dembo, 2003; Kaminer, 2001). Family involvement, especially, has been noted as a key aspect of the JDC in relation to predicting both graduation (Fradella et al., 2009) and long-term success (Hills, Shufelt, & Coccozza, 2009).

JDC treatment is not standardized. Rossman, Butts, Roman, DeStefano, and White (2004) note that JDC "treatment approaches (e.g., therapeutic models, individual versus group settings, frequency and duration of treatment) vary from one program to another" (p. 57), in large part due to the availability of local treatment providers and resources. Additionally, Hills et al. (2009) found that most of the JDCs they surveyed were not following evidence-based treatment practices.

Because of adolescent developmental issues and lack of standardized evidence-based treatment, JDCs may not be as effective as adult drug courts. Even so, there is a growing body of literature on JDC outcomes that has demonstrated some qualified success for the therapeutic jurisprudence model when used with juveniles (Anspach & Ferguson, 2005; Dickie, 2000; Latessa et al., 2002; Thompson, 2001; Willard & Wright, 2005; see also Marlowe (2010) for a research update on JDCs).

Juvenile Drug Court Impact on Juvenile Offending

Published articles that support the effectiveness of JDCs by comparing them to similar youth who receive typical juvenile court processing are limited; however, several evaluations of JDCs have shown at least short-term or qualified successes. Studies have shown reduced re-arrests, number of charges or offenses, or court referrals for JDC

youth compared with similar youth who did not receive this intervention.

Henggeler et al. (2006) tested the JDC model in four different types of interventions: family court, drug court, drug court with multisystemic therapy, and drug court with multisystemic therapy and contingency management. JDC participants in multisystemic therapy and contingency management reported significantly less alcohol use than juveniles receiving the other three interventions. For marijuana and polydrug use, JDC participants in multisystemic therapy and contingency management and those in multisystemic therapy alone displayed significant extended treatment effects at 12 months (lower drug use), compared with juveniles receiving the other treatments. These findings suggest that the use of evidence-based practices in JDC is more likely to have sustainable positive treatment effects than interventions without such practices. This same pattern of results was found in self-reported delinquency and crime; however, there were no significant differences between treatment conditions in re-arrest outcomes (Henggeler et al. 2006).

Dickie (2000) found that six months after program completion, JDC participants averaged one arrest compared with an average of 2.3 arrests for similar offenders who were randomly assigned to usual court processes. In addition, only 11% of JDC participants had three or more new charges during this time, compared with 46% of those who did not participate in the JDC. In another study, participants in three Ohio JDCs (in Belmont, Summit, and Montgomery counties) were compared with similar offenders who were not treated in a JDC. The study revealed statistically significant differences between the groups in re-arrest rates, with 75% of the comparison group re-arrested compared with 56% of the JDC group (Latessa et al., 2002).

A study of the Delaware Juvenile Drug Court Diversion Program comparing JDC youth with untreated juvenile offenders with substance

abuse issues found that JDC graduates experienced better outcomes related to post-program recidivism than comparison youth 12 months after program completion (Miller, Scocas, & O'Connell, 1998). In a follow-up study 18 months after the end of the treatment period, these positive results for JDC participants were retained, with 67% of comparison youth recidivating compared with 48 % of successful JDC participants (O'Connell, Nestlerode, & Miller, 1999).

In an evaluation of Maine's Statewide Juvenile Drug Treatment Court, Anspach and Ferguson (2005) found that fewer JDC participants (44%) than a matched probationer comparison (52%) were re-arrested in the year after program completion. Furthermore, JDC participation was significantly associated with a decreased risk of re-offending. Thompson (2001) found that, after controlling for demographic characteristics and court history, JDC youth had a 69% lower risk of recidivating than a group of substance abusing juveniles not participating in drug court in the year following JDC start or court referral (for comparison youth). Finally, Willard and Wright (2005) revealed a lower re-arrest rate for JDC participants (43%) than juvenile drug offenders in jurisdictions without JDCs (60%).

In contrast, other studies have shown mixed findings for JDC effectiveness when compared with other interventions for youth in the juvenile court system. Rodriguez and Webb (2004) found that JDC participants were less likely to commit a subsequent criminal act than similar juvenile offenders assigned to standard probation in the same county. However, drug screenings indicated that JDC participants were using marijuana as much as juveniles assigned to standard probation and using cocaine 2.7 times more than probation participants (Rodriguez & Webb 2004). The authors note that this finding could indicate an increase in supervision and, therefore, detection, rather than an actual higher rate of drug use among the JDC participants. However, in a later study of the same JDC examining the role of social bonds in JDCs, the positive finding of reduced delinquency

for JDC youth compared with juvenile probationers no longer remained (Gilmore, Rodriguez, & Webb, 2005). The findings that JDC youth were more likely to test positive for drugs and fail to successfully complete program requirements remained.

Finally, some studies have shown worse outcomes for JDC youth compared with those processed in traditional juvenile court. Sloan, Smykla, and Rush's (2004) study found that, after controlling for the significant effects of age, criminal history, ethnicity, gender, and termination status, participants in the JDC and the comparison substance abuse treatment program did not significantly differ in re-arrest during the 24 months following program exit. Furthermore, average time to re-arrest for the JDC group ($M = 8$ months) was significantly shorter than for the comparison group ($M = 15$ months). Hartmann and Rhineberger (2003) found that although JDCs reduced criminal offending among participants both during and after exiting the program (compared with pre-JDC crime rates), these reductions were not as great as those recorded for youth who opted out of the program. JDC participants had a pre-program crime rate of 1.64 and a post-program crime rate of 0.62, compared with a pre-program crime rate of 1.67 and a post-program crime rate of 0.49 for those who opted-out of the JDC.

Juvenile Drug Court Impact on Adult Offending

Two studies have followed JDC participants into adulthood and compared their outcomes with a comparison group of similar youth (Thompson, 2004; Pitts 2006). An evaluation of two JDCs in North Dakota compared JDC participants with a comparison group of youth who did not participate in JDCs (Thompson, 2004). The JDC and comparison groups were similar on the majority of sample characteristics (e.g., demographics, court history); recidivism was measured as an adult arrest or conviction for a Class A misdemeanor or more severe offense. Terminated JDC youth from both JDCs had a higher adult re-arrest rate (52%)

than the comparison group (44%). Graduates from the more rigorous (and longer-lasting) JDC had the lowest adult arrest rate (21%), while graduates of the less rigorous JDC had the highest re-arrest rate (60%) of any group (Thompson, 2004). This study demonstrates that the positive impacts of JDCs may last into adulthood. In addition, the results demonstrate that the success rates of JDCs can vary widely based on the structure and characteristics of the JDC program itself; specifically, the largest effects may be found among graduates of programs that faithfully follow evidence-based drug court principles.

Pitts (2006) examined both juvenile and adult recidivism outcomes for JDC youth compared with a similar group of juvenile probationers. In this retrospective study of a New Mexico JDC, comparison youth who received juvenile probation (and were never screened or referred to drug court) were matched with JDC participants on demographic, substance abuse, and juvenile court history factors. Pitts (2006) noted that all JDC youth were also on probation. Recidivism measures included any new referral to juvenile court and any new adult arrest. All study participants had at least 16 months follow-up post-exit from JDC or probation. When examining only juvenile recidivism, Pitts found no significant differences between the two groups (JDC = 23%, Comparison = 30%). When the study examined adult recidivism alone, it also found no statistically significant group differences (JDC = 18%, Comparison = 30%). However, when Pitts examined juvenile and adult recidivism together, JDC participants recidivated at a significantly lower rate (37%) than participants in the comparison group (56%). Further detailed analyses found that JDC graduates had a combined (juvenile and adult) recidivism rate of 28%, compared with 43% for terminated JDC participants (Pitts, 2006). By combining juvenile and adult recidivism measures and allowing for a sufficient follow-up period, this study demonstrates the potential long-term impacts of JDCs. However, this study relied on a

small sample size (JDC $n = 62$, probation $n = 61$) and did not examine differences in delinquency/criminal versus alcohol/drug recidivism.

Study Objectives

The present study will build upon the nascent JDC literature by examining both juvenile and adult recidivism for JDC participants compared with youth with a similar AOD offense who received probation. This study will test the following hypotheses:

1. Juvenile drug court participants will have significantly fewer post-program alcohol and other drug (AOD) offenses than similar youth who receive probation.
2. Juvenile drug court participants will have significantly fewer post-program delinquency and criminal offenses than similar youth who receive probation.

Methods

Sample

The JDC group consisted of participants in Utah's four largest JDCs from January 2003 to May 2007 ($n = 622$). These JDCs were located in primarily urban and suburban juvenile court districts. We obtained participation lists from each JDC; we included all participants during this time period, regardless of exit status, in the JDC study group. Two of the JDCs primarily served youth who were also on probation (see Table 1), while two were considered primarily an alternative to probation.

We selected the AOD probationer comparison group from the state juvenile court database. We identified youth who had an AOD offense (e.g., minor in possession, driving under the influence [DUI], controlled substance possession) that resulted in a probation placement between 2003 and 2007. For those youth who had more than one offense, we randomly selected one offense as the primary event. We removed from the comparison group youth who had ever been in a JDC,

resulting in 596 comparison youth. A major limitation of this comparison group was that they had significantly more severe juvenile court histories than the JDC youth (see Table 1). Although we made various other attempts to identify a more appropriate comparison group from juvenile court data, including propensity score matching, we could not find a more similar group with sufficient sample size. Probationer youth may also receive substance abuse treatment (sometimes even at the same providers as JDC youth), but a reliable record of this was not available for comparison.

Measures

Independent variable. The independent variable was program participation, coded as 0 = Probation and 1 = JDC. Probation participation, as well as start and end dates, came from the state juvenile court database. JDC start dates, end dates, and exit statuses came from individual JDC records. Each JDC also provided brief qualitative information about their program structure, such as number of phases, drug testing and judicial hearing frequency, and available treatment options, such as modality and intensity (see Table 2).

Control variables. We collected youth demographic information and court involvement measures from the state juvenile court database. Demographic variables were date of birth, gender, and race/ethnicity. Court involvement measures included offense type, offense date, and referral date, as well as the dates of contempt and probation violations. Due to the small number of participants from individual racial and ethnic groups, we combined race/ethnicity information into a minority flag with 0 = White, Non-Hispanic and 1 = Hispanic and other race categories (e.g., African American, Native American, Pacific Islander, and Asian). We used date of birth in conjunction with the offense date of each youth's first offense to calculate age at first offense. We subtracted date of birth from JDC and probation start dates to calculate age at start for each program.

We identified prior offenses (priors) as any offense occurring prior to JDC or probation placement. The count of offenses included each unique offense type on any offense date; therefore, if three offense types (e.g., possession of controlled substance, possession of drug paraphernalia, and shoplifting) were referred to the juvenile court, whether they occurred on the same or different offense dates, the count of prior offenses would be three.

We split juvenile offenses into two types: 1) AOD, which included DUI offenses, and 2) delinquency, which included person, property, and public order offenses. We excluded status, infraction, and traffic (except DUI) offenses, as well as non-compliance with court orders (e.g., contempt and probation violations), from the count of juvenile offenses. We computed a separate count of contempt and probation violations occurring during JDC or probation placement as an additional control variable measuring program non-compliance.

Dependent variables. We defined recidivism dichotomously as a new juvenile or adult AOD or delinquency/criminal offense in the 30 months post-exit from JDC or probation. We defined juvenile recidivism as a new court referral for an AOD or delinquency offense following JDC or probation exit. Information on adult recidivism came from the state department of public safety's (DPS) criminal history record; we defined this as the arrest of any adult for a criminal or AOD offense, including DUI. We did not include arrests for non-DUI traffic offenses. We sent the two study groups (JDC and AOD probationer) that we identified using the juvenile court data to the DPS for a match of their records. We searched multiple name and date of birth combinations (aliases) for participant matches from juvenile and adult records. Just over one-half of the JDC (51%) and AOD probationer (52%) samples matched with an adult criminal record. We identified those who did not match across systems as non-recidivists in the adult system.

Analysis

We used bivariate analyses, including chi-square and independent sample *t*-tests, to compare the JDC and AOD probationer groups on demographics and juvenile court histories. We used chi-square and one-way analysis of variance (ANOVA) for comparisons across the four JDCs. We also used chi-square tests to test statistical significance of the differences in the percentage of youth recidivating from each group at various follow-up points and we used bivariate tests to examine the relationship between youth characteristics and recidivism. Finally, we conducted two logistic regressions to examine the influence of group membership (JDC versus probation) on AOD recidivism and delinquency/criminal recidivism after controlling for other significant individual factors (e.g., demographics, youth court history) that were initially identified in the bivariate tests and the literature.

Results

Sample

The overall sample was primarily male, White/non-minority, and on average age 14 at the time of their first juvenile offense. The AOD probationer group had a juvenile court history that was statistically significantly more severe than the JDC group (see Table 1), including younger age at first offense (AOD probationers $M = 14.3$, JDC $M = 14.6$), more prior AOD offenses (AOD probationers $M = 2.9$, JDC $M = 2.2$), and more prior delinquency offenses (AOD probationers $M = 4.5$, JDC $M = 2.4$).

Group characteristics also varied widely among the four JDCs. Although all four JDCs screened and accepted youth who had a recent AOD offense, JDC "A" accepted youth who had more severe court histories ($M = 6.6$ prior offenses) and who were primarily also on probation (89%); JDC "B" was considered an earlier intervention and targeted youth with minor court histories ($M = 2.5$ prior offenses; $M = 15.3$ years at first offense).

Table 1. Sample Characteristics

	JDC A	JDC B	JDC C	JDC D	JDC Combined	AOD Probationers
Sample Size	132	173	104	213	622	596
Demographics						
Age at Start	16.7 (1.0)	16.4 (1.0)	16.1 (1.2)	16.6 (0.9)	16.5 (1.0)	16.5 (1.2)
Male* (%)	64	75	64	77	71	81
Minority* (%)	24	11	17	6	13	37
Court History						
Age at First Offense*	13.8 (2.0)	15.3 (1.7)	14.7 (2.0)	14.5 (2.0)	14.6 (2.0)	14.3 (1.9)
Age at First AOD Offense*	15.6 (1.5)	15.9 (1.1)	15.6 (1.2)	15.9 (1.1)	15.8 (1.2)	15.7 (1.3)
AOD Prior Offenses*	2.4 (2.0)	1.7 (0.9)	1.9 (1.0)	2.8 (1.6)	2.2 (1.5)	2.9 (1.7)
Delinquency Prior Offenses*	4.2 (4.1)	0.8 (1.4)	1.3 (2.4)	3.1 (3.9)	2.4 (3.4)	4.5 (4.1)
Total Prior Offenses*	6.6 (4.5)	2.5 (1.7)	3.2 (2.7)	5.8 (4.2)	4.6 (3.9)	7.3 (4.4)
On Probation during JDC (%)	89	4	4	71	45	

Note: Means and Standard Deviations are reported above (*M (SD)*), except where percentages are indicated.

*Difference between JDC and AOD probationers were statistically significant, $p < .05$.

Table 2. JDC Characteristics

	JDC A	JDC B	JDC C	JDC D
Year Began	2003	1995	1999	1998
Average Youth per Year	31	53	22	60
Jurisdiction	Urban/suburban	Urban/suburban	Suburban/rural	Urban/suburban
Referral Source	Probation officers	Probation officers	Judge and other sources	Probation officers
Has Participant Handbook?	Yes	Yes	Yes	No
Number of Phases	4	3	No phases	4
Treatment Modality	Individual & group	Individual & group	Primarily group	Individual & group
Treatment Intensity	30-day social detox followed by outpatient	Primarily outpatient w/ IOP* as needed	Outpatient	Outpatient & IOP*
Frequency of Random Drug Testing	Varies by phase: 3 x per week in phase 1 to 1 x per week in phase 4	Varies by priority assignment: low = 2 x per month to high = 5-6 times per month	3 x per month	Varies by priority assignment: low = 4-6 x per month to high = 10-12 x per month
Judicial Hearing Frequency	Every other week	Bi-monthly	Once a month minimum	4 courtrooms: 2 meet every other week, 2 meet once per month

*IOP = Intensive Outpatient.

As shown in Table 1, JDCs “A” and “D” typically selected youth with more severe histories, while JDCs “B” and “C” targeted youth earlier in their delinquency trajectories.

Intervention Participation Details and Exit Status

The four JDCs also varied significantly in regard to program structure, services, and length; non-compliance; and graduation rates. Table 2 presents the program characteristics provided to the researchers by each JDC. In accordance with their acceptance of more severe youth, JDCs “A” and “D” reported more phases, more frequent drug testing, and more intense treatment than the other two JDCs. For example, JDC “A,” which accepted youth with the youngest average age at first offense and the second highest average of AOD priors (see Table 1), reported the most intensive treatment. In JDC “A,” all youth were required to participate in a 30-day social detoxification

program at the start of JDC, followed by outpatient treatment for the remainder of the program (see Table 2). JDC “D” reported that the majority of their youth participated in both outpatient and intensive outpatient (IOP) treatment. JDC “B” reported that IOP was available “as needed,” but was not utilized by the majority of participants. At JDC “C,” only outpatient treatment was available locally during the study period.

JDC “A” had the longest average length ($M = 289$ days), the greatest number of non-compliance events ($M = 1.4$, contempt and/or violations), and the lowest graduation rate (49%; see Table 3), reflecting their target population as the most severe of the four JDCs. Across all of the JDCs combined, the average time in the program was 249 days and the overall graduation rate was 61%. Average time on probation for the AOD comparison group was 268 days.

Table 3. Participation Details and Exit Status

	JDC A	JDC B	JDC C	JDC D	JDC Combined	AOD Probationers
Days in Probation						268 (164)
Days in JDC [^]	289 (145)	227 (130)	200 (123)	267 (113)	249 (130)	
For Graduated Youth [^]	345 (111)	214 (73)	204 (44)	286 (97)	259 (99)	
For Terminated Youth	243 (150)	226 (172)	197 (194)	236 (130)	229 (157)	
Contempt and Violations ^{^*}	1.4 (1.7)	0.6 (1.3)	0.6 (0.9)	1.0 (1.2)	0.9 (1.3)	1.3 (1.8)
Exit Status [^]						
Graduated (%)	49	69	62	62	61	
Terminated (%)	51	31	38	38	39	

Note: Means and Standard Deviations reported above (M (SD)), except where percentages are indicated.

[^]Difference among four JDCs statistically significant, $p < .05$.

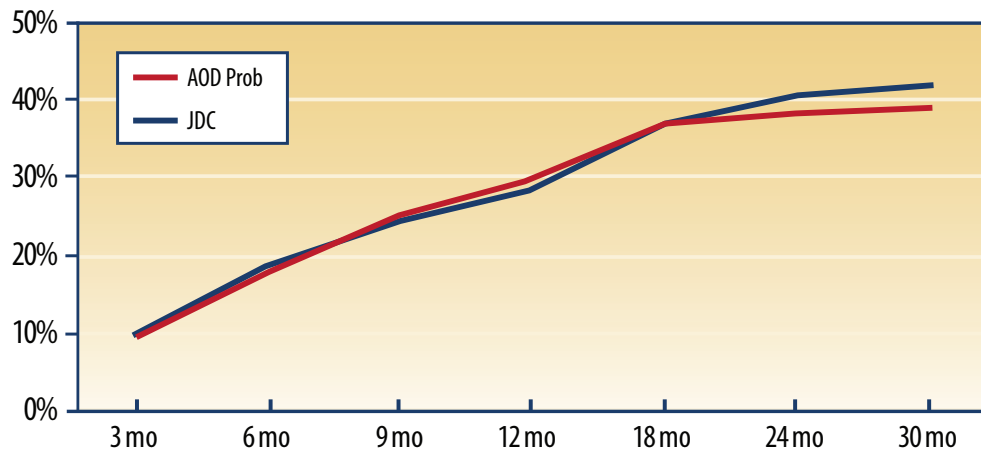
^{*}Difference between JDC and AOD probationers statistically significant, $p < .05$.

Alcohol and Other Drug Recidivism

To test the first hypothesis (JDC youth will have significantly fewer post-program AOD offenses than similar youth who received probation), we compared JDC and AOD probationer youth on AOD offending at three through 30 months post-exit. As shown in Figure 1, the two groups did not differ statistically significantly from each other on

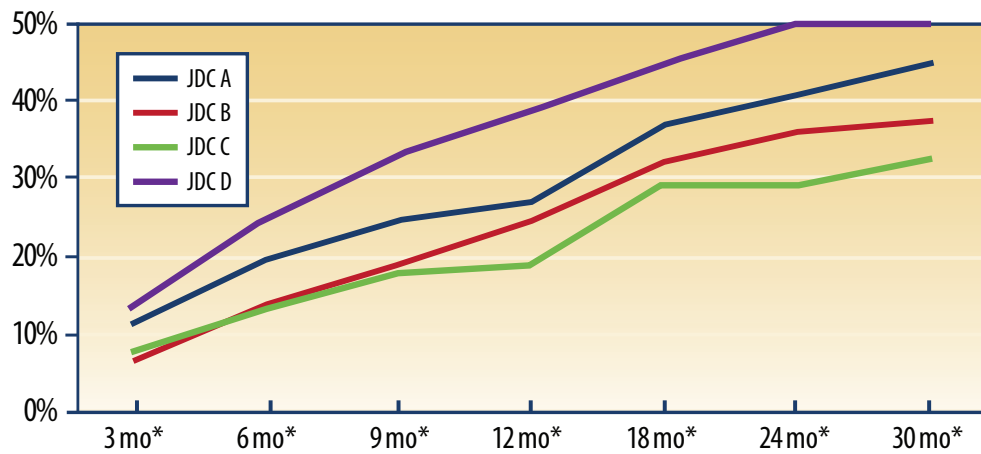
AOD recidivism at any point during the follow-up period. At 12 months post-exit, 29% of both groups had a new AOD recidivism event (juvenile referral and/or adult arrest), while 42% of JDC and 39% of AOD probationers had AOD recidivism at 30 months. Recidivism rates at each follow-up period were calculated only for those who completed the full follow-up period. All participants

Figure 1. Juvenile and Adult AOD Recidivism Post-Exit – JDC and AOD Probationers



*Difference between JDC and Probationers statistically significant, $p < .05$

Figure 2. Juvenile and Adult AOD Recidivism Post-Exit – Four JDCs



*Difference among four JDCs statistically significant, $p < .05$

in the study had 12 months post-exit follow-up, 99.8% had 18 months, 96% had 24 months, and 90.1% had 30 months follow-up.

Post-program recidivism varied significantly by JDC location. The two JDCs that served youth with more severe juvenile court histories had higher AOD recidivism rates (see Figure 2). JDC “D” had the highest AOD recidivism rate, at 38% at 12 months and 50% at 30 months. JDC “D” also had the highest average number of AOD offenses pre-entry ($M = 2.8$) of the four JDCs (see Table 1). JDC “C” had the lowest AOD recidivism rate, at 18% at 12 months and 32% at 30 months post-exit, and

the second lowest pre-JDC AOD offense average ($M = 1.9$).

Delinquency and Criminal Recidivism

To test the second hypothesis (JDC youth will have significantly fewer post-program delinquency and criminal offenses), JDC and AOD probationer youth were compared on delinquency/criminal offending at three through 30 months post-exit. At all follow-up points, JDC youth had statistically significantly fewer delinquency/criminal offenses than AOD probationers, with the difference between the groups getting

larger with longer follow-up periods (see Figure 3). For example, at 12 months post-exit, 24% of JDC participants had a new delinquency or criminal recidivism event compared with 35% of AOD probationers. At 30 months post-exit, 34% of JDC participants had a new offense, versus 48% of AOD probationers. Again, recidivism was calculated for each time period only for those participants who had the full duration of follow-up.

The four JDCs differed statistically significantly on delinquency/criminal recidivism in the 30 months post-exit (see Figure 4). JDCs “A” and “D” had the highest delinquency/criminal recidivism rates,

at over 40% at 30 months post-exit, while JDCs “B” and “C” had the lowest (25% and 19%, respectively). As shown previously in Table 1, JDCs “B” and “C” also had the fewest pre-JDC delinquency offenses on average.

Factors Related to Recidivism

AOD recidivism. Three demographic factors (gender, minority status, age at intervention start), three court history factors (age at first offense, number of AOD prior offenses, number of delinquency prior offenses), and one program compliance factor (number of contempt and violations

Figure 3. Juvenile and Adult Delinquency/Criminal Recidivism Post-Exit – JDC and AOD Probationers

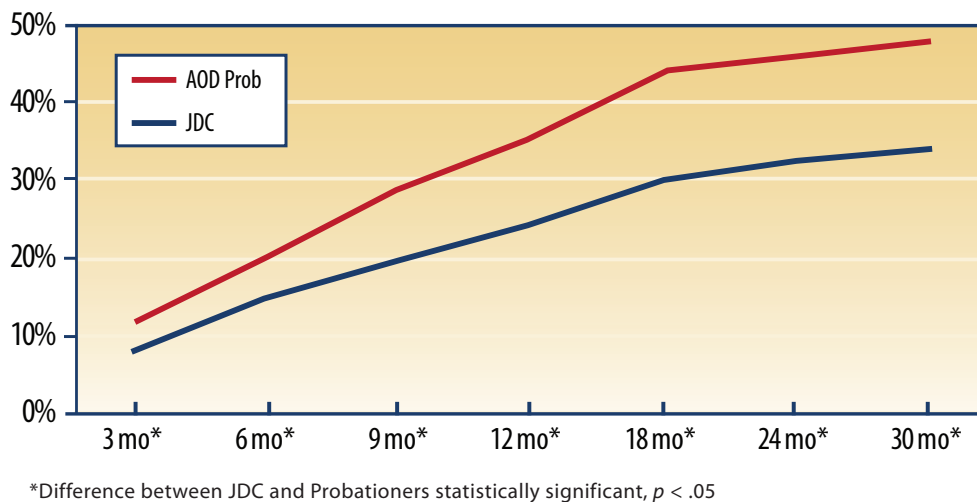
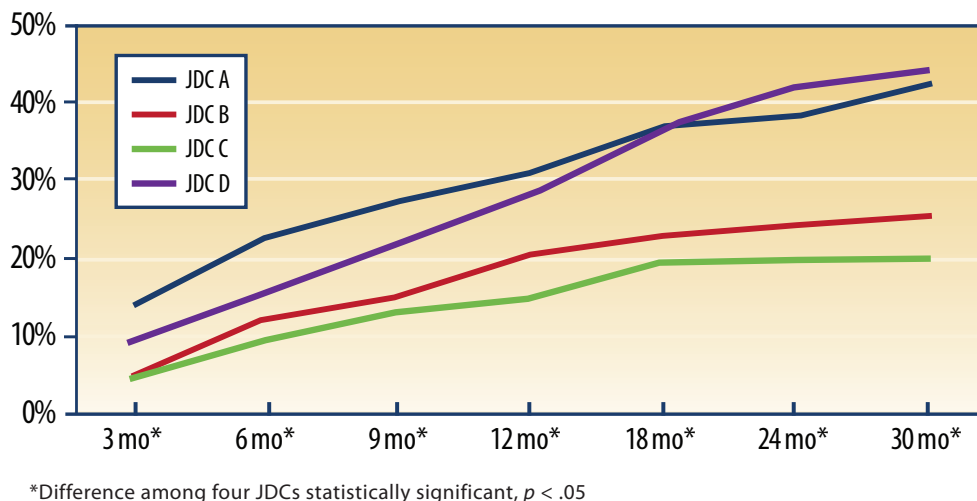


Figure 4. Juvenile and Adult Delinquency/Criminal Recidivism Post-Exit – Four JDCs



during intervention) were examined in relation to having an AOD recidivism event post-exit (JDC or probation). The four factors that were statistically significantly related to AOD recidivism in the bivariate analysis (gender, AOD prior offenses, delinquency prior offenses, contempt/violations) and group membership (JDC versus probation) were loaded into a logistic regression with AOD recidivism as the dependent variable. In the first logistic regression, the factor of delinquency prior offenses failed to reach statistical significance and was removed from the model. The final model was statistically significant (see Table 4) and did not depart significantly from the ideal (Hosmer & Lemeshow $\chi^2 = 6.68, p > .05$); however, the

estimated explained variance in AOD recidivism was very low, at approximately 6% (Nagelkerke $R^2 = 0.06$). In the final model (as shown in Table 4), males, youth with more AOD priors before JDC/probation, and youth with more contempt/violations during JDC/probation were more likely to have a new AOD offense after leaving their program. After controlling for these significant factors, group membership (JDC versus probation) was not statistically significantly related to AOD recidivism. Put another way, after controlling for other significant factors, there were no differences between JDC youth and probationers on post-program AOD recidivism.

Table 4. Logistic Regression of Predictors of AOD Recidivism – Final Model

Predictor Variables	AOD Recidivism	
	B	O.R.
Gender (female = 0, male = 1)	.79**	2.2
AOD Prior Offenses	.09*	1.1
Contempt and Violations	.13**	1.1
Group (probation = 0, JDC = 1)	.23	--
Model chi square (DF)	53.78**	(4)
<i>n</i>	1218	

Note: B = B Coefficient; O.R. = Odds Ratio

* $p < .05$, ** $p < .01$

Delinquency/criminal recidivism. The same seven factors that we examined in relation to AOD post-program recidivism, we also examined in relation to delinquency/criminal recidivism in bivariate tests. Six of the seven factors (all except AOD priors) were significantly related to delinquency/criminal recidivism post-exit from JDC/probation and were loaded into a logistic regression. After the first model, we removed three factors (minority status, age at intervention start, delinquency priors) from the model because they failed to reach statistical significance. The final model was statistically significant (see Table 5) and did not depart significantly from the ideal (Hosmer & Lemeshow $\chi^2 = 7.93, p > .05$); however, the

estimated explained variance in delinquency/criminal recidivism was low, at approximately 10% (Nagelkerke $R^2 = 0.10$). In the final model (see Table 5), males, youth who were younger at the time of their first offense, and youth with more contempt/violations during JDC/probation were more likely to have a new delinquency/criminal offense after leaving their program. After controlling for these three significant factors, JDC youth were statistically significantly less likely than probationers to have a delinquency/criminal recidivism event. JDC youth were about 30% less likely than probationers to have a new delinquency/criminal offense post-program, even after controlling for other significant factors.

Table 5. Logistic Regression of Predictors of Delinquency/Criminal Recidivism – Final Model

Predictor Variables	Delinquency/Criminal Recidivism	
	B	O.R.
Gender (female = 0, male = 1)	.75**	2.1
Age at First Offense	-.12**	0.9
Contempt and Violations	.17**	1.2
Group (probation = 0, JDC = 1)	-.39**	0.7
Model chi square (DF)	82.91**	(4)
<i>n</i>	1104	

Note: B = B Coefficient; O.R. = Odds Ratio

p* < .05, *p* < .01

Discussion

The present study contributes to the literature on JDC effectiveness by demonstrating that JDCs can have a positive impact on delinquency/criminal offending, even when tracked into adulthood. However, AOD recidivism was not significantly different between JDC and comparison probationer youth. An additional key finding was the relationship between compliance during the program and long-term recidivism.

Major Findings

Hypothesis 1: AOD recidivism. The first hypothesis was not supported in the present study. JDC youth were found to be just as likely to recidivate on AOD as the comparison group of probationers. This finding may be attributed to the fact that the probationer youth also received substance abuse treatment, some from the same providers as JDC youth. Both groups received some level of AOD treatment, which may have reduced the effect of JDC on AOD recidivism. This finding is similar to some past studies of JDCs that have noted no effects (or negative effect) of JDCs on substance abuse behaviors (Gilmore et al., 2005; Rodriguez & Webb, 2004). The results from these studies may reveal how the drug court model still struggles to address adolescent developmental issues, such as juvenile independence, maturation, and peer pressure (Belenko & Dembo, 2003).

On the other hand, the present study's null findings on AOD recidivism were contrary to the positive results of the study by Henggeler and colleagues (2006) in which JDC participants were found to have less AOD use than non-JDC participants. When comparing three different JDC groups, Henggeler et al. found that participants who received evidence-based substance abuse treatment were more likely to have sustainable treatment effects (i.e., lower AOD use). This is similar to what Gottfredson et al. (2003) found among adults in drug courts. The researchers found that drug court participants who attended substance abuse treatment in qualified organizations were more likely to have lower recidivism rates. These findings may lead to the conclusion that the treatment component of drug courts is not identical in its implementation, dosage, and/or effect among drug courts, including JDCs. The present study did not measure treatment dosage or fidelity of implementation. However, the information provided by the four JDCs on their program and treatment structure indicates that they varied widely in the modality and intensity of substance abuse treatment.

Hypothesis 2: Delinquency/criminal recidivism. The second hypothesis, that JDC youth would have less delinquency/criminal recidivism than probationers, was supported by the analyses. In both the bivariate analyses that compared JDC

and probationers on post-program delinquency/criminal recidivism and the logistic regression that examined the effect of group membership on delinquency/criminal recidivism, after controlling for significant individual factors, JDC youth were significantly less likely than AOD probationers to recidivate. The logistic regression finding is important, as significant pre-existing differences were noted between the JDC and comparison probationer groups. These findings are consistent with the studies by Rodriguez and Webb (2004) and Henggeler et al. (2006), both of which found reduced delinquent behavior for JDC participants. However, the present study's findings did reveal long-term reduction of re-arrests (30 months), contrary to Gilmore et al. (2005). Similar to Pitts (2006), the present study combined juvenile and adult re-arrest recidivism to reveal long-term positive effects of JDC. By combining juvenile and adult recidivism measures and allowing for a sufficient follow-up period, this study demonstrated the potential long-term impacts of juvenile drug courts.

Program compliance. Program compliance, measured as the number of contempt and violation events during participation, was significantly related to both AOD and delinquency/criminal offending following both JDC and probation participation. Each additional non-compliance event during JDC or probation was associated with a 10% increase in the likelihood of an AOD offense post-exit and a 20% increase in the likelihood of a delinquency/criminal offense post-exit. The relationship between during-program compliance and negative outcomes has been documented in previous JDC studies. Belenko (2001) noted that participants need to establish periods of abstinence during JDCs in order to be successful in the program, while Miller et al. (1998) found that treatment compliance may be one of the most important factors in determining JDC success.

Strengths and Limitations

The strengths of this study are the large sample size and its extensive follow-up period into

adulthood. Few studies have combined juvenile and adult recidivism to reveal the long-term effects of JDC (Thompson, 2004; Pitts, 2006). The present study also included a comparative non-JDC group, rather than simply JDC non-graduates.

The first limitation of this study is that it did not use a randomized control design and, therefore, causal effects cannot be inferred. Individual JDC criteria for participant inclusion were not included in this study. In addition, there were significant pre-existing differences between the probation youth and JDC youth, which may have influenced the results. Multivariate statistical analyses were conducted to address those pre-existing differences.

A second, and important, limitation is that the present study did not include a process evaluation to test the fidelity of the substance abuse treatment that was provided to the JDC and probation youth. Therefore, different types of treatment could be eliciting different levels of treatment effect on youth.

Conclusion and Areas for Future Research

This study demonstrated that four varied JDC programs in Utah were effective in reducing delinquency/criminal recidivism compared with juvenile probationers, but that they did not reduce AOD recidivism. Because of a lack of process data, specifically regarding substance abuse treatment, this study could not answer the "why" or "how."

Future research should include process evaluations to assess whether programs are implementing the JDC model faithfully and following evidence-based practices for adolescent treatment. We did not assess program implementation in the present study due to poor treatment record-keeping and lack of data-sharing between the treatment providers and individual JDCs. A better understanding of the treatment focus and fidelity may have helped to explain why AOD recidivism differences were not found between

JDC and probation youth. Henggeler et al. (2006) found that the use of evidence-based practices in JDC is more likely to have sustainable positive treatment effects than interventions without such practices. Past research also found treatment quality is an important factor in reducing recidivism in adult drug courts (Gottfredson et al., 2003). Getting inside the “black box” of drug court treatment is critical to understanding whether evidence-based practices in treatment are being followed, and to reveal the parts of drug court models that are most effective (Bouffard & Taxman, 2004).


Other areas that should be investigated in the JDC process include: level of supervision; appropriate use of rewards and sanctions for compliance/noncompliance; frequency of drug testing; judicial monitoring (techniques, frequency); non-adversarial team approach; and the use of evidence-based practices in assessments and treatments (e.g., actuarial assessments, cognitive behavioral approaches, and motivational interviewing techniques). Heck (2006) provides a list of recommended data elements for JDC practitioners and researchers that covers many of these areas.

Combining the strengths of this study (long-term follow-up with both juvenile and adult recidivism) with the proposed process measures in future research would significantly increase our understanding of why, how, and what parts of the drug court model are productive. Continued research on JDCs is necessary to provide guidance in the refinement of a more effective and efficient model of JDC.

The importance of determining the effectiveness of JDCs and subsequently replicating the evidence-based treatment models cannot be overstated. Substance use and abuse among youth is common (Substance Abuse and Mental Health Services Administration (SAMHSA), 2010), and the relationship between substance use and criminal behavior has long been documented (Belenko,

2002; De Li, Priu, & MacKenzie, 2000; Harrell, 2001; Inciardi & Martin, 1997; Inciardi, Martin & Butzin, 2004; van Kammen & Loeber, 1994). In 2009, the most recent year for which data are available, 10% of youth aged 12–17 were current illicit drug users, while 13% of youth aged 14–15 and 26.3% youth aged 16–17 were underage alcohol consumers (SAMHSA, 2010). Rates of illegal drug use and alcohol consumption among youth have declined only slightly since the first survey in 2002 (SAMHSA, 2010). Substance abuse has been proven to intensify and sustain criminal activity (Inciardi et al., 2004). Specifically among juveniles, the rates of person offenses, carrying a concealed weapon, and overall offending increased with the initiation of illegal drug use (or drug dealing), while discontinuing drug use (or drug dealing) was associated with a decrease in delinquency (van Kammen & Loeber, 1994). It is because of this long-standing relationship between substance abuse and criminality that adult drug courts were developed to address the strain of drug users on the criminal justice system (National Institute of Justice (NIJ), 2006). Due to the documented success of adult drug courts, JDCs and other problem-solving courts were developed (American University, 1999; Applegate & Santana, 2000).

The body of literature supporting the effectiveness of JDCs, although lagging behind the adult drug court literature (Henggeler & Marlowe, 2010), is growing (Anspach & Ferguson, 2005; Dickie, 2000; Latessa et al., 2002; Thompson, 2001; Willard & Wright, 2005). Henggeler and Marlowe (2010) summarized the research on JDCs, noting that when evidence-based treatment is incorporated, JDCs can have a 15% to 40% reduction in substance abuse and delinquency. The current study contributes to this literature by documenting the effectiveness of four Utah JDCs in positively impacting delinquency/criminal offending into adulthood, particularly when compared with youth who are processed through the traditional juvenile probation system. Future research that can further explain the relationship between



specific juvenile drug court treatment models and positive AOD and delinquency/criminal outcomes will benefit the juvenile justice system greatly. Because of the link between substance abuse and delinquency/criminal behavior, JDCs and other evidence-based treatment models that address both substance abuse and delinquent behaviors will remain important in the juvenile justice system.

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Missouri's Crossover Youth: Examining the Relationship between their Maltreatment History and their Risk of Violence

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Key words: maltreatment, violence, delinquency, crossover, trauma

Abstract

State agencies often have multiple opportunities to provide treatment services to child maltreatment victims, yet a significant number of youth still cross over to delinquency. The purpose of this study is to examine how delinquent youth with a maltreatment history may differ from other such youth in their risk factors and to explore the extent to which these risk factors are associated with violent delinquency. We used a developmental pathways model to examine how certain risk factors could be associated with maltreatment and violence. The risk factors included mental health, social environment, and offending history as well as gender and race. Results indicate that crossover youth have more severe risk factors than delinquent youth who do not have a history of maltreatment. In a multivariate model, maltreatment history increased the odds of an assault history (violence indicator) among 79,766 youth with status or delinquency referrals.

According to the United States Centers for Disease Control and Prevention (CDC), youth violence is widespread and the second leading

cause of death for youth in the United States (CDC, 2010). Child maltreatment is associated with youth violence (Gabarino, 1999; Herrenkohl, Herrenkohl, & Egolf, 2003; Stouthamer-Loeber, Loeber, Homish, & Wei, 2001) but the mechanisms that lead youth to cross over from the child welfare system, in which they are treated as victims, to the juvenile justice system, in which they are treated as perpetrators, are not well understood (Bilchik & Nash, 2008; Hollist, Hughes, & Schaible, 2009). Because maltreated youth have multiple system contacts, the child welfare and juvenile justice systems typically have numerous opportunities to impact their lives to deter them from offending. As is true in many states, child welfare and juvenile justice staff in Missouri are becoming increasingly aware of the crossover youth population. The purpose of this study is to examine how Missouri's delinquent youth with a maltreatment history may differ from other delinquent youth in their risk factors for crossing over into delinquency, and to explore the extent to which these risk factors are associated with violent delinquency. This information will help Missouri as well as other states better meet the needs of crossover

youth and thereby reduce the number of youth who cross over from one system to the other.

Background

Researchers have presented persuasive evidence that a causal link exists between child maltreatment and violence (Smith, Ireland, Thornberry & Elwyn, 2008) but the nature of the relationship is still not well understood. As the following review of the literature will show, an understanding of who crosses over can be informed by analysis that includes general indicators of maltreatment and violent delinquency. A developmental pathway model informs our understanding of how risk factors for delinquency are associated with a child's potential progression from maltreatment to violent behavior.

Defining Maltreatment

The definition of maltreatment and the way it is categorized varies considerably across the research literature (Smith, Ireland, Thornberry, & Elwyn, 2008). A recent research review concluded that because of inconsistencies in the way maltreatment is defined, no definitive conclusions can be drawn about its impact on subsequent behavior (Mass, Herrenkohl, & Sousa, 2008). Part of the inconsistency in definitions is driven by the data used to study the phenomenon.

Many studies have relied on administrative data sets, which vary in their definition and measurement of maltreatment, including neglect. Missouri's child protection statute defines neglect as the "failure to provide...the proper or necessary support, education as required by law, nutrition or medical, surgical, or any other care necessary for the child's well being" (Section 211.110 Missouri Revised Statutes). Many states do not include a consideration of education in their definition of neglect. Abuse in Missouri statute is "any physical injury, sexual abuse, or emotional abuse inflicted on a child other than by accidental means by those responsible for the child's care, custody, and control, except discipline including

spanking" (Section 211.110 Missouri Revised Statutes). While Missouri's definition focuses on the well-being of the child, others use a definition that focuses more on actions of the perpetrator: behavioral acts that are episodic, non-accidental and resulting in harm to the child (U.S. Dept. of Health and Human Services, 2009). Researchers have used a definition as broad as "failure of the environment to provide opportunities for normal development" (Cicchetti, 1996). To develop a strategy for working with crossover youth in Missouri, local data must be analyzed because results from other states using different measures of maltreatment may not yield the same results nor be subject to the same interpretation.

The Nature of Maltreatment

Distinct types of abuse and neglect add to the complexity of studying maltreatment. Some research indicates these distinct types have a differential impact on delinquency because of differences in the nature of the maltreatment and how a child experiences it (Hahm, Lee, Ozonoff, & Wert, 2010). To understand the extent to which maltreatment should be distinguished and studied separately or as one phenomenon, researchers must determine whether children tend to experience one type of maltreatment or a range of maltreatment types. A previous Missouri study focused on this issue, comparing five types of maltreatment in a statewide cohort of Missouri children who were tracked over four and a half years (Jonson-Reid, Drake, Chung, & Way, 2003). The researchers found that cross-type re-reports are common and that neglect is the most common re-report type, regardless of the first type of maltreatment. These findings lend some support for the idea of using a broad indicator of maltreatment to study its impact on delinquency, because many maltreatment victims experience more than one type of maltreatment.

Defining Violent Delinquency

Violent delinquency is the second key study variable and of particular concern for two reasons.

First, violent victimization imposes high costs on individuals, families, and society. Second, delinquent youth who engage in violent behavior are more likely to continue a criminal career into adulthood compared with delinquent youth who limit offending to lesser offenses (Tracy & Kempf-Leonard, 1996; Loeber, Farrington, Stouthamer-Loeber, & White, 2008). So, although the overall proportion of juveniles who engage in violent behavior is relatively small (less than one-third of one percent of all juveniles ages 10 to 17 living in the United States), their potential to continue a long-term pattern of harmful offending is great (Puzzanchera, 2009).

As with maltreatment, the way researchers define and measure violent delinquency influences our thinking about the relationship between these behaviors. Especially for those interested in understanding violent behavior, the distinction between general delinquency and violence is critical; yet, some studies confound the two and report on an array of delinquent behaviors ranging from substance use to violence. Researchers measure violent behavior in three basic ways: through self-reports, victim reports, and administrative data from the courts, sometimes using one broad measure (Williams, van Dorn, Bright, Johnson-Reid, & Nebbit, 2010) and at other times creating very complex measures including any and all acts of violence. For a state level study such as this one, official definitions of violence can be derived from policy and legislation that identifies violent offenses. The scope of the study can be narrowed by restricting it to the population of interest--youth with behavior that enters into official reports as an incident of violent delinquency.

Connecting Maltreatment to Violent Delinquency

Researchers generally agree that maltreatment is associated with a range of delinquent behaviors, including violence (Benda & Corwyn, 2002), but the mechanisms leading from one to the other are not well understood. A developmental pathway perspective assumes that behavior develops

in an ordered fashion (Egeland, Yates, Appleyard, & van Dulmen, 2002). Understanding the developmental pathway can provide guidance on how to intervene and prevent serious behavioral problems.

Maltreatment can interrupt normal development and, when coupled with other risk factors, lead to a pathway characterized by maladaptation in the form of increasingly serious behavioral problems. This study examines the interrelationships along this potential pathway between maltreatment and violence and related risk factors associated with mental health issues, social environmental factors, and justice system involvement.

Mental Health and Associated Factors

In considering the pathways that may lead from maltreatment to violence, one interrelated set of risk factors centers on mental health. Child maltreatment can cause or exacerbate mental health problems in youth (Coleman & Stewart, 2010) either through the resulting trauma or through out-of-home placement. Placement instability is a common experience for maltreated children in foster care and such instability can cause or exacerbate mental health problems (Jonson-Reid & Barth, 2000). Youth with mental health issues are at risk for delinquency and violence (Jonson-Reid, Williams, & Webster, 2001). One pathway into delinquency may be through substance abuse, which youth may use as a mechanism to cope with trauma. Some research indicates that substance abuse reduces the chances that a maltreated child will resort to violence (Coleman & Stewart, 2010). Without adequate coping mechanisms, trauma can lead youth to a host of socioemotional problems as well as behavioral disorders (Ford, 2002; Greenwald, 2002). The negative emotions associated with maltreatment, even more than the experience itself, have been shown to have an impact on general delinquent behavior (Hollist, Hughes, & Schaible, 2009) and violence through adolescence and into adulthood (Raskin White & Spatz Widom, 2003).

Because maltreatment can interrupt normal developmental processes, a child may suffer cognitive impairments that may be manifested in learning disabilities and poor social interaction skills (Hyter, 2007). These impairments, in turn, can lead to other developmental difficulties for a child. Learning disabilities can impact one's academic performance. Because success in school can mediate the relationship between maltreatment and violent behavior, those with learning disabilities have a heightened risk for school failure and violence (Thornberry, 2005). Interpersonal skill deficits and aggressive behavior, common in maltreated children, affect their ability to form positive peer relationships (Bolger & Patterson, 2001; Wise & Egger, 2009). Without positive peer relationships, a maltreated child is at even greater risk of behaving violently (Chapple, Tyler, & Bersani, 2005).

Social Environment Risk Factors

Another set of risk factors linking maltreatment to violence concerns the social environment of the child, especially parent attributes and social support. Certain parenting practices are forms of child maltreatment, namely extremely harsh discipline and habitually ignoring or rejecting a child (Cernovich & Giodorno, 1987; Garbarino, 1999). The quality of parent supervision and nurturing influences how well a child copes with trauma and controls inappropriate behavior. Parenting practices have a major influence on the development of antisocial behavior in their children, including violent delinquency (Fitzgerald, 2010), either by reinforcing aggressive behavior through their own actions or by not nurturing a child's ability to exercise self-control. Parental mental illness and substance abuse can impair their own cognitive functioning and adversely affect their ability to parent, as well (Bean, Barber, & Crane, 2006). Both conditions can also influence a parent's likelihood of maltreating a child (Haskett & Willoughby, 2006). Parental incarceration is also related to ineffective parenting, child maltreatment, and violent behavior in youth. A parent's

criminal behavior may be disruptive to the household and may be exhibited in the way they parent children; in addition, a child may imitate the parent's antisocial behavior (Dannerbeck, 2005).

Parenting attributes play a key role in child development, but the nature of support the developing child receives from extended family and community members also impacts the child's ability to adapt to life experiences. Having a caring adult involved in their lives can help youth cope with trauma and compensate for the absence of effective parenting. Not having adequate interpersonal relationships to help a child cope with stress can lead a child on a pathway to antisocial behavior and violence (Hammack, Richards, Luo, Edlyn, & Roy, 2004)

History of Justice System Involvement

A youth's personal history of justice system involvement, both as a maltreatment victim and as an offender, is associated with risk for future violence. The developmental pathway perspective provides insights into trajectories from an accumulation of risk factors to increasingly serious behaviors. Youth with a maltreatment history tend to have a constellation of other risk factors that lead to their early entry into the juvenile justice system (Ryan, Herz, Hernandez, & Marshall, 2007). Young delinquents are of special concern because they tend to have had multiple risk exposures in their lives that prevent them from completing developmental milestones. These risk experiences are manifested in their tendency to follow a pathway into more serious and violent offending (Burns et al., 2003). Those who have multiple system contacts as a violent delinquent are also at higher risk for further offending (Loeber et al., 2008) because of a tendency to repeat past behavioral patterns. Violent offenders, particularly those with both a maltreatment and violent history, are at further risk of adult criminal behavior (Widom & Maxfield, 2001) because of a developmental pathway characterized by an accumulation of risks and maladaptive behaviors that culminate in violence.

Demographic Factors

The key demographic variables of race and gender must also be considered when studying maltreatment and violent offending. Ryan and Testa (2005) found that African American youth who had been in the child welfare system were twice as likely as their Caucasian counterparts to be arrested at least once. Reasons for such disproportional findings are often linked to the association between race and poverty and to suggestions of biased decision-making (Williams, Ayers, Outlaw, Abbott, & Hawkins, 2001). Low income families, who are often minorities, tend to have more system involvement as they seek resources from the public sector to support their families; in addition, minority families are disproportionately poor. Because of greater system involvement, more opportunities exist to observe parenting behaviors and the condition of children, and to associate these observations with child maltreatment (Lawrence-Webb, 1997; Williams et al., 2001). In addition, youth in low income, predominantly minority neighborhoods are at heightened risk for other forms of violent victimization; those who are victims of violence have an increased likelihood of engaging in violent behavior themselves (Howell, 2009).

A growing body of research has consistently shown that the risk exposure experiences of young women differ from those of young men involved in the justice system (Bright & Jonson-Reid, 2008; Howell, 2009). Juvenile offenders generally have high rates of victimization and maltreatment as well as mental health problems and substance abuse (McCabe, Lansing, Garland, & Hough, 2002; Kataoka et al., 2001). Comparing the effect of maltreatment on male and female delinquent youth indicates that the maltreatment seems to impact females more than males (Howell, 2009), with females often enduring long-term trauma from the experience. Apparently the trauma does not always translate into offending behavior for girls. Maltreated boys, compared with maltreated girls, are more likely to engage in delinquent behavior later in childhood, especially

externalizing problem behaviors that include violence (Graham-Bermann & Hughes, 2003; Bright & Jonson-Reid, 2008).

Because maltreated children tend to experience more than one type of maltreatment, a general indicator of maltreatment is a valid study measure. According to the developmental pathways perspective explained above, maltreatment interrupts normal developmental processes. For this study, these interruptions are reflected in four categories of risk factors: those related to mental health status, the social environment, a history of juvenile justice system involvement, and demographic variables. In Missouri, youth who are formally processed in the court system receive a "risk to reoffend" assessment to help in identifying the appropriate level of supervision and services needed. We use these risk indicators to test the hypothesis that significant differences exist among youth with and without a history of child maltreatment in their tendency toward violent behavior and risk for reoffending. We use the officially recognized offense categories associated with violence in Missouri as the violence indicators. The following section describes how we tested this hypothesis.

Data and Methodology

We use data from the Missouri judicial data system (called the Judicial Information System or JIS) to identify crossover youth. For a legally sufficient status or law referral, a statewide risk assessment is required by Missouri Statutes (Subsection 4 and 5, Section 211.326.1, Missouri Revised Statutes Supplement 1995) and recorded in the JIS. These assessments are designed to collect information on youth personal history of involvement with the justice system (as a victim and perpetrator), mental health issues, and social environment influences associated with risks to reoffend. A risk assessment committee (comprised of representatives from the Missouri Juvenile and Family Courts, Missouri Division of Youth Services, and the Missouri Juvenile Justice Association) has developed a consensus-based juvenile offender

classification system that includes a risk assessment. The risk assessment has been refined through two risk assessment validation studies (Leonard, 1998; Johnson, Wagner, and Matthews, 2002) using well-established validity criteria. These criteria include: progressively higher recidivism rates at each risk level, maximum separation between risk levels, and a clear distinction between risk levels in terms of recidivism (NCCD, 1997). Reliability is ensured through frequent training sessions on the assessment tool for new and continuing juvenile office staff.

The risk assessments are usually conducted through a face-to-face structured interview between juvenile office staff and the youth with a parent(s) or caregiver(s) present. The Office of State Courts Administrator provides training on use of the structured instruments to juvenile court officers and court staff to enhance the consistency and accuracy of the measurements taken during the interview. Information from the interviews is crosschecked with official records. When conflicts occur, information from official records is used.

Variables obtained from the juvenile offender risk and needs assessments and related to offenses are briefly described below by category. More detailed information, such as assessment forms, definition of risk and needs factors, and questionnaires for the structured interviews, can be found in the user manual provided by the Office of State Courts Administrator (2005).

Maltreatment Indicator

The purpose of this study was to determine whether certain risk factors, including maltreatment, are associated with violent offending. To determine whether a youth has a history of child abuse/neglect (dichotomous variable for history or not), juvenile officers examine Children's Division or juvenile court records accessed through the Missouri Juvenile Justice Information System, a statewide database with information from a range of state agencies. They look

for official records for the child with a finding of Probable Cause indicating abuse or neglect. In addition, they look for petitions filed in juvenile or family court for abuse or neglect. Included in the affirmative determination of a history of maltreatment are petitions dismissed without prejudice. If juvenile officers can't access information from this system, they use self-reported information.

Violence Indicator

In Missouri, violent offenses are those in which "the offender recklessly or knowingly inflicts, or intends to inflict, or threatens serious physical injury or death" (Office of State Courts Administrator, 2005, p.2-8). Assault history, which is the dependent variable for violent behavior in the multivariate analysis, includes both present and past assault charges. The original response set included no assault referrals, one or more misdemeanor assaults, and one or more felony assaults. For this study we collapsed the two assault categories into one general indicator of assault. Offenses categorized as assaults include homicides, sexual assaults, robbery, general assault, arson, and kidnapping. Official court records provided this information. We presumed that any reported history of child abuse/neglect occurred prior to any assault behaviors.

Mental Health and Associated Risk Indicators

Categorical variables cover mental health history and problems with externalizing behavior, substance abuse, learning disorders, interpersonal skill levels, school attendance or discipline, and academic performance as well as substance abuse history. Juvenile office staff ask youth if they have ever received a diagnosis from a mental health professional (excluding learning disorders, conduct disorders, and substance abuse) and if they have received treatment for the problem. In assessing behavior problems (none, moderate, severe) other than the self-reported information, interviewers make a determination based on information related to significant behavior problems at home or school, and information

from previous referrals, particularly for assault. They assess substance abuse by asking parents a series of questions based on tangible behavioral markers of substance abuse and associated behaviors. They then ask the youth a series of questions related to substance abuse patterns, and the interaction of substance abuse and other behavior problems. From the answers of parents and youth, the interviewers determine into which of three categories (none, moderate, or severe substance abuse problems) a youth falls.

A deficit in reading, writing, or mathematical ability indicates a learning disorder. The interviewers measure the level of school behavior problems (none, moderate, or severe) through referrals for truancy, out-of-school suspensions, expulsions, or multiple unexcused absences. They score academic performance (passing, below average, or failing) based on grades obtained from school, when available, or by asking the youth what his or her grades were. Attitude is one of the more subjective factors assessed. It is derived from a series of 15 questions about trust, role of authority figures, impressions of the court proceedings, and level of empathy. The interviewers compare the responses to descriptions of three categorical responses (motivated, uncooperative, or negative) to identify which one best fit the youth. The interviewers identify an interpersonal skill level (good, moderate or severely impaired) from a series of 10 questions about the nature of the youth's friendships.

Social Environment Indicators

For this study, we used an additional set of variables to measure the social environmental influence of parents, peers, and social support systems. The assessment classifies parent management style based on effectiveness. Effective parent management style indicates that structure, support, and supervision are consistent and appropriate. Moderately ineffective parent management style indicates a lack of consistent and appropriate supervision and guidance. Severely ineffective parent management style

indicates a complete lack of discipline, guidance, or structure. To operationalize these categories, the interviewers ask the youth 13 questions about parent involvement, family routines, parental monitoring, and consistency. The interviewers elicit yes/no responses from parents to questions about family activities, routines, chores, parent monitoring, curfews, parent acquaintances and friendships, parent alcohol use, use of rewards and punishments, and fairness. They ask the youth to describe the frequency of punishment follow-through and of parent agreement on discipline. The interviewers then ask parents a more open-ended question about how the youth would describe their parents, especially about how strict they are. From their responses, the interviewers make a subjective determination about which of the three levels of effectiveness best describe the parents' management style.

The juvenile office interviewers ask youth and parents whether the parent(s) had ever been diagnosed with a mental disorder, and if either of them had ever been incarcerated. The interviewers ask the parent(s) additional questions about their substance abuse history. To assess peer relationships and their influence (neutral, negative, or strongly negative), the interviewers ask youth 21 questions about their friends and court contacts, positive and negative behaviors, dating, parent's impressions of friends, and specific activities, including gang affiliations. Youth rated as having strong negative influences had a primary contact group heavily involved in delinquent activities, frequent court contacts, and gang membership.

To gauge social support, the interviewers ask youth seven questions about the positive influences of good role models in their lives and the negative influences of those involved in criminal activities. The juvenile office interviewers distinguish the responses by the presence, consistency, and strength of positive and negative role models and categorize these responses into one of four levels: strong and stable social support with positive role models; limited support system with one positive role model; weak support system with no

positive role models; and highly unstable support system with criminal influence.

Justice System Involvement

For personal history of involvement with the justice system, the interviewers examine past records for the age at first referral and the number of prior referrals. For this study, we created a dichotomous variable for information on the juvenile's out-of-home placement history, including any stay in a government-operated or private residential facility.

We also included in the analysis demographic variables for gender and race/ethnicity. The racial categories were Caucasian, African American, and other, which included Asian, Native American, and Hispanic.

Analytic Plan

The study group consisted of 79,766 youth who had at least one status or delinquency referral case and at least one risk assessment recorded between 2002 and 2009 in the JIS. If multiple assessments existed for a youth, we kept the most recently entered record to capture their most up-to-date information. We used this study group to test the hypothesis that significant differences exist between youth with and without a history of child maltreatment in their tendency toward violent behavior and risk factors for reoffending. We conducted chi-square tests to identify significant risk and needs factors associated with the crossover youth. In addition, we examined the relationship between violent behaviors and crossover status while controlling for other risk factors in a logistic regression model.

Results

In the study group, 13,609 youth had a history of child maltreatment, which accounted for 17% of the youth under study. Table 1 provides a description of each variable and the proportion of crossover youth in each category. Approximately 75% of the study group was Caucasian, 22% were

African American, and 3% were from other racial groups. The chi-square testing results showed that African American delinquent youth were more likely (about one chance out of five) to have a maltreatment history than any other racial group. Females comprised approximately 35% of the African American group, and a higher proportion of them (19.6%) suffered from child maltreatment compared with males (15.7%).

The chi-square testing results also showed that a history of child maltreatment was significantly associated with crossover among the youth studied: that is, referral to the juvenile justice system at a younger age (most likely at 12 and under), an assault history (especially felony assault), and a prior out-of-home placement.

Closely related to the experience of being maltreated, these crossover youth were likely to have one or two parent(s) with a history of mental disorders, substance abuse, prior incarceration, and a severely ineffective parent management style. In addition, they were also prone to having peers with a strongly negative influence and to have a strongly negative social support system.

We found that crossover youth were also more likely to experience mental health problems, especially at a severe level, including mental illness, learning disorders, impaired interpersonal skills, substance abuse, academic failure, and behavior problems (both in general and at school). These crossover youth were likely to have negative and defiant attitudes and to be resistant to change.

To test whether a history of child maltreatment would have any significant impact on violent behavior among the delinquent youth after controlling for demographic and other risk and needs factors, we conducted a logistic regression with assault history as the response variable, in which '1' denoted a youth with one or more prior/present referrals for a misdemeanor or felony assault. Due to the strong correlation between the history of out-of-home placement and child maltreatment history, we took the history of

Table 1: Variable Frequency and Crosstabs for Crossover Youth (N = 79,766)

Variables	Description	%	
Child maltreatment history	'0' – none	82.9	
	'1' – if had child maltreatment history on either Division of Family Service records or juvenile court records.	17.1	
		Col. %	% Crossover
Demographics			
Gender ***	'0' – female	34.8	19.6
	'1' – male	65.2	15.7
Race ***	'0' – Caucasian	75.4	16.2
	'1' – African American	21.5	20.6
	'2' – other	3.1	12.8
Personal History			
Assault history ***	'0' – no prior/present referrals for assault	71.6	14.7
	'1' – one or more prior/present referrals for misdemeanor assault	25.3	22.2
	'2' – one or more prior/present referrals for felony assault	3.1	26.1
Age at 1st referral ***	'1' – 12 and under	28.4	27.8
	'2' – 13 to 15	53.8	14.3
	'3' – 16 or above	17.9	7.8
Prior referral ***	'0' – none	50.3	9.2
	'1' – one or more	49.7	24.8
Prior out-of-home placement ***	'0' – none	78.1	8.3
	'1' – if had prior out-of-home placement including court detention, foster care, hospitalization for mental illness or substance abuse treatment, voluntary placement in respite care, and commitment to the Division of Youth Services or other government-operated or private residential facilities	21.9	48.0
Social Environment			
Parental mental health ***	'0' – none	87.9	14.0
	'1' – if parental history of mental disorder	12.1	48.1
Parental substance abuse ***	'0' – none	81.4	12.5
	'1' – if parental substance abuse	18.6	43.1
Parental prior incarceration ***	'0' – none	77.7	11.1
	'1' – if parental prior incarceration	22.3	37.2
Parental management style ***	'0' – effective management style	45.7	7.3
	'1' – moderately ineffective management style	41.1	19.4
	'2' – severely ineffective management style	13.2	43.7
Peer influence ***	'0' – neutral influence	44.9	13.4
	'1' – negative influence	44.3	18.2
	'2' – strong negative influence	10.8	28.2

Table 1: Variable Frequency and Crosstabs for Crossover Youth (N = 79,766) (cont'd)

Variables	Description	%	
		Col. %	% Crossover
Social support system ***	'0' – strong support system	41.2	8.7
	'1' – limited support system, with one positive role model	44.4	20.4
	'2' – weak support system, no positive role model	12.2	36.1
	'3' – strong negative or criminal influence	2.2	52.1
Mental Health Related Issues			
Juvenile mental health status ***	'0' – no mental health disorder	80.3	13.4
	'1' – mental health disorder with treatment	16.2	37.2
	'2' – mental health disorder with no treatment	3.5	38.9
Juvenile with learning disorder ***	'0' – none	87.1	15.9
	'1' – if diagnosed learning disorder	12.9	33.6
Juvenile interpersonal skills ***	'0' – good interpersonal skills	57.4	12.0
	'1' – moderately impaired interpersonal skills	37.8	24.6
	'2' – severely impaired interpersonal skills	4.8	42.2
Juvenile substance abuse ***	'0' – no alcohol or drug abuse problem is apparent	75.2	16.0
	'1' – moderate alcohol and/or drug abuse problem	20.9	19.1
	'2' – severe alcohol and/or drug abuse problem/dependence	3.9	27.2
Juvenile academic performance ***	'0' – passing without difficulty	47.7	11.7
	'1' – functioning below average	36.1	22.1
	'2' – failing	16.2	28.5
Juvenile behavior problem ***	'0' – no significant behavior problem	38.9	8.4
	'1' – moderate behavior problem	47.0	20.9
	'2' – severe behavior problem	14.1	36.0
Juvenile school behavior ***	'0' – no or only minor problem	47.3	11.0
	'1' – moderate problems for attendance/ disciplinary	37.0	19.9
	'2' – severe problems for attendance/ disciplinary	15.7	28.9
Attitudes ***	'0' – motivated to change/accepts responsibility	62.7	12.6
	'1' – generally uncooperative, defensive, not motivated to change	30.0	25.1
	'2' – very negative attitude, defiant, and resistant to change	7.3	37.7

Note: *** indicates chi-square statistic significant at $p < .001$ for crossover vs. non-crossover youth comparison

out-of-home placement out of the model to avoid multicollinearity. Table 2 provides the significant regression results from a stepwise selection. The model was shown to be fit based on the Hosmer and Lemeshow goodness-of-fit test. The statistic c (area under the ROC curve) was 0.689.

The logistic regression results showed that a history of child maltreatment is a significant factor in predicting a tendency toward violence, but the effect was not strong. The crossover youth had only about 1.08 times the odds of receiving one or more referral(s) for assault when all other factors were controlled. The logistic regression

Table 2. Logit Estimates of Significant Effects on Assault History

	Parameter	Odds Ratio	95% CI
Gender	Male =1 vs. Female	1.409***	(1.348, 1.466)
Race	African American =1 vs. Caucasian	1.551***	(1.484, 1.621)
Child maltreatment history	Yes = 1 vs. No	1.079***	(1.026, 1.134)
Mental Health Issues:			
Juvenile mental health status	Mental disorder w/ treatment =1 vs. No	1.441***	(1.371, 1.515)
	Mental disorder =1 w/o treatment vs. No	1.419***	(1.291, 1.559)
Juvenile interpersonal skills	Moderately =1 impaired vs. Good	1.086***	(1.038, 1.136)
	Severely =1 impaired vs. Good	1.204***	(1.095, 1.325)
Juvenile substance abuse	Moderate problem =1 vs. No	0.912***	(0.871, 0.955)
	Severe problem/dependence =1 vs. No	0.878***	(0.798, 0.966)
Juvenile school behavior	Moderate problem =1 vs. No or minor	1.339***	(1.281, 1.400)
	Severe problem =1 vs. No or minor	1.294***	(1.217, 1.376)
Juvenile behavior problem	Moderate problem =1 vs. No or minor	1.663***	(1.582, 1.749)
	Severe problem =1 vs. No or minor	2.905***	(2.693, 3.134)
Attitudes	Defensive =1 vs. Motivated	1.106***	(1.055, 1.160)
	Very negative / defiant =1 vs. Motivated	1.183***	(1.087, 1.288)
Social Environment:			
Parental prior incarceration	Yes =1 vs. No	1.248***	(1.194, 1.304)
Social support system	Limited =1 vs. Good	1.115***	(1.066, 1.165)
	Weak =1 vs. Good	1.131***	(1.06, 1.206)
	Strong negative/criminal influence =1 vs. Good	1.267***	(1.118, 1.437)

Note: *** $p < .001$

results also showed that among maltreated youth, gender and race were both significant factors in predicting a tendency toward violence. Males had 1.41 times the odds of females and African American youth had 1.55 times the odds of Caucasian youth of receiving a referral for assault.

Most factors related to mental health status were significantly associated with an assault referral. The presence of juvenile mental health issues (with estimated odds ratio 1.44) and behavior problems (both in general and at school) were shown to have the strongest effects on increasing a youth's tendency to receive an assault referral. A youth with severe behavior problems was almost three times more likely to be referred for assault than a youth who either did not have severe

behavior problems or who had minor behavior problems. Negative attitudes and impaired interpersonal skills had about the same moderate effects. When a juvenile offender displayed a very negative/defiant attitude and resisted change, or when he or she showed severely impaired interpersonal skills, the odds of receiving an assault referral were 1.20 times greater than were the odds among those who were motivated to change and to develop good interpersonal skills. Substance abuse turned out to be negatively associated with a tendency toward violence among youth after controlling other factors.

Parental history of incarceration and the lack of a positive social support system were two significant social environmental factors associated with

violence among the youth studied. The tendency toward youth violence was positively influenced by exposure to criminal lifestyles; the odds for violent behavior among those with one or two parents who were incarcerated were 1.25 times greater than for those without such exposure. When compared with youth who had a strong social support system, those with a limited support system had increased odds of receiving assault referrals.

Discussion

The study group consisted of 79,766 children in Missouri's juvenile justice system who had status and delinquency referrals and related risk assessments. The results provide support for the hypothesis that significant differences exist between youth with and without a history of child maltreatment in their tendency toward violent behavior and risk factors associated with reoffending. These results also support the general proposition of the developmental pathways perspective—that the accumulation of risk factors over the life course heightens the likelihood that a child will engage in violent behavior, a finding supported by other research (Bilchik & Nash, 2008).

The crossover youth in this study tended to have severe risks and acute needs. They tended to become delinquent at a relatively young age, to have an assault history, and to have experienced inadequate parenting as indicated by parent mental disorders, substance abuse, incarceration, and severely ineffective parenting. These crossover youth tended to lack the social bonds associated with a positive support system and role models. With their history of maltreatment and parental deficits, the crossover youth also tended to suffer from mental health issues, including mental illness, learning disorders, impaired interpersonal skills, substance abuse, academic failure, behavior problems (both in general and at school), and negative attitudes. They were clearly a group of justice system involved youth who needed treatment services.

Developmental theorists posit that an accumulation of risk factors, including maltreatment, can lead youth to commit violent acts. Evidence of such a relationship among Missouri youth would raise the significance of the crossover youth issue to an urgent level. To test such an association, we analyzed a multivariate model of assault history, including other risk factors commonly associated with violent behavior. Child maltreatment history was significantly associated with assaultive behavior but the relative strength of the association was not as strong as that of other factors. The lack of a strong association may, in part, be explained by the fact that child maltreatment may be underreported in official records, the most common source of information for this assessment variable. A previous study of 104 high-risk delinquent youth in Missouri found that 61% self-reported having been abused or neglected (Dannerbeck, 2004), a much higher proportion than in this statewide sample. Part of a strategy to address crossover youth may be to better identify the maltreatment experiences of delinquent youth.

Recognizing that maltreatment often leads to trauma, the experiences of crossover youth may be better understood by examining factors associated with mental health status. Youth with problems associated with mental health indicators were at increased likelihood to have assault referrals. Often the trauma is manifested in problem behaviors, negative attitudes, learning disorders, and poor peer relations, all factors shown to significantly increase the likelihood of assault referrals in this study of Missouri youth.

To prevent further problem behaviors, crossover youth need treatment services designed to help them cope with the trauma of their life experiences. The challenge is to identify the trauma and link the child to appropriate treatment. Trauma tends to be more readily recognized in abused children who are more likely than neglected children to receive services to help them cope with trauma. Despite commonly receiving some treatment, abused children still tend to engage

in delinquent behaviors, including violence. This may be because, while abused youth are more likely to receive services, the level of services provided is commonly below national standards for children with such identified needs (Raghavan, Inoue, Ettner, Hamilton, & Lansverk, 2010). Any strategies developed for crossover youth should base treatment on national standards and match needs to specific services.

Learning disorders are associated with maltreatment and trauma. In this study, a significant proportion of crossover youth had a learning disorder. Learning disorders are not significant in the multivariate model, but school behavior problems are associated with an increased likelihood of receiving assault referrals. School behavior problems include discipline issues and truancy. Truancy can be associated with one form of maltreatment in Missouri, educational neglect. Educational neglect occurs when a child misses school consistently or for an extended period of time and the parents are held responsible for the child's absences. At some age, the responsibility of school attendance may pass from the parents to the child and turn into truancy. Courts across the state vary as to when they feel the responsibility for school attendance shifts from the parent to the child. Thus, a child who is labeled truant in one locale may be identified as a victim of educational neglect in another locale. Interventions designed to promote school performance commonly focus on the youth and not the parents. Given the possibility that educational neglect—a parental behavior—is impacting the youth, such interventions may need to target parents as well as youth. These findings suggest that the types of maltreatment a child has experienced should be included in their assessment.

Only one variable in the model—that is, substance abuse—decreased the odds of having an assault referral. As other studies have shown, youth may turn to substance abuse to reduce the impact of trauma resulting from maltreatment (Coleman & Stewart, 2010). Although substance abuse is considered a form of delinquency, in

maltreated youth it may function as a coping mechanism that decreases the likelihood of violent offending. Crossover youth may need more trauma-focused treatment when substance abuse treatment is identified as an area of need.

Other studies have shown that girls are more likely to be maltreated than boys; but among those suffering from maltreatment, boys are more likely to cross over to delinquency and violence (Hubbard & Pratt, 2002). In this study by Hubbard and Pratt (2002), a higher proportion of delinquent girls had a maltreatment history, but being male increased the odds of having an assault history. Males more commonly engage in externalizing behaviors than females, and these problem behaviors are significantly associated with assaults (Barbarese et al., 2002). Girls' violent behavior tends to occur in the context of a relationship (Leitz, 2003). Girls seem to have more mental health problems associated with trauma and violent victimization than males (Teplin, Abram, McClelland, Dulcan, & Mericle, 2002). These gender-specific findings suggest that female delinquent youth would benefit from a crossover youth strategy that emphasizes mental health assessments and treatment as well as family-centered interventions.

Some studies have found racial disparities in child maltreatment cases and in crossing over (Ryan & Testa, 2005; Ryan et al., 2007). This study found that a higher proportion of delinquent African Americans had a maltreatment history and, similar to other research findings (Hawkins, Laub, Lauritsen, & Cothorn, 2000), being African American increased the odds of having an assault history. In behavior self-report studies, African Americans do not report levels of violence much different from that of Caucasians (Snyder & Sickmund, 2006). Yet compared with similar Caucasian youth, African Americans are twice as likely to be arrested (Herz & Ryan, 2008). This pattern may be related to differential policing practices, with more police presence in low income, predominantly minority communities (Howell, 2003). Some communities in Missouri are already

developing strategies to address racial disparity issues in the juvenile justice system by examining the context in which referrals are being made. Many assault referrals come from schools as a response to school discipline issues. Communities are concerned because there are a disproportionate number of assault referrals for African Americans. Community stakeholders are working to develop alternative methods to address student behavior and reduce justice system contact. Their methods include peer mediation and conflict resolution training. These community prevention initiatives could become part of a statewide strategy for crossover youth.

In the social environment, the only parent attribute in our study that was statistically associated with assaults was parental incarceration, a risk factor which can impact children in a variety of ways, including mental health status and violent behavior (Bloom & Steinhart, 1993; Johnston, 1995; Murray & Farrington, 2005). The lack of a critical protective factor, positive social support, was also associated with assaults. Mentoring programs can provide opportunities for children to form bonds with caring adults. They have been shown to reduce some risks for delinquency if the mentoring relationship lasts for more than one year (Johnston, 2005). As part of a state strategy for crossover youth, a model for a high quality mentoring program could be part of the plan.

Study Limitations


This study used administrative data, which has some well recognized limitations. The risk assessment data were available only for youth whose cases had been processed in the court system. Youth with a maltreatment history who did not have delinquency cases and thus, no assessment information, are missing from the study; information about these youth would have provided important information about the associations among maltreatment, other risk factors, and violent delinquency. The information recorded in the data set included only official reports of behavior and experience. Acts of violence may

be underreported. Because the data provide only a snapshot at one point in time, the analysis was limited to associations; causal inferences could not be drawn. Also absent from the analysis was information on the timing and duration of the maltreatment and their association with violence. Finally, over the last decade research has demonstrated the importance of recognizing the role of other violent victimization experiences in a youth's own propensity toward violence. Witnessing acts of violence in the home between domestic partners and being the victim of violence in the community, for example, may increase the risk for committing violent acts (Moylan, et al., 2010). Such information would enhance the study of how maltreatment and violence are related, but this information was not available for this study. The primary strength of the dataset is that it provides a statewide look at crossover youth using the state's definitions of maltreatment and violence; in addition, the dataset includes a comprehensive set of risk variables. Consequently, it provides useful information to inform a state strategy for working with crossover youth.

Conclusion

Missouri does have a significant number of court involved juveniles who fit the definition of crossover youth and a significant portion of them have a history of violent delinquency. This study provides evidence that for Missouri's court involved juveniles, child maltreatment is associated with violent behavior. Risk factors associated with maltreatment are also significantly related to violent delinquency. When viewed in a developmental pathways context, the study results can inform the development of an intervention strategy for crossover youth.

The first step in such a strategy is to consider refining existing assessment tools to improve the state's ability to respond to crossover youth. While a general indicator of maltreatment was sufficient to conduct this study, specific types



of maltreatment should be identified to better understand the developmental experiences of the child for the purpose of intervention. In addition, the response set for maltreatment history should include unreported incidents of maltreatment.

The study results also provide some insights into intervention strategies that might benefit crossover youth. Mental health issues and trauma are common experiences for crossover youth; therefore, interventions should address both. Because maltreatment is associated with parenting, family-centered interventions would also benefit crossover youth. This study indicates that crossover youth are likely to suffer from a constellation of risk factors. Research findings suggest that, rather than targeting just one risk factor for treatment such as substance abuse, a general intervention can be designed to treat a constellation

of behaviors (Culhane & Taussig, 2009). In a time of limited resources, a general intervention that is well implemented and continuously evaluated may be the best approach for a statewide response to the needs of crossover youth.

About the Authors

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Assessing and Improving the Reliability of Risk Instruments: The New Mexico Juvenile Justice Reliability Model

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ABSTRACT

Reliability is a critical feature of any screening or assessment instrument; yet, the reliability of juvenile justice risk instruments is rarely assessed. Because their reliability has rarely been examined, we developed a method for examining the reliability of the New Mexico Structured Decision Making Risk Instrument. This method involved creating sample cases that would include information needed to complete the instrument. Two Juvenile Probation Officers (JPOs) from each district in New Mexico were asked to rate ten sample cases. Upon completion of the initial reliability study, we determined that the instrument's reliability was unacceptable. We then undertook an intensive effort to increase its reliability, which included revising definitions and instructions for the instrument and retraining workers statewide. After revising and retraining, we reassessed the instrument's reliability. The results indicated substantial improvement in the instrument's reliability, ensuring equitable application and scoring of risk for youth throughout the state's cultural landscape. The method

we used to improve the instrument's reliability resulted in the creation of the New Mexico Juvenile Justice Reliability Model. This method, although new, is relatively simple to use and effective. The resulting model for assessing and improving reliability can be used by others to assess the reliability of their instruments.

Introduction

As standardized tools, including risk assessment instruments, are used with increasing frequency in the juvenile justice system it is more important than ever to establish a systematic method for testing their reliability. While there are many definitions of this term, reliability generally refers to the consistency or repeatability of measures (e.g., LeBreton & Senter, 2008; Bliese, 2000). Of particular interest for the purposes of risk assessments is inter-rater reliability, which measures the degree of agreement among raters. Sufficient inter-rater reliability ensures that the same individual would be scored consistently by different raters in different locations. Inter-rater reliability is especially important in the juvenile justice system

because these instruments are used to assist the JPO with case management decision making. It is vital to ensure that any youth receiving a risk assessment would receive the same score no matter who administers the instrument and no matter where the youth is located. Inter-rater reliability is particularly important in the state of New Mexico, which is culturally and geographically diverse. With such a wide range of urban and rural settings, it is particularly important to ensure that a youth would receive the same scores in both the urban setting of Albuquerque and in the rural community of Reserve.

Many studies focus solely on instruments' validity. According to Baird, however, "If there is little or no consistency among staff members completing risk instruments, the validity of the system cannot be assumed" (Baird, 2010, p. 7). If an instrument is not reliable, it cannot be easily argued to be valid. It is therefore recommended that the reliability of an instrument be tested before its validity is assessed (Austin, 2003).

Despite this methodological necessity, relatively sparse information is available regarding the reliability of risk instruments, and often what little information is available does not adequately measure inter-rater reliability. Many studies measuring the reliability of risk instruments use measures of internal consistency rather than inter-rater reliability. For example, some studies that assess reliability calculate internal consistency using measures such as Cronbach's alpha (e.g., Connolly, 2003; Schwalbe, Fraser, Day, & Arnold, 2005; Schmidt, Hoge, & Gomes, 2005). Some studies also examine reliability by investigating whether similar cases are categorized similarly, or whether classifications using the instrument are similar to classifications using clinical judgment (Jones & Baird, 2001; Schwalbe et al., 2005). While these measures may be useful in determining the appropriateness of an instrument, it has been stated that simple measures of internal consistency do not properly measure the reliability of risk assessments (see Baird, 2009).

We examined the inter-rater reliability of New Mexico's Structured Decision Making Risk Instrument. This effort resulted in the creation of the New Mexico Juvenile Justice Reliability Model, which serves as a model for others wishing to assess and improve the inter-rater reliability of their risk assessment instruments.

Structured Decision Making Risk Assessment

In 1998, with the assistance of the National Council on Crime and Delinquency (NCCD), the New Mexico Children Youth and Families Department (CYFD) implemented Structured Decision Making (SDM) as the risk and needs classification instrument for juvenile offenders in New Mexico. In 2004, validation of the risk assessment was completed by NCCD and recommendations from that study were implemented, tailoring the SDM instrument for New Mexico youth. In 2008, CYFD incorporated the SDM system for field supervision into the Family Automated Client Tracking System (FACTS), the agency's client management database. Due to this change, and because 10 years had elapsed since the initial validation study, we began a new validation study in 2008 and completed it in 2010 (Courtney, Howard, & Bunker, 2010). As part of the preparation for the validation study, we determined that it was necessary to also complete a reliability study, since reliability had never been evaluated for the SDM instrument.

The SDM instrument in New Mexico comprises a risk assessment and risk re-assessment, both of which include an assessment of needs. When a disposition is ordered for an adjudicated juvenile offender, a risk assessment and a needs assessment are completed. Risk and needs assessments are completed according to a set schedule, which depends on the youth's type and intensity of probation supervision and on whether there is a significant change in the youth's situation or behavior. These reassessments continue until the youth is discharged from supervision by the department.

CYFD uses the SDM instrument to guide disposition recommendations, define which set of minimum contact standards to utilize when supervising a youth in the community, and assist in the classification process of youth committed to CYFD facilities. The SDM risk instrument plays an important role in decision making, and it is therefore critical to assess reliability and validity on a regular basis.

The SDM risk instrument consists of the following six items: number of referrals, age at first juvenile referral, petition offense history, affiliation with delinquent gang, education issues, and substance abuse. The first three items are automatically scored by FACTS, so reliability and consistency of those items is exact. The focus of the reliability study was on the three remaining rating elements (gang involvement, education issues, and substance abuse). Since the reliability of risk instruments is not commonly tested, we developed a new methodology for testing the reliability of these three relevant risk assessment items.

Study 1

Methods

For most youths, CYFD JPOs complete a “baseline” assessment. Baseline assessments include information related to the youth’s referral(s), social history, educational background, and substance abuse issues. We used these assessments as the basis for creating case samples that were part of the SDM reliability study. We summarized these assessments to remove any identifiers from the sample. Since, as mentioned above, the first three SDM risk variables (the number of referrals, age at first referral, and petitioned offense history) were automated when implemented in FACTS, the sample focused on information related to the remaining risk variables: gang involvement, education issues, and substance abuse.

Creating sample cases was a vital part of the study. Arranging for duplicate ratings is often

one of the greatest obstacles when conducting reliability studies (Walter, Eliasziw, & Donner, 1998). Previous studies (e.g., Austin, Coleman, Peyton, & Johnson, 2003) have addressed this problem by using actual cases that were rated by separate people at different times. Although this method may be useful on static measures (those that do not change over time), this method is not effective for dynamic measures such as those in the SDM risk instrument. To properly assess inter-rater reliability, it was important to create samples based on real cases and allow for two staff members to rate each case for the same time period without interfering with the process of actual cases. The following is a case sample that was used in the reliability study:

“The youth is an active member of the ‘Westside’ street gang. The client is enrolled in public school and is experiencing significant behavior and attendance issues. He/she has been suspended twice since the beginning of the semester as a result of leaving school without permission and threatening to kill his/her teacher. The client had previously reported daily use of marijuana and occasional use of alcohol. The current disposition resulted from a drug screen submitted a month ago by the client, which tested positive for marijuana and amphetamines.”

Each of the 14 judicial districts in New Mexico was asked for two JPOs to volunteer as raters. Each sample case was rated by two separate random JPOs to test inter-rater reliability. One hundred sample cases were each rated by two separate raters in early 2009.

Results

Agreement between the two raters for each sample case was tested using Cohen’s Kappa (Cohen, 1960) as well as percent agreement. A Cohen’s Kappa of 1 indicates perfect agreement, and a Cohen’s Kappa of 0 indicates an agreement

level no better than chance (Landis & Koch, 1977). The results of the original reliability study found room for improvement in reliability scores (see Table 1). The gang item was found to have substantial agreement (Kappa = 0.800), while the education item and the substance abuse item were found to have moderate agreement (Kappa = 0.496 and 0.592, respectively).

Discussion

The results of Study 1 indicated that the reliability of the SDM risk instrument was lower than expected and may not be acceptable. The relatively low levels of agreement found in the reliability study were especially troubling given that the ratings were of sample cases designed specifically to address each of the areas to be rated. Furthermore, two of the three items (gang involvement and substance abuse) were yes-or-no items. Ratings of actual cases would not be as straightforward and because of this, actual reliability was likely lower than that found in the study. We therefore determined it was necessary to improve the instrument's reliability. Previous research has found that additional training can improve reliability results (e.g., Austin et al., 2003; Baird, 2009). We determined that to improve reliability of the SDM risk instrument, definitions of the items would need to be clarified and revised, and intensive training on use of the instrument would have to take place.

Study 2

Following the completion of Study 1, we increased our efforts to more clearly define the risk variables being evaluated by CYFD staff. The rationale behind this decision was that the

definitions were too open to interpretation and this interpretive element may have contributed to the disagreement observed in the first reliability study. For example, at the time of the first reliability study, the risk variable for education issues required the JPO to categorize the youth being evaluated as follows:

- **No School Problems** – Enrolled and attending, no unexcused absences, no history of behavior problems, functions at expected grade level, or has completed General Equivalency Diploma (GED) or received high school diploma.
- **Occasional School Problems** – Has occasional unexcused absences, frequent problems with work effort or behavior, but continues to function at expected grade level.
- **Frequent School Problem** – Frequent unexcused absences, frequent problems with work effort or behavior and/or functions one year or more below expected grade level. This includes youth with chronic attendance problems, including long-term suspension, disenrollment, or dropout.

A work group consisting of members of the New Mexico CYFD Data Analysis Unit, a Regional Administrator, community behavioral health clinician, and other staff members from Juvenile Justice Services revised the definitions and rating instructions with the goal of maximizing consistency statewide. The resulting revised definitions did not change what the variables measured, but did make use of language that was more specific, definitive, and identifiable. This is demonstrated by the revised definitions for education issues presented in Figure 1.

Figure 1: Revised Definitions for Education Issues Risk Item

R5	No School Problems (-1)	Occasional School Problems (0)	Frequent School Problems (1)
Client	<ul style="list-style-type: none"> Is enrolled in and attending school Has no unexcused absences Has no behavior problems Has no work effort problems Has a GED or High School Diploma 	<ul style="list-style-type: none"> Is enrolled in school but has some unexcused absences that have not impacted performance Has occasional behavior problems that have not impacted performance Has occasional work effort problems that have not impacted performance Has been referred to in-school detention 	<ul style="list-style-type: none"> Has enrolled in school but frequent to chronic unexcused absences have impacted performance Has frequent to chronic behavior problems that have impacted performance Has frequent to chronic work effort problems that have impacted performance Is failing all or most classes Has been suspended for short or long term Has dropped out, un-enrolled, or been expelled Has refused to engage in recommended education services

Once members of the work group revised the definitions, we modified the SDM module of the CYFD statewide client tracking database, FACTS. Specifically, we reworded for clarity the dropdown selections for specific variables in the needs assessment, and the risk reassessment categories had been re-worded for clarification. We scheduled comprehensive training sessions to operationalize these new definitions throughout New Mexico for the months of June and July, 2009, during which time the SDM dropdown modifications were implemented in FACTS. The training consisted of the SDM coordinator traveling to JPO offices throughout the state and providing handouts of the revised definitions, and an in-depth four-hour review of each risk and needs variable, as redefined, of the SDM. This review consisted of the SDM coordinator meeting with small groups of 10 to 15 individuals,

including JPOs, supervisors, and chief JPOs. The SDM coordinator reviewed various SDM protocols and the revised definitions using a PowerPoint presentation. This presentation of 58 slides, augmented by interactive question-and-answer sessions between the SDM coordinator and the training group, related not only to revised definitions but included discussions related to youth classification. The discussions that took place during training led to further revised definitions which, in turn, led to uniformity of understanding and interpretation across the state. The revised definitions were finalized in November, 2009. When the definitions were finalized they were distributed statewide by CYFD, which posted them onto the CYFD intranet and a statewide email, identifying and linking to the revisions that had been made.

Methods

After finalizing the new definitions and training staff members on scoring the Risk Assessment using the new definitions, we repeated the reliability study. In early 2010, we developed new sample cases using the same procedure as used in Study 1. Each of the 14 judicial districts was again asked for two JPOs to volunteer as raters. Once again, each sample case was rated by two separate JPOs in order to test inter-rater reliability. One hundred sample cases were each rated by two separate raters in January 2010.

Results

As in the first study, we used Cohen's Kappa and percent agreement to examine the level of agreement between the two raters for each sample case. Inter-rater reliability substantially improved for each of the items (see Table 1). For the gang item, the Kappa improved from 0.800 to 0.940, indicating an improvement from substantial agreement to almost perfect agreement. For the education item, the Kappa improved from 0.496, indicating moderate agreement, to 0.715, indicating substantial agreement. The Kappa for the substance abuse item improved from 0.592 to

0.917, indicating an improvement from moderate to almost perfect agreement.

Discussion

The results of Study 2 showed substantial improvement over the results of Study 1. Reliability was improved for each of the three items of interest. These results indicate that the process of improving reliability, including revising the definitions and training, were effective in improving reliability of the risk instrument.

General Discussion

The New Mexico Juvenile Justice Reliability Model

The relatively low reliability of the New Mexico Structured Decision Making Risk Instrument found in the first study yielded some unexpectedly positive effects for the instrument and the New Mexico Juvenile Justice system as a whole. Due to the low reliability found in Study 1, the agency was required to address the problem before assessing validity (for a discussion of the validity of this instrument, see Courtney et al., 2010). In doing so, it was necessary to revisit the instructions and definitions for each of the items

Table 1: Study 1 and Study 2 Results

	Study 1		Study 2	
	Kappa	% Agreement	Kappa	% Agreement
Gang	0.800 (Substantial agreement)	90	0.940 (Almost perfect agreement)	97
Education	0.496 (Moderate agreement)	70	0.715 (Substantial agreement)	83
Substance Abuse	0.592 (Moderate agreement)	90	0.917 (Almost perfect agreement)	98

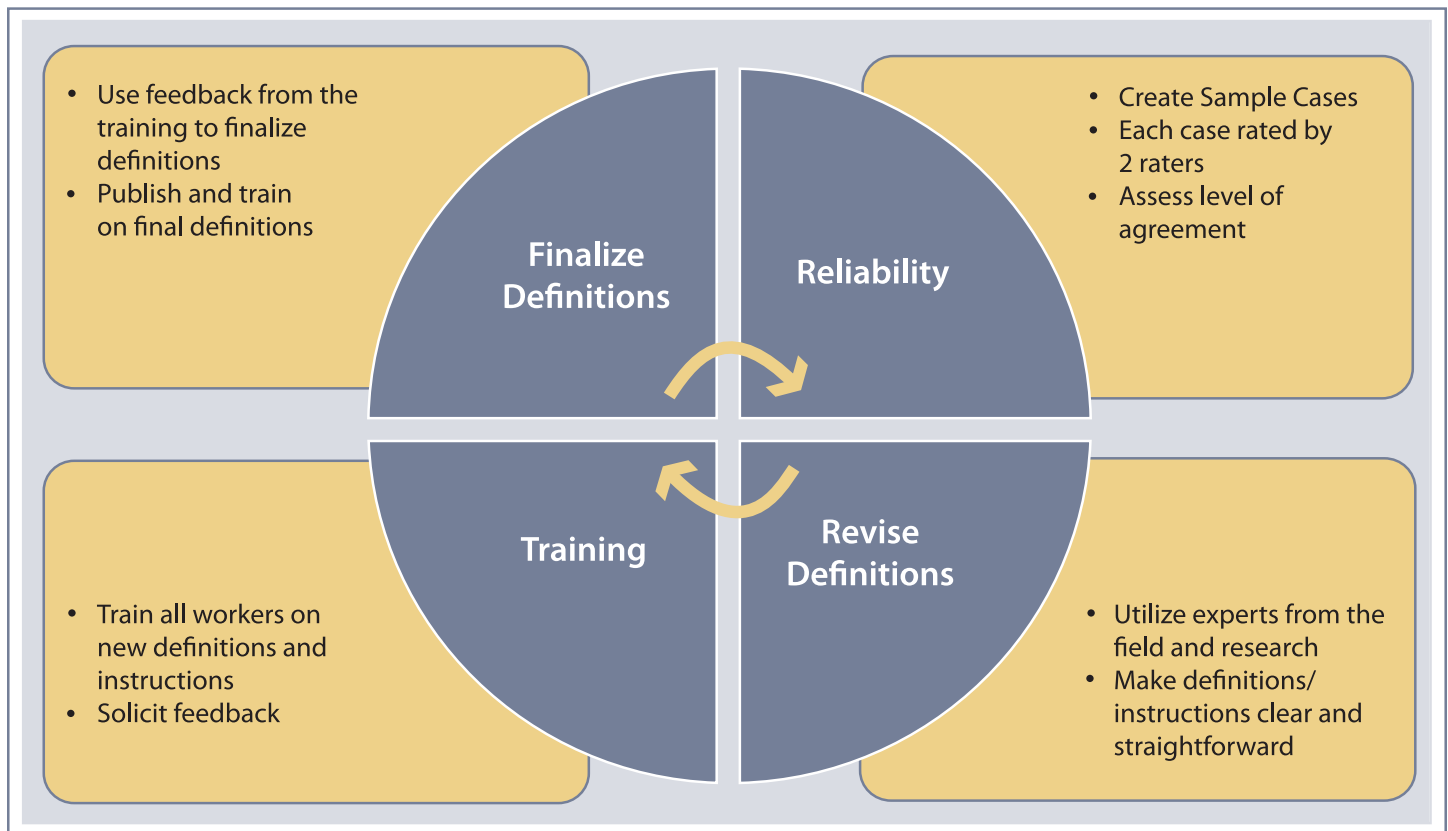
on the risk instrument. This was an important exercise, and the resulting discussions proved useful and informative. We assessed the definitions and instructions for each item in depth, and provided training on the subsequent changes and revisions to workers statewide.

When we reassessed the reliability of this risk instrument after revising the instructions and definitions and training workers throughout the

state, results indicated that the process improved the reliability of the instrument. The reliability study resulted in the creation of the New Mexico Juvenile Justice Reliability Model (see Figure 2). This model consists of a simple yet effective process for assessing and improving the reliability of any instrument.

The first step in the process of evaluating any risk instrument is assessing its initial reliability.

Figure 2: **The New Mexico Juvenile Justice Reliability Model**



One of the most difficult factors to address in reliability studies is arranging for the replication of cases (Walter et al., 1998). The creation of sample cases based on actual information allows for the testing of reliability without interfering with the processing of actual cases. The sample cases should be rated by workers who actually use the instrument in the field. After each case is rated by two independent raters, researchers can assess the reliability of the instrument. Based on the results, definitions and instructions for each

item should be revised by a work group, including field workers, researchers, and supervisors. The goal of the revised definitions should be to maximize consistency.

The next step is to train workers to use the new definitions. During this training process, it is important to solicit their feedback and incorporate this feedback into the final definitions and instructions for each item on the instrument. The final definitions and instructions should then

be disseminated to the field. To determine the effectiveness of the training and new definitions/instructions, researchers should then reassess the instrument's reliability. It may be necessary to repeat this process several times to achieve acceptable levels of reliability.

Conclusion

Although the reliability of risk instruments is rarely tested, it is widely agreed that an instrument's reliability is important and cannot be assumed (e.g. Austin, 2003; Baird, 2009). If inter-rater reliability is unsatisfactory, an instrument's validity cannot be adequately assessed. Results of the current study illustrate the value of thoroughly examining the reliability of any risk instrument. Because there is no widely agreed-upon methodology for assessing inter-rater reliability of risk instruments in the field of juvenile justice, we and our colleagues developed a new method for assessing the inter-rater reliability of the New Mexico Juvenile Justice SDM risk assessment instrument.

Results of the initial reliability study indicated that the instrument's reliability needed improvement. This finding was somewhat surprising, given that the sample cases were designed to specifically address the information needed to make a rating. This indicates that the instrument's reliability in the field was probably even lower than we initially found.

In response to the relatively poor results of the initial reliability study, we revised the definitions of the items that were being evaluated to be more concise and to encourage consistency statewide. After providing training, receiving feedback, and finalizing the new definitions, we reassessed the instrument's reliability. The second study indicated that the process was an effective method for improving reliability, and the result was the creation of the New Mexico Juvenile Justice Reliability Model.

Although results indicate that the model is effective in determining an instrument's reliability,

this model should now be applied to evaluating the reliability of another instrument or be repeated in New Mexico so researchers can validate it. In addition, the reliability of the risk instrument should be revisited in one year to determine whether the improvement in the instrument's reliability has been sustained. We began plans for this study in summer of 2011.

It is interesting to note that the only variable that was not dichotomous, education, had the lowest inter-rater reliability both before and after training. It may be useful for future studies to examine whether it is beneficial for all variables to be dichotomous. Another direction for future research should include investigating whether rater characteristics such as gender, ethnicity, job experience, or regional differences have any impact on inter-rater reliability.

The method used in the study described here resulted in an effective and useful model for assessing and improving the reliability of a risk instrument. Because there is relatively little research on the reliability of risk instruments, this much-needed model fills a gap in risk instrument research. The findings of this study have important implications for the evaluation of risk instruments as a whole. Reliability should not simply be assumed. The model used in this study to assess reliability represented a new and innovative process, was relatively easy to implement, and can easily be adopted by other agencies interested in assessing the reliability of their instruments.

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COMMENTARY: School Policies, Academic Achievement, and General Strain Theory: Applications to Juvenile Justice Settings

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ABSTRACT

This review provides a discussion of school-related policies and how they relate to juvenile justice (JJ) practices. The goal of this article is to provide an interdisciplinary understanding that integrates education and school psychology with JJ literature. The paper goes beyond a general review of the known educational challenges common in juvenile offender populations to focus on academic and emotional challenges in school settings and how these challenges can foster delinquency according to general strain theory (Agnew, 2005). The shared understanding may facilitate research, influence policies, and stimulate advocacy to address school challenges facing youth who may be at risk for juvenile crime and recidivism.

Introduction

For several decades, a consistent thread in the juvenile justice literature has addressed patterns of low educational attainment (Cottle, Lee, & Heilbrun, 2001; Felson & Staff, 2006; Maguin & Loeber, 1996): Academic failure, school disciplinary exclusion, and dropout predict youth delinquency and crime; academic success is a buffer for juvenile crime (Foley, 2001). Although outcomes associated with high school dropout include increased rates of unemployment, substance abuse, and criminal activity, only 15% of youth served by the juvenile justice (JJ) system graduate with a high school diploma (Stanard, 2003). Conversely, educational attainment is important for eventual gainful employment, job satisfaction, greater social capital (Andres

& Grayson, 2003), and lower recidivism (Zgoba, Haugebrook, & Jenkins, 2008). The overall problem of low academic achievement has many causes, among which is the failure to recognize when a youth should qualify for special education status.

Low achievement and its connection to special education status is not completely understood. A consistent concern in JJ settings, special education status is not a reliable indicator of delinquency. The special education rate for JJ populations, about 35% (Kvarfordt, Purcell, & Shannon, 2005; Zabel & Nigro, 1999), is well above the approximate 13% national rate of special education service delivery in public schools (National Center for Education Statistics, 2010). While the average age of the adjudicated youth is 15 years (approximately 9th-10th grade), the average reading level is 4th grade or lower (Vacca, 2008). Academic skill level, and who does not qualify for or receive appropriate special education services, may be more important school-based indicators of delinquency risk than special education status.

However, the individual student is not the only concern; school environments with high retention, low attendance, ineffective behavioral management, low teacher instructional skill, and reactive and punitive discipline strategies are associated with academic failure, suspension, and dropout (Christle, Jolivette, & Nelson, 2005). In light of the large literature base and consensus that academic failure and school-based risks promote negative outcomes, the paucity of information on how school experiences and policies relate to juvenile delinquency theory is striking (Sander, Sharkey, Olivarri, Tanigawa, & Mauseth, 2010).

Given the scope of the problem, and that JJ and public schools serve an overlapping population of youth at risk for school failure and crime, a policy approach that could permeate multiple systems offers a promising solution. Furthermore, creating

informed policies based on theory and research is important to avoid confusion. With these tenets in mind, we offer an interdisciplinary lens with which to view chronic school-specific concerns, including suggestions for policy and research.

Low Intelligence and Learning Challenges:

Policy Side Effects vs. Background Risks

Academic failure, together with the presence of "low intelligence," is discussed repeatedly in the JJ literature (Juvenile Justice Educational Enhancement Program, 2005; Leone, Christle, Nelson, Skiba, Frey, & Jolivette, 2003), but there is a dynamic relationship among policies, educational practices, and causes of academic failure. Several circumstances in schools could be related to the apparent connections among academic achievement, the presumed trait of "low intelligence," and delinquency. These circumstances include assessment practices, special education eligibility procedures, and the overall quality of educational interventions.

Assessment Practices and Decision Making with Regard to Diversity

Before elaborating on current policies and practices, it is necessary to acknowledge some historically rooted concerns, documented as early as the 1920s, about assessment (Valencia & Suzuki, 2001). The issue of bias and fairness in testing has been and still is hotly debated. There is no satisfying consensus as to why there are lingering differences in cognitive assessment scores among racial and ethnic groups, or how to change tests or test practices to fairly address cultural differences while retaining useful and meaningful scores (Griffore, 2007; Helms, 2006; Mayer & Hanges, 2003). Testing is useful but imperfect. It is important for professionals conducting and using assessments, as well as researchers incorporating assessment data, to remain aware of these caveats.

Identifying Learning Disabilities: Eligibility and Barriers

There are several contributions to chronic school problems that have not been adequately discussed in the JJ literature: (a) who qualifies for special education, (b) who does not qualify for special education services, and (c) the overall quality of education and instruction that youth involved in JJ receive in any setting. To begin, eligibility for special education due to a learning disability has, historically, been based on scores, typically discrepancies between scores (Meyer, 2000). Interestingly, the widely used learning disability (LD) qualification criteria, namely the discrepancy model, have no empirical or theoretical foundation (Flanagan & Alfonso, 2011).

“Discrepancy” refers to the difference between cognitive abilities test scores and academic achievement scores. To qualify for special education for an LD, the following conditions must be met: (a) there must be a discrepancy between ability and achievement, (b) low achievement is not due to lack of appropriate instruction, and (c) there is educational need, such as the student is doing poorly in classes. In other words, when there is low achievement but not a score profile or evidence of educational need that meets eligibility criteria, the student does not receive special education services.

The criteria for special education eligibility differ considerably from state to state. Several statistical formulas, known as “discrepancy formulas,” are used in various states to calculate the discrepancy between a juvenile’s educational ability and achievement, such as standard-score differences (42% of states), regression formulas (13% of states), and expectancy formulas (8% of states) (Meyer, 2000). Within states that apply the standard-score difference, about one-third use a 15-point discrepancy, another one-third require a 22-point discrepancy, and the final third use different discrepancy formulas (Meyer, 2000).

The discrepancy formula is usually applied on standardized tests with a mean of 100 points and

standard deviation of 15 points; a “severe discrepancy” is one standard deviation. For example, a student with a cognitive abilities composite standard score of 100 (an average score) and a math achievement score of 84 (a below average score) displays a significant discrepancy between ability and achievement. This student would potentially be assessed as having a specific learning disability in mathematics computation.

In another example, a student with a cognitive abilities composite score of 90 (a low average score) who is also struggling in school with the same math achievement score of 84 would not be eligible for special education services for a specific learning disability. This student would be considered to be performing in mathematics at a level consistent with his or her intellectual abilities, not as having an ability-achievement discrepancy. Students with abilities in the low average range would have to show dramatically lower achievements to attain a discrepancy evaluation; that is, their achievement scores would have to be 75 or lower, even if their actual achievements are equal to many other students already receiving special education support for academic challenges.

This scenario is relevant to JJ populations who frequently achieve scores in the low average range in research (Maguin & Loeber, 1996). “Low average intellectual ability” is a standardized cognitive abilities score (in lay terms, intelligence quotient, or IQ) between 85 and 90 points. This “low average” or “low” intelligence is a risk factor cited in several research studies on juvenile crime (Felson & Staff, 2006; Maguin & Loeber, 1996), but the direction of the relationship between IQ and delinquency has mixed findings and no consensus in the literature (Menard & Morse, 1984; Ward & Tittle, 1994). Undiagnosed learning problems can be problematic, fostering emotional distress and experiences of shame over time (Orenstein, 2000). School eligibility policies may be one of the important outside variables explaining the inconsistent and confusing connections between special education and delinquency.

Furthermore, in the JJ system, youths experience interruptions in academic instruction for a variety of reasons: detainment awaiting adjudication, placement changes, or truancy. While it is difficult to determine the average length of stay in juvenile detention facilities, more than 50% of detained juveniles tend to be released within 30 days (OJJDP, 2008). Although such short placement time is favorable in some ways, the hidden cost is that it leads to a noted interruption of school attendance and instruction (Children's Defense Fund, 2010). Given that LD cannot be considered if lack of exposure to instruction is the cause for low achievement, it is likely many JJ youth would not be considered for special education—even if it is appropriate.

Potential Improvements in the Identification of Specific Learning Disabilities

Currently, educational practices are changing due to changes in the federal laws. The resulting assessment changes have policy implications for juvenile assessment centers as well as schools. In 2004, federal lawmakers reauthorized the Individuals with Disabilities Education Act, or IDEA. One of the most significant changes is decreased emphasis on the above-mentioned discrepancy formula. One alternative to the use of the discrepancy formula for assessing potential learning disabilities is the cross-battery assessment (XBA) (Flanagan, Ortiz, & Alfonso, 2007). Becoming increasingly common throughout the United States, this assessment is based on the most current intelligence theory, the Cattell-Horn-Carroll (CHC) theory, and involves the identification of a specific area of cognitive weakness that accounts for an academic skill deficit. XBA does not rely on detecting discrepancies between cognitive and achievement scores.

Solidly research-based, XBA and CHC theory provide a theoretical framework that allows psychologists to better conceptualize the relationship between cognitive abilities and academic achievement (Institute for Applied

Psychometrics, 2009). In addition, the XBA tools allow for the systematic consideration of linguistic and cultural concerns (Flanagan & Alfonso, 2011). The shift in focus from discrepancy to cognitive weaknesses helps to clarify the reasons for low achievement: that is, whether low achievement is due to a lack of instruction or to a true cognitive weakness that is impairing an academic skill development. For youths involved with JJ in particular, it is often impossible to determine whether low academic achievement is due to lack of instruction. The XBA framework is preferable to the discrepancy formula for identifying the underlying cognitive reasons for setbacks in achievement. There are additional benefits to using XBA within JJ settings. Since XBA does not require different tests, only a different approach to test interpretation, the XBA approach could be integrated into existing juvenile assessment centers' current psychological battery protocols. The XBA framework holds promise for more accurately identifying the unique challenges in understanding academic achievement in JJ populations.

Learning Interventions in Juvenile Justice Settings

Once a juvenile's academic deficit is identified, the next step is to provide effective intervention. Evidence-based educational and instructional interventions are sorely lacking in the JJ literature. This is a striking absence given the prevalence of learning challenges in JJ populations. There are enough studies to conduct a meta-analysis of the effectiveness of delinquency interventions, including educational services such as tutoring or vocational programs, on school success (see Wilson, Lipsey & Soydan, 2003). These educational services alone, however, are not equal to empirically-supported academic interventions in terms of improving academic skills, nor are they clearly effective in reducing crime.

For example, only a handful of studies have been conducted on the effectiveness of reading interventions in juvenile detention facilities (Krezmien & Mulcahy, 2008). Evaluations of interventions in

other academic areas, such as math and writing, are practically non-existent in the JJ literature. Staff, including educators and detention and probation officers, are often unaware of how to (a) note the presence of learning challenges or (b) make appropriate recommendations to address them (Kvarfordt et al., 2005). In a recent meta-analysis of academic outcomes in juvenile delinquency interventions examining published and unpublished studies from 1974 to 2010 in school and JJ settings, only 14 studies (out of 250+ studies identified) could be included in the final analysis—none included empirically supported academic interventions (Sander, 2011). The absence of empirically based academic interventions in JJ populations is alarming, but there are resources to increase the presence of research-based interventions for academic achievement.

To help fill the gap that currently exists, the Institute for Education Sciences (IES) and the U.S. Department of Education maintain publicly available educational intervention resources on a variety of topics, grade-levels, and instructional methods, called the What Works Clearinghouse (WWC) (Institute for Education Sciences & U.S. Department of Education, n.d.). The resources available from the WWC show that hiring or training teachers and staff to provide educational interventions, not just special education or general education per se, is important.

Summary: Assessment, Special Education Eligibility and Learning Disabilities

In brief, the recurrent finding in the literature that juvenile offenders frequently have “low intelligence” could be an artifact resulting from several sources, including (a) historical assumptions about culture in assessment practices, (b) eligibility policies that rely on “wait to fail” and discrepancy methods, and (c) an evolving perspective on what an LD is and how it is measured. In many ways, students who have “low average” intelligence are also those struggling academically, yet based on discrepancy formulas and

other exclusionary criteria, such as ruling out a lack of instructional exposure, may not qualify for special education services. Current assessment practices are evolving to better address concerns about ethnic, linguistic, and cultural differences. In summary, it is a feasible policy shift to prioritize identifying sources of school-delinquency patterns. The changes do not require additional staff, simply applying contemporary learning assessment practices and providing empirically supported academic intervention methods via trained professionals already working in JJ settings. Taking programs already available in many public schools and adopting them in JJ settings could facilitate progress in determining appropriate educational interventions and research in JJ settings.

More specifically, research is needed in every aspect of academics, including reading, writing, vocational training, mathematics, overall educational attainment, and the employment trajectory. Specifically, incorporating good research design, theory, and academic interventions would help to advance research and practice (Lipsey & Cullen, 2007).

Emotional and Behavioral Difficulties in Schools and Strain

Emotional and behavioral disorders, in addition to academics, are of concern for juvenile offenders in relation to schools. Youth in the JJ system have a high rate of mental disorders relative to the general community population (GCP). These disorders include: conduct disorder (81% in the JJ system vs. 9.5% in the GCP), mood disorders (56% in the JJ system vs. 20.8% in the GCP), and attention deficit hyperactivity disorder (ADHD) (18.5% in the JJ system vs. 8.1% in the GCP) (see Davis, Bean, Schumacher, & Stringer, 1991; Kessler et.al., 2005).

In education settings, juveniles are evaluated for emotional or behavioral disorders to see if they are eligible for special education. They may be eligible if they meet the criteria for “emotional

disturbance" (ED), which may or may not align with a mental disorder diagnosed in the GCP or psychiatric setting. (In some cases youth with ADHD may be considered eligible for special education under the category of "other health impairment," which is not a mental disorder category—it is a medical disorder eligibility category). For most emotional and behavioral disorders, eligibility for special education in the category of ED is based on

...exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (a) An inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers, (c) Inappropriate types of behavior or feelings under normal circumstances, (d) A general pervasive mood of unhappiness or depression, and (e) A tendency to develop physical symptoms or fears associated with personal or school problems.... (United States Department of Education, IDEA, 2004).

Understanding rates of mental illness among juveniles, as well as knowing how ED influences their educational needs, is challenging to consolidate. The needs of juveniles with either mental disorders or ED outnumber the available resources across settings. Some mental health experts estimate that more than 20% of all school-age children have mental health needs severe enough to require some treatment (Hoagwood & Erwin, 1997), while less than 1% of all children receive special education for ED in public schools. The overall percentage of children receiving special education for any reason is about 13% of students (National Center for Education Statistics, 2010).

Precise information on the prevalence of ED in the JJ system is particularly challenging to collect, but one such study appears trustworthy. Quinn et al. (2005) conducted a national

survey of juvenile corrections with the Center for Effective Collaboration and Practice and the National Center on Education, Disability and Juvenile Justice during the 2001-2002 academic year. There was a 73% response rate from the 51 heads of state departments of juvenile corrections and the combined juvenile and adult correctional systems. Results indicated that 47.7% of youth who were receiving special education services within the juvenile corrections systems met the criteria for ED. During the same academic year, public schools reported that only 8.2% of youth in special education programs met the criteria for ED (U.S. Department of Education, 2002).

It is important for juvenile offenders to have access to special education services for LD and ED in the public schools, but the definitions and eligibility criteria for both ED and special education differ across settings. From the school's perspective, special education eligibility is based solely on whether and how the disability is interfering with a child's ability to learn. Thus, ED or a mental disorder diagnosed by an outside (non-school) psychologist might not lead to a juvenile's eligibility for special education for ED in the schools. Concomitantly, meeting the criteria for special education does not guarantee that youth will qualify for psychological services with county mental health services or community-based organizations for the treatment of ED or a mental disorder.

Finally, due to ambiguities within ED criteria, such as a "social maladjustment" exclusionary clause (for thorough discussion of social maladjustment, see Olympia et al., 2004), youths with ED are often underserved in the public schools (Gresham, 2007). Even when a student may qualify to receive special education services under the ED label, there are additional barriers, such as certain school policies, that may impede academic success. Some of these barriers are disciplinary actions and school policies for disruptive or aggressive behavior that could be due to ED but may not be identified as such.

School Discipline Policies

Discipline policies designed to reduce behavior problems are often counterproductive in reducing overall school behavior problems, and seem to facilitate the transition from schools to prisons for many youths (Leone et al., 2005). Educational administrators at all levels have incorporated zero tolerance policies that require mandatory expulsion for students who commit certain offenses. Zero tolerance policies not only interfere with students' participation in instruction time, they also tend to exacerbate the behavior they are intended to prevent (Morrison, Anthony, Storino, Cheng, Furlong, & Morrison, 2001). Zero tolerance policies are implemented inconsistently and disproportionately affect minority groups and students with special needs (Morrison et al. 2001). In addition, behavior related to a disability, such as impulsivity, inattention, or processing difficulties can be misinterpreted as non-compliance with or defiance of rules and be punished. Rather than being punished for disability-related behaviors, students exhibiting these behaviors would benefit from receiving appropriate and specific interventions (Johnson, 2007). Some studies have reported that expelled students with JJ involvement who do not receive such interventions face emotional and learning challenges in schools (Sander, et al. 2010; Morrison et al. 2001).

When students are punished for exhibiting areas of disability and not provided with appropriate interventions to help overcome them, it is unlikely that anything other than school disengagement will result. In transition planning, particularly for youths who may qualify for special education by virtue of having ED, building in supports for the externalizing behaviors that are part of the disability status in schools may help buffer some of the exclusionary policies for these youths. According to the IDEA (2004), students may not receive disciplinary actions for behaviors that are a result, or manifestation, of a disability. For JJ staff, it is important to be aware of this legal aspect so they can advocate for needed

supports for youth. The advocacy could help in designing a more successful school or community reintegration/transition plan.

Overall, the negative consequences of zero tolerance policies are not surprising, given the loss of academic instruction time, increased unsupervised free time, and feelings of alienation from school (Sharkey, Bates, & Furlong, 2004). On the other hand, school-based interventions that do address delinquency are being investigated; it is clear that both JJ and schools serve these same youth. Positive discipline policies that teach appropriate behaviors and use positive approaches over punishment strategies are generally effective in reducing delinquency (Wilson & Lipsey, 2007). The JJ system should keep in mind the empirical data that positive strategies are more effective than negative ones, and should consider collaboration and outreach to encourage schools to employ these approaches with youths served by both systems.

Another caveat to the discipline and exclusionary policy concern is the overall parallel inequity in schools and JJ settings. Interestingly, these school policies and their effects mirror the overrepresentation and disproportionate distribution of more severe punishments for specific ethnic, racial, and cultural groups within the JJ systems (Johnson, 2007). There is a negative correlation between academic achievement and discretionary removal for disciplinary purposes (Clarke, 2002), and this is a widespread concern of systemic inequity.

For example, while public school disciplinary referral rates for White males and African American males are equal, the reasons teachers opt for disciplinary referral are different. According to Skiba et al. (2002), White males were more likely to be referred for objective offenses such as using obscene language, vandalism, smoking, and leaving school without permission. African American males were more likely to be referred for more subjective behaviors such as disrespect, loitering, excessive noise,

and threatening harm. While threats are not to be taken lightly, perceiving an action as a threat depends upon a teachers' judgment of what constitutes a threat. African American students are overrepresented on all measures of school discipline, with disproportionality increasing as the punishment became harsher, even when controlling for socioeconomic status (Skiba, et al. 2002). Changing these large-scale patterns in schools and JJ systems requires changing school policies.

The root of the disparity between White and African American students in terms of disciplinary action and eventual exclusion from school appears to be a complex, surreptitious, and system-wide pattern of discretionary decisions, access, and policies (Gregory, Skiba, Noguera, 2010). These facilitate school failure and increase delinquency. In the face of a large-scale and complex phenomenon, theory can help to clarify the issues. We offer an existing theory to facilitate understanding of how patterns, policies, and practices noted in schools link to delinquency.

Proposed View of General Strain Theory in Education Settings

According to strain theory, strain creates negative emotion and the resulting affective experience is exacerbated by several conditions, including (a) failure to use or the ineffective use of coping strategies (cognitive, behavioral, or emotional), (b) lack of adequate social support, and (c) blocked goals. Crime is likely when the following three conditions are met: strain is present, the costs of delinquency are low, and the benefits of delinquency are high (e.g., having nothing to lose with an opportunity to gain status) (Agnew, 2003, 2005). General strain theory is empirically supported and does explain and predict some aspects of juvenile crime and delinquency (Eitle, 2010; Moon, Morash, McCluskey, & Hwang, 2009; Jennings, Piquero, Gover, & Pérez, 2009; Piquero & Sealock, 2010).

In an important clarification of strain theory, Agnew (2001) added that only certain types of

strain would result in crime and delinquency; specifically, strain caused by circumstances the juvenile views as unjust, strain that is of long duration, strain that becomes linked with low social control, and strain the juvenile perceives as being high in magnitude. The specific empirical link from general strain theory to school-based risks for strain, however, is limited and inconsistent. Although poor educational outcomes are repeatedly linked to ongoing delinquency, surprisingly few studies have reported support for the presence of school-based strain. It seems clear that strain caused by blocked educational attainment does not predict delinquency (Agnew, 2001). Researchers have also examined the effects of other forms of strain on juveniles. One study that directly examined and modeled some specific school factors within the context of general strain theory offered modest support for the overall theory. In that study, which used a national archival dataset, variables comprising strain were (1) school safety and (2) exposure to criminal activity (Lee & Cohen, 2008).

Although important, these aspects of strain are narrow indicators of school experiences. It is unclear how those definitions fit within the theorized forms of strain that would lead to delinquency. It is necessary to consider how unjust, high in magnitude, or linked to low social control the strain events are for an individual student before we can begin to understand delinquency-inducing strain. Schools are complex systems with many considerations, including the process and policies that guide educational service delivery decisions. Based on some of the school patterns discussed here, we offer a different perspective and some options for thinking about how school-based risks fit with strain theory.

First, we propose that school-based sources of strain are related primarily to the youth's experience of frustration or shame stemming from the emotional experience of inadequacy in classroom tasks (Orenstein, 2000), not from the "blocked goal" of school success or high grades. A sense of inadequacy in performing classroom tasks seems

an especially likely source of strain for those who are assessed with LD in particular, and helps to explain the consistent finding of low academic achievement and low intelligence in the juvenile justice literature spanning three decades.

Second, the issue of ED qualification or exclusion, and the particular situation in which a student receives disciplinary consequences for behaviors that may be related to an ED (whether diagnosed or undiagnosed) are likely culprits for strain that would facilitate delinquency. The prevalence of zero tolerance policies, irrespective of the ED manifestation question, may also be a source of strain. These policies seem connected to strain in the form of (a) unjust experience in school and (b) consequences that would erode a student's connection to schools and weaken delinquency deterrence.

Finally, in our view, any of the experiences mentioned above would facilitate the ongoing disengagement from school and weaken those sources of social control that would otherwise deter delinquency. We are using the large literature base and making educated hypotheses to link the long-standing policies in education systems with the theoretical and research based literature in juvenile justice. The complexity of the problem requires interdisciplinary understanding and considerable future research to sort out. All of the proposed connections between schools and general strain theory outlined above will require research. We hope that someone—or many researchers, actually, given the scope of the problem—reading this paper will conduct such research.

Summary

Understanding the connections between JJ and public school policy will help to facilitate success for juvenile offenders and improve educational outcomes. The educational challenges that many juvenile offenders have experienced during their

school histories are considerable, but these challenges are only vaguely addressed in the current literature.

There are several ways that juvenile facilities can assist in identifying and reducing potential sources of strain, including: (a) using emerging assessment practices to identify LD, (b) implementing and conducting research on educational interventions using realistic quasi-experimental research designs, and (c) collaborating with other schools and community agencies to address sources of strain for juveniles with mental health concerns for the purposes of prevention, intervention, and transition planning. The results of such shifts in policy could lead to the incorporation of delinquency theory and educational advances within the field of JJ.

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