The Effectiveness of Various Restorative Justice Interventions on Recidivism Outcomes Among Juvenile Offenders

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Abstract

Research has generally supported the effectiveness of restorative justice (RJ) programs on a number of outcomes; however, little research has examined the effectiveness of variations in the intervention. This study examined several variations of an RJ program for juvenile offenders, including direct mediation, indirect forms of victim/offender mediation accomplished without direct victim/ offender contact, the use of community panels (i.e., with community representatives when no direct victim was available), and a group who received only minimal interaction with RJ staff. Results supported the effectiveness of a number of variations in program implementation. Implications for future research and potential improvements to the RJ model are discussed.

Keywords

restorative justice, juvenile justice, recidivism, program evaluation, juvenile court

Introduction

Developing and implementing programs that can lower juvenile recidivism rates is an important policy challenge (Bradshaw, Rosenborough, & Umbreit, 2006). In recent years, there has been a shift toward a more restorative approach to juvenile delinquency and crime (Braithwaite, 2007). Within the past 30 years (Okada, 2011), the use of restorative justice (RJ) programming has been increasing in the United States and other countries in response to both low-level, and in some cases, more serious types of juvenile delinquency and adult crime (Bazemore & Umbreit, 2001; Bradshaw et al., 2006). RJ programs are typically based on a nonadversarial interaction between victims, offenders, and other individuals impacted by the criminal act in order to repair the damage caused by the crime and to encourage offender accountability (Bergseth & Bouffard, 2007).

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In some instances, these programs have demonstrated better outcomes than traditional court procedures on almost every variable for victims and offenders, including assessing perceptions of fairness, satisfaction, opportunity to tell their story, and perceptions that their opinions were satisfactorily taken into consideration (Poulson, 2003). Widespread interest in expanding these programs is understandable (Bergseth & Bouffard, 2007) given that research has demonstrated the success of RJ programs in achieving a number of their goals. For instance, research has revealed that RJ programs can increase involvement of the community and victim in the justice process, produce greater satisfaction with case outcomes, and improve offender compliance and perceptions of procedural fairness (Latimer, Dowden, & Muise, 2005; Leonard & Kenny, 2011). Importantly, a number of studies have also demonstrated recidivism reductions (Bergseth & Bouffard, 2007, 2012; Bradshaw et al., 2006; Braithwaite, 2007; McCold & Wachtel, 1998). These results in particular may have the most influence on policy makers who are considering the use of these alternative interventions in place of more traditional, retributive approaches but who may also have concerns about the effect of such programs on public safety.

RJ Programming

Theoretical foundations. To date, "there is not one causal theory which fully explains the mechanisms by which restorative justice programming affects outcomes such as victim satisfaction and recidivism" (Strang, Sherman, Mayo-Wilson, Woods, & Ariel, 2013, p. 9). Therefore, scholars have relied upon a combination of theoretical perspectives to explain the expected effects of both minimal (indirect) and maximized (direct) interventions such as Braithwaite's (1989) reintegrative shaming theory and Tyler's (1990) procedural justice theory. These two theoretical perspectives suggest that there are specific ways to respond to offending that may "increase … likelihood of future compliance with the law" (Tyler, Sherman, Strang, Barnes, & Woods, 2007, p. 554).

Through the process of stigmatizing the act, rather than the offender, reintegrative shaming is able to reconnect the offender with members of the community and their families as well as encourage a positive self-image (Braithwaite, 1989; Tyler et al., 2007) that then lessens the like-lihood of the individual "adopting a deviant master status" (Hay, 2001, p. 134). RJ programs facilitate these processes in various ways, such as by bringing the involved parties together in a nonjudgmental atmosphere, allowing all parties to be involved with the decision-making process, and strengthening social ties.

Likewise, procedural justice theory posits that if an offender experiences fairness in the handling of their case, and in the decision-making regarding the response to their criminal behavior, they are more likely to attribute legitimacy to the law and legal authorities (Tyler et al., 2007). Tyler, Sherman, Strang, Barnes, and Woods (2007) suggest that this sense of legitimacy then encourages the offender to become a law-abiding citizen rather than reject the sanction as unfair or undeserved. Furthermore, they note that RJ programs facilitate procedural justice by allowing offenders' the opportunity to participate in the decision-making process, by providing consistent and nonbiased adherence to the rules, and allowing for the "communication of respect for offenders as people" (Tyler et al., 2007, p. 556).

RJ programming types. RJ interventions typically take the form of either direct communication between the victim and offender, such as victim–offender mediation (VOM), family group conferencing (FGC), or circle sentencing (Bazemore & Umbreit, 2001; Bradshaw et al., 2006; McGarrell & Hipple, 2007) or programs in which community members serve as proxies for the victim (e.g., community/reparative boards, victim impact panels; Bazemore & Umbreit, 2001; Bonta, Wallace-Capretta, & Rooney, 1998; Crawford & Newburn, 2002; Fors & Rojek, 1999). In some cases, RJ programs have also made use of indirect mediation, in which a neutral third party negotiates an

agreement without direct contact between the victim and offender for at least some of their participants (Bergseth & Bouffard, 2007, 2012). Finally, RJ principles may sometimes be incorporated into other existing community service or restitution services. For instance, Bouffard and Muftic (2007) found that a community service program that included RJ principles (e.g., linking work assignments to the harm caused in the community) was more effective at reducing recidivism than was a simple financial penalty (fine) for the first time driving under the influence offenders.

Across all these variations, RJ programming often focuses on the development of sanctions that attempt to improve the community's ability to prevent crime in the future, using nonadversarial and generally informal processes, which also incorporate decision-making by group consensus, rather than by a single justice system authority (Bazemore & Umbreit, 2001; Bergseth & Bouffard, 2007). In general, RJ programs attempt the restoration of the victim (in terms of the harms caused by the criminal act) as well as the restoration of the wider community. In addition, RJ programs seek to reduce the likelihood of continued offending by identifying and resolving those factors that may have precipitated the offender's criminal behavior (Bradshaw et al., 2006; Smith, 2001).

As noted, RJ programming in general is designed to affect a variety of outcomes for both victims and offenders (e.g., participants' level of satisfaction, perceptions of procedural fairness, and restitution; Bradshaw et al., 2006). While a growing body of research has examined the effectiveness of RJ programming, relatively little of that research has examined the recidivism reducing effects of RJ programming. As such, more work is needed to determine under what circumstances these programs can be effective at that important goal (Bergseth & Bouffard, 2007, 2012). To further knowledge in this area, the current study will focus on the effect of four variations of an RJ program on recidivism outcomes, including direct and indirect VOM, community panels, and minimal RJ processing (involving only an initial educational meeting with each offender), each relative to a sample of similar juveniles assigned to have their cases processed in the regular juvenile court system.

Direct VOM. RJ processes typically seek to involve those directly affected by a given crime and focus on offender accountability on restoring the well-being of the victim (e.g., emotionally, financially, and otherwise) and on developing the community's capacity to prevent and respond to future crimes (Bradshaw et al., 2006; Presser & Van Voorhis, 2002). One method for achieving these RJ goals is VOM, which usually involves some form of face-to-face conference between the victim(s) and offender(s), overseen by a neutral party (Bradshaw et al., 2006). First implemented in 1974 in Ontario, Canada, thousands of VOM programs now exist within North American and Europe (Presser & Van Voorhis, 2002). This type of mediated dialogue provides an opportunity for both the victim and offender to ask and answer questions and to share their own experiences and reactions to the offense (Koss, 2014; Presser & Van Voorhis, 2002).

In 2006, Bradshaw and colleagues conducted a meta-analysis of the effects of VOM on juvenile recidivism. Their analysis found varying effects of VOM program participation on juvenile recidivism rates (Braithwaite, 1999; Latimer & Klienknecht, 2000; Umbreit, Coates, & Vos, 2001) which may in part be attributed to the varied methods used within each program. For instance, Bradshaw, Rosenborough, and Umbreit (2006) noted that the studies they reviewed varied in the definitions and operationalization of variables used (Menkel-Meadow, 2001; Presser & Van Voorhis, 2002; Poulson, 2003). In addition, a number of studies failed to make use of adequate control groups, leading to self-selection biases within the studies (Bradshaw et al., 2006). Additionally, the authors found that within the 15 studies they examined, the duration of follow-up also varied, ranging from 12 to 48 months with an average of 21 months. Among these 15 studies, that included approximately 9,200 juveniles, Bradshaw and colleagues (2006) concluded that participation in VOM accounted for a 34% decrease in juvenile recidivism relative to those who did not participate in these programs. In addition to recidivism reduction, participation in VOM resulted in increased levels of victim and offender satisfaction with the overall process, and in the perceived fairness of the process, along with

high rates of compliance with restitution agreements (Bradshaw et al., 2006). All things considered, the average effect size that was identified in this study (.34) is "especially meaningful considering that the VOM is primarily a onetime intervention" (Bradshaw et al., 2006, p. 94).

Although VOM has been more frequently examined and evaluated by researchers, another form of RJ programming involving direct mediation, FGC, has also begun to receive more empirical attention (McGarrell & Hipple, 2007). However, as McGarrell and Hipple (2007) note "most of the research on FGC has been characterized by relatively weak designs and questions related to its impact on reoffending remain unanswered" (p. 222). The use of FGC originated in New Zealand and has become a common RJ practice in the United States as well (Alder & Wundersitz, 1994; McGarrell & Hipple, 2007; Presser & Van Voorhis, 2002; Sherman, Strang, Mayo-Wilson, Woods, & Ariel, 2015). Like direct VOM, FGC usually involves the participation and engaged dialogue of the victim and offender, as well as each parties' family members, and a representative of the justice system (Braithwaite & Mugford, 1994; McGarrell & Hipple, 2007; Presser & Van Voorhis, 2002; Umbreit & Zehr, 1996). As with each type of RJ programming or intervention, "there are varying degrees of emotional expressions, supportive gestures, and reparation agreements across conferences" (Presser & Van Voorhis, 2002, p. 165). It has been argued that the practices involved in FGC in particular provide offenders with a greater sense of the harm caused to others by their actions than does the more "depersonalized" actions of a traditional court proceeding (McGarrell & Hipple, 2007, p. 223).

In their examination of the "Indianapolis Experiment," McGarrell and Hipple (2007) found evidence of a high level of participation among the individuals involved in conferences, and high levels of group consensus on the structure of the reparation agreements reached through the conference. Moreover, in comparison to the control group, those youth who participated in FGC were "more likely to report that they had been treated with respect, were involved in the process, and had an opportunity to express themselves" (McGarrell & Hipple, 2007, p. 225). Other studies also provide support for FGC, finding that conferences have resulted in reduction of recidivism among juvenile offenders in South Wales (Luke & Lind, 2002) when the conference appeared to be procedurally fair and maximized restorative dimensions (Hayes & Daly, 2003) and when youths have successfully completed the RJ program (Rodriguez, 2005).

Community panels. In addition to direct mediation style programs (i.e., VOM and FGC), RJ programming may come in the form of community/reparative boards. Frequently referred to as "community panels," these types of panels are most commonly used in drunk driving cases in the United States and have been demonstrated to be a cost-effective method for reducing the likelihood of reoffending (Fors & Rojek, 1999). In other areas of the world however, community panels are becoming a more common restorative response to juvenile offending. In most cases, the offenders involved in the community boards have been ordered to participate by the court, and the community board is then responsible for monitoring the progress of the offender and submitting reports back to the court (Bazemore & Umbreit, 2001). In England and Wales, these panels are referred to as Youth Offender Panels, consisting of at least two trained community volunteers, a member of the Youth Offender Team, the offender, victim or business owner (if there is no direct victim), supporters for both the offender and victim, and members of the community (Crawford & Newburn, 2002). The restorative and integrative nature of community panels generally serve two main purposes: first to provide a less formal context for all parties involved to discuss the crime and its consequences and second to develop an agreed-upon contract between the community panel and the offender for a certain period of time (Crawford & Newburn, 2002; Karp, 2001). General components of the contract will include reparations to the victim and/or community, and the offender's participation in various activities or programs designed to prevent future offending (Crawford & Newburn, 2002).

In his observation of RJ in the Vermont adult criminal justice system, Karp (2001) identified four goals of the reparative boards (community panels) that include involving the offenders in tasks that will aid them in understanding the harm caused to their victim and/or community and identifying ways to repair the harm. In addition, offenders must make amends to the wider community, while the entire panel works to identify strategies to lower the chances of reoffending. Furthermore, Karp (2001) found that most cases were processed in a restorative manner, and that their agreements were successfully completed. Lastly, in a 5-year follow-up study conducted by Rojek, Coverdill, and Fors (2003), the authors found that approximately 16% of those who participated in a victim impact panel reoffended compared to 34% of the comparison group. The results of the study also indicated that those in the RJ program had an approximately 56% decrease in their hazard of rearrest likelihoods.

In examining the effectiveness of RJ outcomes, the extant literature suggests that the most frequently examined measure is that of participant perceptions of satisfaction rather than recidivism (Bradshaw et al., 2006; McGarrell & Hipple, 2007; Menkel-Meadow, 2001; Poulson, 2003; Presser & Van Voorhis, 2002; Sherman et al., 2015). Research has also examined which program components participants feel most satisfied with and why they do (Bradshaw et al., 2006). Additionally, some of these studies have measured reoffending, usually in one of two ways, either as a subsequent adjudication as a delinquent at some point after the original offense (generally from 6 months up to 24 months following intervention) or as any subsequent contact with the criminal justice system, regardless of whether it resulted in formal adjudication as a delinquent (Bradshaw et al., 2006). Some studies have also examined program completion rates, of which there are also two types: the percentage of cases that resulted in a conference being held and the percentage of offenders who successfully completed all requirements and agreements made during the program *and* who did not reoffend during a 12-month period (Koss, 2014). Others have noted that evaluations should not only measure whether the offender recidivates but also the severity of that reoffense (Menkel-Meadow, 2001; Nugent & Paddock, 1995) and the frequency of reoffending (Sherman et al., 2015).

Current Study

A growing body of existing research generally supports the effectiveness of RJ programming in a number of domains. Bergseth and Bouffard (2007) concluded that an RJ intervention was effective in reducing recidivism risk over a relatively long follow-up time frame (up to 4 years). In a follow-up study, these same authors also reviewed the literature on juvenile-level moderators of program effectiveness as well as providing additional results examining the effectiveness of RJ programming for different types of juvenile offenders (Bergseth & Bouffard, 2012). Specifically, they found that RJ programming was more effective than traditional juvenile court processing for younger offenders, males, those with no prior arrests, and those who had a current violence or property offense (rather than a drug crime; Bergseth & Bouffard, 2012).

In light of this, a number of authors (Bergseth & Bouffard, 2007, 2012; Rodriguez, 2007) have suggested that future research should investigate whether there were differences in the effectiveness of variations of the RJ model, so that we can begin to understand not only whether but also how RJ interventions produce beneficial results. Furthermore, based on the risk, needs, responsivity principles advanced by Andrews and Bonta (2003), it may be more efficient to use less intensive interventions for lower level offenders and reserve more intense versions (i.e., direct rather than indirect mediation) for more serious, high-risk offenders (e.g., those with longer criminal histories).

The current study will examine the effectiveness of several different RJ-type interventions, as delivered to a sample of juvenile offenders who would otherwise be processed through a traditional juvenile court, typically followed by a term of probation post-adjudication. The central goal is then to examine whether each type of RJ intervention produces a statistically significant reduction in the likelihood of reoffending, relative to a similar group of juvenile offenders who received traditional

juvenile court processing (i.e., does each RJ intervention "work" to reduce recidivism?). Juvenile offenders in this study were not randomly assigned to RJ programming versus traditional court processing nor were they randomly assigned to receive different types of RJ programming. As a result, we use a two-stage modeling procedure that controls for the probability of being assigned to RJ programming rather than the comparison group in an attempt to control for selection effects when examining the differential effectiveness of various types of RJ intervention.

Method

Program Description

The sample examined here is derived from the entire population of 352 youth referred to an RJ program that operates in a small, mostly rural area in the upper Midwest (see Bergseth & Bouffard, 2007, for a complete description of this RJ program). Participants were referred to the RJ program between 2000 and 2005 primarily from local police agencies, with a few being referred directly from local schools. Each of these referring agencies have their own procedures for deciding whether to refer a case for traditional juvenile court processing or to divert the case into this RJ program; however, the current study did not document these agencies' specific guidelines for RJ referral.

Once a case is referred, the RJ program staff contacted the juvenile to schedule an initial meeting. During this meeting, RJ staff provided the juvenile with basic information about the program and its restorative emphasis and also assessed the juvenile's appropriateness (i.e., willingness to "make it right") for further participation in the RJ program. RJ staff then determined what type of intervention (e.g., direct mediation, indirect mediation without face-to-face contact between the victim and offender, community panel) the referred juvenile would take part in. This was done after considering the offender's and victim's willingness to participate (directly or indirectly) in mediation and also whether there was a specific, direct victim in the case. RJ program staff generally attempted to assign participants to direct mediation if both parties were willing. In cases where the victim and/or the offender did not wish to engage directly, indirect mediation was attempted. In cases where there was no direct victim (e.g., reckless driving, where no one was injured), the offender would be referred to a community panel rather than some form of mediation. Community panel members often included school officials, police officers, and volunteer community members selected by the RJ program staff.

Finally, in some cases, offenders received only the initial meeting with the RJ program staff (including basic information about the RJ approach and specific components of this program). While this represents a very minimal level of RJ program contact, it is possible that simply discussing the offense and RJ approaches in a generic manner may have a beneficial impact on offenders. As such, we examine this group of minimally involved RJ participants as well. In order to maintain the integrity of our intention-to-treat (ITT) design, the three cases referred to the program who were unable to be reached by program staff are included in this "no/minimal RJ interaction" group. Because referral to the RJ program, and the type of RJ intervention eventually used, were subject to nonrandom selection processes, we attempt to control for possible selection biases in our later (supplemental) multivariate analyses of time until recidivism.

In all of the RJ cases for which some form of RJ intervention beyond the initial meeting was utilized (n = 232, including all those who received direct or indirect mediation or a community panel), an agreement for how the offender would restore harm was reached. Among these cases, 220 (95%) of the restorative agreements were fully completed as intended. Specific details of the various requirements (e.g., writing a letter of apology, giving a public presentation about the harms involved in the type of crime committed, making financial restitution) included in these agreements were available for only 153 cases (66% of the agreements). As such, our survival models examining the

effectiveness of each type of RJ intervention (presented later) do not examine the impact of being required to complete various tasks as part of an agreement but rather the impact of being assigned to different RJ intervention formats (i.e., direct or indirect mediation, community panel, and minimal participation), regardless of the content of the restorative agreement that results from the intervention. Overall, among the cases where details were available, these agreements typically specified multiple conditions, including verbal and/or written statements of apology (64%), required community service work (39%, for a total of 804 hr worked), payment of monetary compensation (37%, worth more than US\$12,000 total), and requirements to produce written reports or make public presentations (24%).

Sample Selection

Of the 352 cases referred to RJ programming, 67 had also been referred to traditional court processing for the same current offense. About half of individuals (n = 33) were referred to RJ as a condition of their sentence to a term of probation. The reason for referral to RJ was less clear for the remaining cases (n = 34) processed in the juvenile court; however, it is possible that some had initially failed in the RJ program and were subsequently referred to traditional court processing or that they were successful in the RJ program but were still processed in the juvenile court. Regardless, because the purpose of the current study is to compare the effectiveness of various RJ interventions relative to traditional juvenile court processing, these 67 potential RJ group cases were omitted from our analyses (i.e., are subtracted from both the RJ and comparison groups). These omitted cases were generally similar in demographic characteristics (e.g., gender, race, age) but were more likely to have prior contact with the juvenile justice system (53.5%) than were the juveniles retained in the study (26.7%, $\chi^2 = 57.8$, p < .01).

These youth referred to RJ processing were compared to a sample of 351 youth referred to traditional juvenile justice system processing in the same county, and for a similar range of current offenses, during a similar time period (2000–2005). The sample of comparison cases was selected from a list of youth referred to juvenile court that was provided by the county's juvenile probation agency. The program evaluators initially identified 351 youth for inclusion in the comparison group based on their county of residence, year of referral, and referral (current) offense type (e.g., property, violent, public order) in an attempt to create a group of youth whose referral offenses were comparable to those referred to RJ programming. The RJ and comparison groups were not intentionally matched on other characteristics (e.g., demographics) because this level of detail was not initially available on the simple listing of possible comparison cases provided by the county. These additional data (i.e., age, gender, race, and criminal history) were subsequently collected from each individual's record, after they had been identified as a member of the comparison group.

As described previously, 67 cases who had been in both the RJ program and traditional court were removed from this comparison sample of 351, as were 18 other cases where needed data were missing from their records (e.g., age, gender). Almost all (95%) of the juveniles in the final comparison group of those referred to the juvenile court had been sentenced to a term of probation. Most of these received sentences of supervised probation (79%) or unsupervised probation (17%), with only a small percentage receiving a disposition other than probation (4%). About one third of juveniles (29%) who received probation terms were required to complete 90 days or less, 40% were required to be supervised for 91–365 days, and 31% were placed on indefinite supervision.

The final sample (n = 551) included 284 juveniles referred only to the RJ program and 267 juveniles referred to the traditional juvenile court. Since our interest was in examining differential outcomes for youth experiencing different RJ processes, the RJ group was further divided into youth who experienced *direct mediation* through RJ conferencing (victim–offender dialogue with or without supports; n = 155), those who participated in an RJ *community panel* (when no direct

Variables	Total Sample ($n = 551$)	Juvenile Court ($n = 267$)	No/Minimal (n = 52)	Indirect Mediation ($n = 44$)	Community Panel ($n = 33$)	Direct Mediation (n = 155)
Age at referral*	**					
Mean (SD)	14.95 (2.23)	15.65 (1.74)	12.79 (2.55)	13.25 (2.40)	15.22 (2.01)	14.89 (2.17)
Race*	()	· · · ·	× ,	()	· · · ·	()
Non-White	28.5%	30.7%	34.6%	36.4%	9.1%	24.5%
White	71.5%	69.3%	65.4%	63.6%	90.9%	75.5%
Gender						
Male	72.8%	71.5%	71.2%	31.8%	66.7%	78.1%
Female	27.2%	28.5%	28.8%	68.2%	33.3%	21.9%
Hometown*						
Rural	31.0%	37.1%	25.0%	25.0%	18.2%	27.1%
Urban	69.0%	62.9%	75.0%	75.0%	81.9%	72. 9 %
Referral offense	type ^{****}					
Other	17.1%	16.1%	1.9%	11.4%	60.6%	18.5%
Property	67.2%	64.0%	71.2%	77.3%	36.4%	74.8%
Persons	15.8%	19.9%	26.9%	11.4%	3.0%	16.1%
Any prior conta	ict ^{****}					
Yes	26.3%	38.2%	13.5%	9.1%	12.1%	18.1%
No	73.7%	61.8%	86.5%	90.9%	87.9%	81.9%
Number of con	tacts ^{****}					
Mean (SD)	0.54 (1.34)	0.84 (1.68)	0.27 (0.87)	0.14 (0.46)	0.30 (1.24)	0.30 (0.77)
Most serious ch	arge ^{****}					
Other	13.6%	12.7%	0%	9.1%	57.6%	11.6%
Property	66.2%	60.3%	71.2%	79.5%	36.4%	77.4%
Persons	20.1%	27.0%	28.8%	11.4%	6.1%	11.0%

Table 1. Demographic and Offense History Characteristics by Sample.

†*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

victim existed; n = 33), those who participated in *indirect mediation* (without face-to-face contact between victim and offender, n = 44), and those who received *no/minimal RJ* interaction (including three cases who were assigned to RJ but could not be contacted by the program staff, n = 52).

This study utilized an ITT design (Sherman & Strang, 2004) in order to control for possible confounding selection effects (i.e., motivation for treatment and deviant propensity) that can effect outcome evaluations when cases are examined based on the type of programming received by a given participant. Juveniles were analyzed within their respective groups (RJ groups vs. the comparison group) as they had been assigned to, whether they actually participated in the entire interventions. The ITT analysis allows us to examine whether being assigned to the RJ program or receiving even a minimal amount of RJ intervention may produce some beneficial effect.

Sample Characteristics

Table 1 describes the demographic and offense history information on juveniles in this study as well as the recidivism information for the total sample of 551 cases in this study and for each program group separately (i.e., juvenile court, RJ community panel, direct and indirect mediation, and no/minimal intervention). Despite attempts to select a matched sample of comparison offenders, especially with regard to current offense type, several initial group differences were observed (see Table 1), some of which suggested that juveniles referred to formal juvenile court processing may have had a higher risk of reoffending. In particular, juveniles in the comparison group were

Variables	Total Sample (n = 551)	Juvenile Court $(n = 267)$	No/Minimal (n = 52)	Indirect Mediation (n = 44)	Community Panel ($n = 33$)	Direct Mediation (n = 155)
Any later charg	zes***					
No	59.9%	50.2%	69.2%	72.7%	75.8%	66.5%
Yes	40.1%	49.8%	30.8%	27.3%	24.2%	33.5%
Survival time (I	months)*					
Mean (SD)	12.35 (13.64)	10.85 (12.93)	18.06 (15.37)	22.26 (19.01)	10.17 (14.48)	12.49 (12.44)
Number of offending	221	133	16	12	8	52
Follow-up year	'S ^{****}					
Mean (SD)	3.50 (1.66)	3.75 (1.61)	3.83 (1.62)	3.86 (1.60)	2.40 (1.62)	3.10 (1.63)

Table 2. Bivariate Outcomes by Sample.

†*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

significantly older, had more prior contact with juvenile justice authorities, and were more likely to have experienced a charge for a violent offense. In light of these initial group differences, multi-variate analyses (presented later) included an attempt to control for these possible selection effects.

The average age of juveniles in this study was 14.97 years (SD = 2.22) upon referral to either RJ or traditional processing. The sample was predominantly male (73%) and most were White (71.7%) and came from the small urban area within the county (69%). Most of these juveniles were referred for a property offense (67.2%), with smaller percentages referred for a violent offense (15.7%, including assault and threats), or "other" offenses (17.2%, including curfew violations, alcoholor tobacco-related charges, drug possession, traffic offenses, or disorderly conduct). Most of these juveniles (73.5%) had no prior contact with juvenile justice authorities, and the average number of prior official contacts was 0.55 (SD = 1.34; range 0–13). The most serious current offense for the majority of this sample (66.2%) was a property offense, while 20.1% had one or more violence charges (e.g., assault), and the most serious charge for 13.7% of the sample was other. Finally, the average follow-up period was 3.52 years (SD = 1.66) from the referral date to the date that recidivism data were gathered.

Measures

Recidivism data were gathered from court and probation department records that reflected all officially recorded contacts with law enforcement or other juvenile justice system personnel (i.e., probation officers) that occurred after the date of initial referral to either RJ program or juvenile court. Specifically, recidivism data included the date of contact, offense level (i.e., status, misdemeanor, and felony), and offense type (e.g., status, property, persons/violent). Juveniles in this study were followed for up to 4 years to determine the long-term effects of RJ participation (see Table 2 for the average length of follow-up time period for each particular group). Additional information on age, gender, race, residency, and criminal history was collected from official court records, once the RJ group participants had been identified and a comparison sample of juvenile offenders with similar current offenses, residency, and year of referral had been selected.

Analytic Approach

The first series of bivariate analyses describe the demographic, background, and current offense characteristics of each sample as well as differences in their recidivism outcomes. One-way analysis

of variance and *t*-tests were used to test for significant differences in group means; χ^2 tests were used for nominal variables. Then, a multivariate survival analysis (Cox regression) was used to model time to reoffense across intervention groups (traditional court processing vs. one of four forms of RJ intervention). Other predictor variables in this model included age at referral, gender, race/ethnicity, urban residence within the county, number of prior official contacts with the juvenile justice system, and indicators of the most serious offense type (property or violent offense vs. other). Our goal here was to examine whether each type of RJ programming was effective at reducing recidivism risk relative to juveniles who were processed in the traditional court; however, because participants were not randomly assigned to RJ versus traditional juvenile court processes, we also conducted a second series of supplemental multivariate analyses that attempted to control for potential selection effects (we discuss this issue further in the Result section).

Results

Bivariate Analyses

Bivariate statistics examining recidivism outcomes for the entire sample (N = 551) and subsamples of youth referred to traditional juvenile court processing (n = 267) and processed via some form of RJ intervention (RJ panel, n = 33; RJ direct mediation, n = 155; RJ indirect mediation, n = 44; and RJ no/minimal interaction, n = 52) are presented in Table 2. Recidivism outcomes examined include the prevalence of new official contact (yes/no, as recorded the court database) and survival time (time to reoffense, measured in months).

During the follow-up period (3.5 years, on average), 40.1% of the total sample experienced a new officially recorded contact, and the average time to first reoffense was 12.35 months (among the subset of youth who experienced at least one reoffense). Youth referred to juvenile court evidenced greater recidivism; 49.8% experienced at least one new official contact compared to youth in the no/ minimal RJ (30.8%), indirect mediation (27.3%), RJ panel (24.2%), and direct mediation (33.5%) groups, and this difference was statistically significant ($\chi^2 = 21.61$, p < .000). Youth referred to juvenile court also reoffended more quickly (mean survival time = 10.9 months, SD = 12.93) than youth in the RJ direct mediation (mean = 12.5 months, SD = 12.44), RJ indirect mediation (mean = 22.3 months, SD = 19.01), and no/minimal RJ (mean = 18.1 months, SD = 15.37) groups but not as quickly as youth in the RJ panel group (mean = 10.2 months, SD = 14.48; F = 2.83, df = 4, 216, p < .05).

Multivariate Analyses

Bivariate results demonstrated that those in the RJ groups experienced lower recidivism likelihood than those referred to the juvenile court; however, there were also initial group differences on several variables that could be expected to relate to the likelihood of reoffense (e.g., offense history, see Table 1). Therefore, multivariate models were estimated to examine whether significant differences in recidivism risk maintain in the face of controls for these other potentially relevant variables. The relationship between intervention type and time to reoffense was examined using Cox regression, which accounts for the "censored" nature of reoffending data, calculates survival probabilities (likelihood of not reoffending) over differing lengths of follow-up period, and provides a comparison of survival functions across distinct groups. In interpreting results from these models, negative coefficients indicate a lower hazard (i.e., longer time to reoffense), while positive coefficients indicate higher hazards (i.e., fewer days until reoffense).

The central independent variable in these multivariate models is a categorical measure representing intervention type (traditional juvenile processing = 0, no/minimal RJ = 1, RJ indirect mediation = 2, RJ community panel = 3, and RJ direct mediation = 4). This model also included

	Model	A	Model B		
Predictor	B (SE)	Exp(B)	B (SE)	Exp(B)	
Age	05 (.04)	0.95	-0.12 (0.05)*	0.89	
Non-White	.16 (.15)	1.17	0.08 (0.16)	1.08	
Male	.11 (.16)	1.11	0.15 (0.16)	1.16	
Urban	.07 (.15)	1.08	0.16 (0.16)	1.18	
Number of prior contacts	.21 (.04)***	1.23	0.19 (0.04)***	1.21	
Prior property (vs. other)	13 (.22)	0.88	-0.24 (0.22)	0.79	
Prior persons (vs. other)	01 (.25)	0.99	-0.26 (0.28)	0.77	
Group			()		
No/minimal RI (vs. IC)	74 (.29)*	0.48	-1.63 (0.52)**	0.20	
Indirect mediation (vs. C)	−.85 (.32) ^{**}	0.43	−1.75 (0.54) ^{**}	0.17	
Community panel (vs. C)	58 (.38)	0.56	–1.39 (0.54) [*]	0.25	
Direct mediation (vs. IC)	—.35 (.17)́*	0.70	-1.24 (0.47)**	0.29	
λ (selection control)	_ ` `	_	0.58 (0.28)*	1.79	
Nodel diagnostics	-2LL = 2,5	66.11,	-2LL = 2,562.15,		
J	$\chi^{2}(11, N = 551)$) = 82.44***	$\chi^{2}(12, N = 551) = 84.17^{***}$		

Table 3. Cox Regressions Predicting Time to Reoffense.

Note. RJ = restorative justice; JC = Juvenile Court; $-2LL = -2 \log$ likelihood.

†p < .10. *p < .05. **p < .01. ***p < .001.

the following control variables: age (at time of referral), sex (female = 0, male = 1), race (White = 0, M_{eq}), race (White = 0, M_{eq}), race (White = 0, M_{eq}), race (White = 0, M_{eq}), rade (White = 0, M_ non-White = 1), urbanicity (rural = 0, residence in the small urban area of this county = 1), number of prior official contacts, and most serious current charge (other = 0, property = 1, violent = 2). The overall model was statistically significant, $\chi^2(11, N = 551) = 82.44, p < .001$ (see Table 3, Model A). Participation in each of the RJ groups was negatively related to survival time compared to juvenile court processing, and this relationship was significant in three of the four comparisons. In other words, youth in the RJ groups refrained from offending longer than similar juveniles who were referred to traditional juvenile court, even after controlling for several initial group differences. Specifically, youth processed via RJ direct mediation, B = -.36, SE = .17, Exp(B) = .70, p < .05; those in the RJ indirect mediation, B = -.85, SE = .32, Exp(B) = .43, p < .01; and those in the no/minimal RJ group, B = -.74, SE = .29, Exp(B) = .48, p < .05, remained offense free significantly longer than youth in the traditional juvenile court group. While youth who participated in a RJ community panel also had longer time until first reoffense, B = -.58, SE = .38, Exp(B) = .56, p = .13, the relationship did not reach statistical significance. In addition, youth with more extensive offending histories (as measured by number of prior contacts) reoffended more quickly than youth with less extensive offense histories (B = .21, SE = .04, Exp(B) = 1.23, p < .001.

Figure 1 depicts the significant relationship between group membership and reoffense likelihood over time. As the curves in Figure 1 demonstrate, juveniles in each RJ group reoffended more slowly (i.e., took longer to reoffend) than those referred to juvenile court, controlling for initial group differences, and these differences were significant for those who received direct mediation, indirect mediation, and no/minimal RJ intervention.

Supplemental Analysis

Model B (Table 3) provides the results of a second Cox regression model examining the relationship between intervention and survival outcomes, which also includes a measure that attempts to control for selection into RJ versus traditional juvenile court processing. Typically, this approach might



Figure 1. Days to first official contact.

involve the use of a Heckman two-stage selection model (Heckman, 1979) that would first estimate the likelihood that each participant would be assigned to the treatment condition and then use that predicted probability as a control variable (for selection into each group) in a subsequent regression model predicting treatment effectiveness. Subsequent research using this two-stage approach (see Bushway, Johnson, & Slocum, 2007) has suggested that this approach is only viable if the outcome being investigated can be modeled using a linear regression model (i.e., ordinary least squares regression). Since our outcome variable is a dichotomous measure of recidivism, a true Heckman two-stage model could not be estimated. Instead, our supplemental analysis (attempting to control for selection into the treatment groups) borrowed from the overall logic of the Heckman's (1979) strategy.

Specifically, a preliminary probit model was estimated to predict whether an individual was assigned to the RJ program or traditional juvenile court processing. The variables used to predict this group assignment included those described above (i.e., age at referral, race/ethnicity, sex, urbanicity, any prior official contact (yes/no), and most serious behavior (other, property, and persons). Following the suggestions of Bushway, Johnson, and Slocum (2007), we also included a variable indicating whether the youth had experienced prior out-of-home placement (yes/no) that was not included in the subsequent model of time to reoffense. Then, the results of this selection model were used to create a correction factor (i.e., the estimated probability of assignment to RJ programming). This correction factor was used as a control variable (for the probability of having been assigned to an RJ group) in a second survival analysis estimating time to reoffense in an attempt to control for possible selection effects that would confound the examination of the effectiveness of various RJ intervention formats. All of the other predictor variables from Model A (e.g., age, sex, etc.) were also included in this supplemental model of RJ program effectiveness.

Again, the overall model was statistically significant, $\chi^2(12, N = 551) = 2,562.15, p < .001$ (see Table 3, Model B). Once again, participation in each of the RJ groups was negatively related to survival time, when controlling for both initial group differences and our correction factor for potential selection effects into an RJ intervention. In this case however, these negative relationships were significant for all four RJ groups. Youth processed via direct mediation, B = -1.24, SE = .47, Exp(B) = .29, p < .01; RJ panel, B = -1.39, SE = .54, Exp(B) = .25, p < .05; RJ indirect mediation, B = -.85, SE = .32, Exp(b) = .17, p < .01; and no/minimal RJ, B = -1.63, SE = .52, Exp(B) = .20, p < .01, reoffended at a slower rate than those referred to the juvenile court. Juveniles with more extensive offending histories again reoffended more quickly than youth with less extensive offense histories, B = .19, SE = 04, Exp(B) = 1.21, p < .001; and in addition, older youth remained offense free longer than those who were younger at the time of referral to their respective program, B = -.12, SE = .05, Exp(B) = .89, p < .05. The correction factor (selection to RJ) was also significantly related to survival time, B = .58, SE = .28, Exp(b) = 1.79, p < .05.

Discussion

Our results generally not only support the effectiveness of RJ programming as compared to traditional juvenile court processing but also suggest that each type of RJ intervention, even those that are minimally involved (e.g., indirect mediation by the program facilitator) reduces recidivism risk relative to juvenile court proceedings. Consistent with the risk principle (Andrews & Bonta, 2003), this pattern of results would suggest that in many cases, it may be possible to use less intensive RJ approaches (i.e., indirect mediation) and still receive promising results. Screening cases for various risk factors (e.g., extent of criminal history) and then using this information for allocating cases to the least intensive RJ program would potentially allow a larger number of cases to be handled with a minimum of resources and also allow RJ programs to reserve their more intensive interventions (e.g., direct VOM) for those offenders with a higher risk of recidivism. Prior research on the effectiveness of RJ programming among different types of offenders (Bergseth & Bouffard, 2012) suggests that it could be possible for some more serious types of offenders (i.e., those with current violent crimes) to receive RJ type interventions without compromising program impact. For instance, it might be possible to use less intense (e.g., indirect mediation) RJ programming for younger offenders without criminal histories and reserve the more intense versions (conferences or community panels) for those who have repeatedly committed increased levels of harm to the victim and/or community at large.

While our current results show promise for various iterations of the RJ model, the study is not without limitations. First, the results from this small RJ program, which operates in a relatively small, somewhat rural community, may not generalize to others programs in more urban areas or in other parts of the country. Second, the size of the samples involved in the current study limits the ability to examine interactive effects (i.e., between RJ program version and offender characteristics, like current offense type). Earlier research using this data set determined that the RJ programs in general were less effective for certainty types of offenders (e.g., drug offenders, female offenders). Based on those findings, it was suggested that RJ program administrators attempt to refine their models to better respond to the needs of those individuals who may not benefit from existing RJ interventions (Bergseth & Bouffard, 2012).

It will be important for future research, involving larger data sets to continue to examine the effectiveness of various RJ interventions, particularly in terms of recidivism reductions, and also how offender characteristics may interact with program type in predicting differential effectiveness. The current results suggest that among offender types, each version of the RJ intervention examined here—direct and indirect VOM, community panels, and even limited interactions with the program facilitator—produced significant recidivism reductions. These reductions appeared when controls

for initial group differences were included and were even more consistently significant when attempts were made to specifically control for selection effects in relation to who was referred for RJ programming in the first place.

Continued empirical examination of the effectiveness of RJ programming for different types of offenders, and when offered in more or less intensive formats, is needed in order that what appears to be a relatively robust type of intervention can be further refined and tailored to as wide a range of potential offenders as possible. A more thorough understanding of the recidivism reduction effects of RJ interventions will not only promote further refinement of these approaches but will be important for convincing those policy makers who may be skeptical of these programs that they are worth more widespread use in lieu of more traditional, retributive approaches. Given that participants in RJ programs often report high degrees of satisfaction with the intervention, and its potential for sizable recidivism reductions, it is imperative for researchers to continue to understand how these programs can best be implemented for each type of individual who may benefit from their services.

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