

Long-term impact of family group conferences on re-offending: the Indianapolis restorative justice experiment

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Abstract

Objectives The purpose of the current study is to test the long-term effect of Family Group Conferences (FGCs) on recidivism prevalence and time to first re-offense for first-time youthful offenders.

Methods The current study builds on an experiment with a reasonably large sample ($n=782$) conducted in Marion County (Indianapolis), Indiana, USA. The current study extends this work by following the cases for an additional 10 years. To examine the empirical relationships among the variables, this study employs a two-step approach. The initial analysis, employing logistic regression, measures prevalence of re-offending based on whether the youth ever was re-arrested during the follow-up period. The second step employs Cox Proportional-Hazards Regression to examine time until first re-offense. *Results* The findings revealed that when extended to a 12-year follow-up period, there were no significant differences between the FGC and control groups in re-offending prevalence or time to re-offense.

Conclusions An earlier study suggests that treatment group youths experienced reduced risk in the short-term and there is no evidence in the present study to suggest that youths participating in FGCs were placed at greater risk for re-offending. Given these findings and the body of research suggesting improved outcomes for victims, continued experimentation with FGCs and related restorative processes seems warranted. Future studies would benefit from blocking procedures in the experimental design in order to examine whether treatment effects are moderated by gender, race, and initial type of offense. The lack of such blocking procedures represents a limitation of the current study.

Keywords Restorative justice · Family group conference · Indianapolis experiment · Re-offending · Long-term impact · Experimental design

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For much of the late twentieth century, the juvenile justice system in the United States focused on handling cases in the formal justice system, which was characterized as a period in which courts followed a “get tough on crime” philosophy, at least rhetorically (Kratcoski 2004). Although many juvenile cases were handled formally, many critics contended that this method failed to produce the desired result of crime prevention (Snyder 2006). In light of this reality, the limits of the ‘get tough on crime’ policy generated demands for alternative approaches to juvenile justice (Bazemore 1998). The search for alternatives has resulted in several possible models or strategies to enhance the crime prevention goals of juvenile justice. One of the alternative approaches is restorative justice. Restorative justice focuses on addressing victims’ needs, repairing harm, holding offenders accountable, and providing reparation through co-participation of the victim, offender, and members of the community in the justice process (Bazemore 1998; Kratcoski 2004).

The traditional retributive justice paradigm requires punishment for law violators (Zehr 1990). That is, the offender owes a ‘debt to society’, which leads to some form of state imposed punishment (Wundersitz and Hetzel 1996). Typically, the retributive justice paradigm ignores the victim and the community and the offender has no responsibility for reparation (Zehr 1990). In contrast, restorative justice emphasizes the role of the victim and the affected community, and seeks to repair the harm that was caused by the offense rather than relying solely on the State to punish the offender (Bazemore 1998, 2000; Zehr 1990; Wundersitz and Hetzel 1996). Thus, the offender, the victim, and the community are essential co-participants in the restorative justice process (Kurki 2000a, b). Restorative justice is also offered as a more effective response to the high rate of re-offending among juveniles. Indeed, there is growing interest in the impact of restorative justice interventions, specifically their impact on recidivism (Bonta et al. 2002; Bradshaw and Roseborough 2005; de Beus and Rodriguez 2007; Hayes 2005; Latimer et al. 2005; Maxwell and Morris 2002; McGarrell 2001; McGarrell and Hipple 2007; Rodriguez 2004, 2007; Sundell and Vinnerljung 2004). Although these studies have had varying levels of methodological rigor, the majority have demonstrated that restorative justice processes hold promise for reducing re-offending, at least in the short term. Questions remain, however, whether findings of short-term impact translate into long-term impact.

Therefore, the main purpose of the current study is to extend and test ideas which have been raised about restorative justice, specifically Family Group Conferences (FGCs) for youthful offenders, through a comparative analysis of experimental (FGC) and control groups. Specifically, the analysis will extend our understanding of the impact of restorative processes by examining the effects of FGCs on re-offending over a long period of time (Coalition for Evidence-Based Policy 2010).

Prior research on restorative justice

Effects of family group conferencing on re-offending

Do Family Group Conferences reduce the subsequent probability of juveniles re-offending? Although a number of studies have been conducted in the last two decades, the intervention models and evaluation methods are quite varied (Presser

and Van Voorhis 2002). Many empirical studies, however, have reported findings supporting the efficacy of restorative justice interventions, including Family Group Conferences, in reducing re-offending (Bonta et al. 2002; Bradshaw and Roseborough 2005; de Beus and Rodriguez 2007; Hayes 2005; Latimer et al. 2005; Maxwell and Morris 2002; McGarrell 2001; McGarrell and Hipple 2007; Rodriguez 2004, 2007; Sundell and Vinnerljung 2004; but see Umbreit 1994; Umbreit et al. 2001).

Comparison studies Evaluations of restorative justice interventions mainly have been concerned with re-offending within a certain time period after intervention. Several studies have used experimental or quasi-experimental designs comparing restorative justice intervention participants and other court-ordered program participants. Two studies involving 9,255 juvenile referrals participating in either the restorative justice program or a standard diversion program were conducted in the Maricopa County (Arizona) Juvenile Probation Department (de Beus and Rodriguez 2007; Rodriguez 2007). The researchers examined whether those juveniles who completed restorative justice programs were less likely to re-offend than juveniles in the comparison group. Of the juveniles who completed restorative justice programs, girls and younger juveniles were less likely to recidivate than their comparison group counterparts. Regarding offense type, those youths charged with public order offenses (e.g., loitering, resisting arrest, obstruction, disorderly conduct, and alcohol possession) and status offenses were less likely to re-offend than those youths charged with property offenses. Additionally, the results suggested that restorative justice program participants changed their behaviors regarding re-offending. Although boys were more likely to recidivate than girls, both girls and boys who participated in restorative justice interventions were less likely to recidivate than their comparison group counterparts.

Luke and Lind (2002) conducted a very similar quasi-experiment involving patterns of re-offending among young people in New South Wales, Australia. They found that Family Group Conferences had the effect of reducing re-offending for first time offenders. Specifically, they reported that conferencing had a significant effect (15–20 percent) on reduction in re-offending after controlling for the effects of gender and offense type.

As part of a broader outcome evaluation of restorative justice, Bonta and his colleagues (2002) examined Restorative Resolutions, which included victim-offender mediation and restitution, operating in Winnipeg, Manitoba. By matching restorative justice offenders and regular probationers based on an objective risk classification instrument and risk scores, they found that the recidivism rate was significantly lower for the restorative resolution participants.

In Marion County, Indiana, two phases of an experimental study were conducted. In the first phase, the researchers found that youthful offenders attending Family Group Conferences (FGCs) were less likely to be rearrested after 6 months and 12 months than were control group youthful offenders who participated in other court-ordered diversion programs (McGarrell et al. 2000). The second phase of the study was conducted in 2002 by addressing the same research question, but including a larger sample and a longer follow-up period. Employing Cox regression survival analysis, McGarrell and Hipple (2007) found that a greater proportion of the FGC participants did not re-offend before 24 months compared to the control group participants. They also found that the FGC treatment group had a lower incidence rate of offending.

The Canberra Reintegrative Shaming Experiment (RISE), which took place in Canberra, Australia, is also important for its experimental research design of randomly assigning offenders to conferences and traditional court. Specifically, the RISE researchers compared offending rates three years before assignment to either a conference or traditional court to offending rates three years after assignment. The RISE project gathered data on offenses including drink driving (i.e. drunk-driving), juvenile property crime (with personal victims and with organizational victims), and juvenile violent crime. Although they found no reduction for some offense types, the results from the RISE experiments suggest that conferences delivered a better kind of justice than did the courts. Specifically, youthful offenders who committed violent offenses and were sent to a conference were less likely to re-offend during the follow-up period (Sherman and Strang 2004). In contrast, Aboriginal youths committing property offenses and participating in a conference actually experienced higher levels of re-offending.

A more recent meta-analysis by Sherman and Strang (2007) reinforces these findings by concluding that restorative justice in various settings does lead to substantial reductions in recidivism, but with the important qualification that restorative justice appears to work differently on different kinds of people. Specifically, they concluded that restorative justice is more effective in reducing recidivism for individuals who commit serious crime and/or crimes involving personal victims (Sherman and Strang 2007). Furthermore, another meta-analysis by Latimer and colleagues comparing restorative justice approaches to non-restorative approaches also supported the idea that restorative justice interventions are a more effective method of reducing recidivism when compared to traditional non-restorative justice approaches (Latimer et al. 2005)

Based on a study in Northumbria, United Kingdom, Shapland and colleagues (2008) also found that offenders participating in restorative justice interventions demonstrated significantly lower recidivism rates than offenders in the control group. In contrast to Sherman and Strang (2007), however, they concluded there were no significant differences between different kinds of offenders or offenses which led to more reconviction rates based on a study of the Justice Research Consortium (JRC). In sum, these prior studies have evaluated the effectiveness of restorative justice interventions on re-offending by using experimental or quasi experimental designs. Although the studies used different statistical techniques, they were generally supportive of the idea that there were significant differences between groups on rates of re-offending, at least for some demographic groups and some type of offenses.

The research context - Indianapolis juvenile restorative justice experiment

Facing increased juvenile court caseloads and increasing numbers of very young offenders entering the court system, key decision-makers in Marion County, Indiana, were interested in implementing an innovative approach to the treatment of young offenders that would be more effective in reducing re-offending and meeting victim needs. As a result, Marion County (Indianapolis, Indiana) was one of the first U.S. jurisdictions to implement Family Group Conferences as an alternative to traditional processing. Indeed, Indianapolis implemented Family Group Conferences through an experiment that began in September 1997, with the aim of diverting young offenders

from existing court processes (McGarrell et al. 2000; McGarrell 2001; McGarrell and Hipple 2007). Young offenders became subjects in the Indianapolis Juvenile Restorative Justice Experiment (IJRJE) after an arrest and subsequent referral based upon criteria agreed upon by the Chief Judge of the Juvenile Division and the Marion County Prosecutor. For purposes of the experiment, eligibility for the IJRJE was as follows: (1) first-time offenders; (2) very young offenders (14 years of age or younger); (3) charged with battery (or assault), trespass, mischief, conversion (shoplifting), and felony D theft; and (4) youth must admit to committing the offense (McGarrell et al. 2000; McGarrell and Hipple 2007). Having identified a youth as meeting these criteria, court intake personnel would open an envelope provided by the research team that would dictate whether the youth would be assigned to a Family Group Conference or one of the other existing court diversion programs. The envelopes were randomized each month and spot-checking by the research team suggested a high degree of fidelity to the experimental design.

.Once the court intake officer identified a case for referral to the Family Group Conference program, a coordinator made preliminary arrangements, including contacting the key participants. Specifically, the coordinator contacted the offender and his or her family members as well as the victim and the victim's family members. In addition, the coordinator would often invite other supporters to attend the conference such as relatives or others with a close relationship with the young offender or the victim, and any other persons, such as friends, neighbors, teachers, or athletic coaches who were considered appropriate and important in the offender's or victim's life. In most cases, the coordinator contacted the victim first to encourage attendance by explaining what a conference involved and what could be achieved through the victim's participation. In addition, the coordinator considered the victim's preference for conference time and location.

The Indianapolis conferences followed procedures that were adopted from typical Family Group Conferences developed in Australia and in particular followed a model developed in New South Wales (Luke and Lind 2002; Moore and O'Connell 1994).¹ Normally, conferences began by having every participant introduce himself or herself, and the coordinator explaining the procedures to be followed. Participants discussed the offense and its consequences with particular attention to how the parties were affected by the offense. The next step was to determine an appropriate reparation agreement whereby the offending youth(s) would make amends to the victim(s). Typically, this included accepting responsibility for their actions, and making good the harm that was caused by the offense (Maxwell and Morris 1993). The Family Group Conference process attempted to provide opportunity for all participants to understand what happened, who was involved, how the offense affected the victim and community (e.g., physically, emotionally, and/or financially), and the responsibility for the offense. In contrast to traditional court processes, the conferences encouraged active participation and involvement in the decision-making process by the victims and supporters from both sides, and allowed opportunity for the victim to confront the

¹ It is important to note that the New South Wales model of family group conferences differs from those developed in New Zealand. One difference is that the police are often present in the New South Wales conference and often serve as the facilitator of the conference. This is not the case in New Zealand where police are not considered "neutral" parties and thus inappropriate for the facilitator role. Another difference is that the New Zealand model includes private family time for the offending youth and her/his family. This may have an impact on the role of family dynamics included in the present study.

offender with feelings of anger and hurt and to have input into the final reparation agreement (Wundersitz and Hetzel 1996). Ultimately, the conference outcome sought to address the victim's needs, hold the youth accountable, and develop a community of support for both the victim and the offender.

The current study

Research questions and hypotheses

It is evident from the literature review that the research on restorative justice and future offending is promising but insufficient. Existing theoretical models are usually tested for recidivism based on short follow-up periods and little is known whether these models could be extended to explain the long-term effect of restorative justice programs. The current study considers the relative explanatory power of the long-term effect of Family Group Conferences on future criminality. Indeed, the analysis will follow the FGC group and the control group for up to 12 years following the initial referral to the court.

As previously mentioned, the initial Indianapolis experiment found that re-offending prevalence, incidence, and seriousness were lower at 24 months for youths who attended FGCs compared to youths in the control group (McGarrell and Hipple 2007). This study builds on that analysis and extends the follow-up period up to 12 years. Therefore, the primary goal of the study is to test whether these initial findings persist over a longer time period. We predict that participation in conferences will result in lower re-offending incidence rates and longer survival rates. The second purpose of the study is to examine whether there are interaction effects for several control variables shown in prior research to influence the outcome of restorative justice processes. Specifically, we examine the interaction between treatment group and gender, race, and offense type. Prior research suggests these factors will influence re-offending but does not clarify if their impact will be influenced by participation in a Family Group Conference in contrast to other court-ordered programs. Consequently, we address the following research questions:

- Does the short-term impact of FGC on re-offending persist when examined over a 12-year follow-up period?
- Are there interaction effects between treatment and control groups and gender, race, and offense type?

For both research questions, we examine both prevalence of offending and time to future re-offense. We predict that assignment to the treatment group (i.e. FCG group) will result in lower prevalence and increase the time to failure. In terms of the control variables, prior research does not suggest consistent relationships between the control variables and participation in restorative justice processes and thus our assessment of interaction effects is exploratory.

Methodology

Sample As noted above, the current research extends the original study of the Indianapolis Juvenile Restorative Justice Experiment (McGarrell and Hipple 2007). The original experimental design involved random assignment to either Family Group

Conferences or the control group. The control group participants were assigned to 1 of 23 other diversion programs, which represented the usual procedures for handling young, first-time offenders in Marion County during the years of the experiment.² As noted above, eligibility for study participation included the following: first time offenders, 14 years of age and younger who committed one of five offenses, including battery (assault), trespass, mischief, conversion, and felony D theft, where the youth admitted responsibility for the offense. The random assignment occurred through 1-month blocks whereby 10–15 youths were admitted each month in the Family Group Conference program and another 10–15 youths were sent to other diversion programs. The IJRJE took place during the period of September 1, 1997 through September 30, 2000.

There were 782 youths included in the experiment. Four hundred youthful offenders were assigned to the Family Group Conference experimental group, while 382 youths were assigned to the control group.³ Eleven of the youths assigned to the treatment group refused to participate and one youth in the control group refused to participate. Given the small number of refusals, following the spirit of an “intention-to-treat” experimental approach, the analysis includes all individuals assigned to the

² We compare the RJ Conference participants to participants in 1 of 23 other diversion programs including, Shoplifting program, Garden Project, VOM, Volunteer Services, Paint It Clean, TNT, Essay, NCTI, Operations Kids Can, Teen Court, and Community Service.

³ There was a wide range of diversion programs. The most common were a shoplifting course that provided education on the impact of shoplifting on the business community, a victim offender mediation program, teen court, and community service, and then a variety of other programs that involved very few youths. Some of these programs included dimensions similar to Family Group Conferences. The victim offender mediation program included restorative justice principles but involved only the offending youth, the victim, and a mediator. Further, the victim offender mediation program had a low rate of completion (only 29 control youths actually completed the program). Prior analyses excluded the victim offender mediation program from the control group but the results did not change (McGarrell and Hipple 2007). Teen court often included the victim as a testifying witness but this occurred within an adversarial setting. The community service program involved service that was similar to some of the reparation agreements observed in Family Group Conferences. However, in the case of the community service program, the service was not the outcome of a restorative process nor was the service linked to the specific offense. There was occasional parental involvement in some of these programs but such involvement was an exception. Although the diversion programs were not the ideal comparison for testing the efficacy of Family Group Conferences (as would be a juvenile court hearing), there was such a diversity of programs that any similarities of a particular program (like victim offender mediation) and Family Group Conferences were likely diluted in the analyses. The distribution of case assignment and completion rates is reported below.

Complete	Yes		No		Row Totals	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
RJ Group	322	80.5	78	19.5	400	100.0
Control Group	233	61.0	149	39.0	382	100.0
Shoplifting	66	74.2	23	25.8	89	100.0
VOM	29	34.9	54	65.1	83	100.0
Teen Court	54	60.0	36	40.0	90	100.0
Community Service	46	80.7	11	19.3	57	100.0
Other (Control)	38	60.3	25	39.7	63	100.0
Column Totals	555	71.0	227	29.0	782	100.0

treatment and control groups (Coalition for Evidence-Based Policy 2010). However, a supplemental analysis is conducted that excludes these refusals and results in 389 treatment group (RJ Group) participants and 381 control group participants. In addition, there were other youths who did not successfully complete his or her assigned treatment. These included youths who were re-arrested prior to completing the program, youths who did not complete the terms of the reparation agreement (i.e. treatment group), and youths who failed to complete the diversion program (i.e. control group). The Family Group Conference participants had a higher rate of successful completion ($n=322$; 80.5 %) than did participants in the diversion programs ($n=233$; 61 %). Program completion is used as an additional control variable in the analyses.

The current study follows these youths for 10 additional years following the original 24-month follow-up. The primary purpose of this study is to determine the long-term effectiveness of Family Group Conferences in creating protective factors related to re-offending. Additionally, the study allows for the analysis of potential interaction effects between gender, race, and offense type and treatment.

Dependent variable

The primary outcome measure is based on official histories of offending. A great deal of recidivism research has used official records of police incident reports or arrests, or official court referrals, as indicators of crime and delinquency. In terms of the re-offending analysis, officially recorded Marion County Court records are employed in the current study. Although the court records do not capture offending that may have occurred outside the county, the experimental design would suggest that the underestimate of re-offending that this generates would be spread equally across the FGC and control groups. Prevalence of re-offending will be operationalized as a dichotomous variable, with “0” indicating the youth was not re-arrested after the initial arrest that brought the youth to the juvenile justice system for the first time, and “1” indicating the youth was rearrested within the follow-up period. Re-offending is measured for both groups at the 12-year follow-up stage. In the case where multiple charges were filed against a youthful offender at the time of arrest, the recorded re-offense was the most serious substantiated charge. Offenses were grouped into three categories: person offenses, property offenses, and other offenses.⁴

Treatment and interaction effects

The primary focus is on the impact of participation in a Family Group Conference. Consequently, the intervention related variable (*Group*) is dichotomized as “0”, which refers to the experimental group (i.e. FGC group), and “1”, for the control group (i.e., one of 23 other diversion programs).

Prior studies have raised questions as to whether the effects of treatment are moderated by characteristics of the offense and the offender (de Beus and Rodriguez 2007; Maxwell and Morris 2002; Rodriguez 2007; Sherman and Strang 2004, 2007).

⁴ Other Offense includes runaway, curfew violation, violation of probation, and other minor offenses.

We recognize that the original study did not use statistical blocking as a means of ensuring equivalence on blocking characteristics (Gill and Weisburd 2012). Nonetheless, given the size of our sample, some scholars suggest interaction analyses irrespective of statistical blocking (Ariel and Farrington 2012). Consequently, we examine interactions for treatment group by race⁵ (0=Non-White), gender (0=female), and original offense type (person offenses; property offenses compared to other offense types).

Analysis approach

To examine the empirical relationships among the variables, this study employs a two-step approach. The initial analysis, employing logistic regression, measures prevalence of re-offending based on whether the youth ever was re-arrested during the follow-up period. The second step employs Cox Proportional Hazards Regression. This model was originally developed to study the occurrence of an event that could only be experienced once (Ezell et al. 2003). The most common type of multiple failure time data is repeated event data, which refers to the case in which the subject may experience the same event multiple times (e.g., re-offending) during the follow-up period (Ezell et al. 2003). The proportional hazards model allows us to take a closer look at the many factors that may contribute to time until failure (or a multivariate comparison of hazard rates) and to control various background characteristics that affect the time until failure. Therefore, the proportional hazards model provides information on whether the hazard rate (or the risk of failure at a specific point in time) is influenced in a positive or a negative way by the independent variables (or covariates).

The analysis initially examines the basic experimental finding of treatment group assignment. Additionally, models are presented that include gender, race, and initial offense type as control variables in order to examine potential interaction effects.

Results

General characteristics of sample

The two study samples are compared on several dimensions of demographic characteristics including gender and race (Table 1). Descriptive statistics show that the sample population was comprised primarily of male youths. Males represented 59 percent of juveniles in the control group and 65 percent of juveniles in the FGC group, a difference that was statistically significant. Thirty-six percent of juveniles in the control group were White compared to 43 percent of the conference group. This difference was not statistically significant. Initial offense type and recidivism offense (i.e. new offense) was divided into three categories: person offenses, property offenses, and other offenses. The majority of youths in both assignment groups

⁵ Almost all the youths in the sample were either African-American or White. The two percent falling in other racial/ethnic groups were combined with African-Americans as a Non-White category.

Table 1 Comparisons of the family group conference and diversion programs ($n=782$)

Parameter	Control ($n=382$)	FGC ($n=400$)
Demographic		
Gender: Male (%)*	59.4	64.8
Race: White (%)	36.4	43.0
Initial Offense		
Person (%)	29.6	27.8
Property (%)	48.4	48.8
Other (%)	22.0	23.5
Recidivism (New Offense)		
All Offenses	78.3	77.8
Person Offense	38.2	37.8
Property Offense	40.1	36.3
Other Offense	73.6	72.0

* $p < .05$,

committed property offenses as their initial offense (48.4 percent on control group and 48.8 percent on FGC group, respectively). Person offenses were the second most common initial offense type for both groups. None of the differences in initial offense types were significant. As for first re-offense type, property offenses were most prevalent for the control group (40.1 %) and person offenses were most common for the FGC group (37.8 %). Again, none of the differences were significant.

Statistical methods

The basic measure we used to analyze effect of FGCs upon recidivism was prevalence of re-offending. These data were analyzed using logistic regression models. In addition to learning whether the FGC affected the prevalence of re-offending, we were also interested in knowing whether the FGC affected the time to the first new re-offense. Accordingly, we used Cox regression analysis (or proportional hazards model) to examine the impact of Family Group Conferences, and other court-ordered diversion programs, on recidivism, especially on time until first recidivism. Proportional hazards models have the advantage of mechanisms to deal with the problem of censoring (Regoeczi et al. 2008). In addition, proportional hazards models track the relationship between hazard function (i.e. rate) and predictors (Singer and Willett 2003). The survival distributions for the FGC group and the control group were compared. The model can be specified as:

$$\log h_i(a) = \log h_0(a) + \sum \beta_i \chi_i$$

where $h_i(a)$ is the individual hazard of predictors that lead to recidivism for the first time for the i th individual as a function of time, $h_0(a)$ is the baseline hazard when the values of all predictors are 0, and β_i is the vector of parameters for the individual covariates χ_i (i.e. gender, race, etc.). The estimations were made using the *st* package in STATA 11.0. We estimated the model for all offense types and then separately by

person offense and property offense.⁶ We used the competing risks modeling technique described by Singer and Willett (2003) to analyze different types of recidivism (i.e. all offenses, person offenses, property offenses, and other offenses). It is assumed that the individual who recidivated with a specific offense type is censored at his or her first re-offense date and is no longer at risk of re-offending with another offense type. In other words, different offense types are assumed to be independent after controlling for covariates in the model.

Bivariate analysis

As a preliminary measure, bivariate correlations were computed for each variable (Table 2). One individual characteristic, being White, was negatively correlated with ever recidivating. In addition, having initially committed a property offense was also negatively associated with recidivism. In contrast, having initially committed a person offense or a wide range of less serious offenses or public order offenses was positively associated with recidivism.

FGC and recidivism – logistic regression model

Table 3 presents the logistic regression models. The initial model (Model 1) considers only the impact of the experimental treatment. Four models are presented for all offenses, person offenses, property offenses, and other offenses. Although the coefficient is in the anticipated negative direction, the results are not statistically significant. Thus, the key finding is that in contrast with the earlier results that indicated higher failure rates for control group youths through 24 months (McGarrell and Hipple 2007), the current findings indicate that the group effect was not observed over the full 12-year follow-up period.

Table 4 presents the logistic models, with the relationship estimated between treatment group, demographic factors, initial offense, and recidivism. The models include the control variables and interaction effects. As was the case for the basic model (Table 3), there was no significant difference in risk of recidivism between the experimental and control groups over the follow-up periods.

As noted above, gender, race and initial offense type were included as control variables in order to examine interaction effects. As Table 4 displays, no significant interaction effects were observed.

FGC and recidivism – proportional hazard model

As noted above, Cox Regression techniques, or Proportional Hazards Models, were used to assess time until first failure. The results are presented in Tables 5 and 6. Models 1–4 in Table 5 assess experimental treatment effects at the baseline without controlling for any covariates. Consistent with the earlier model assessing the impact on prevalence of re-offending, the effect hazard ratios for group was not statistically

⁶ Since we dealt with first re-offense only, and since the individuals were randomly assigned, there was no problem of multiple events for the same individual or unobserved relationships between the individuals in the sample.

Table 2 Zero order correlation matrix

	1	2	3	4	5	6	7
1. Group	1**						
2. Gender	.06	1**					
3. Race	.07	.04	1**				
4. Person Offense	-.02	.01	-.01**	1			
5. Property Offense	.01	-.01	.01**	-.62**	1		
6. Other Offense	.02	.01	.01**	-.34**	-.53**	1	
7. Recidivism	-.01	-.01	-.12**	.07**	-.15**	.10**	1

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

significant, indicating there were no significant differences in hazard ratios for recidivism over the 12-year follow up period.

Table 6 presents the hazard ratios for estimated recidivism for all offense types (Model 1) and for specific offense types (Models 2, 3, and 4) from competing risks models.⁷ Interaction terms of group \times predictors were examined to consider whether the general relationship between experimental group and recidivism varied by other control variables. Consistent with the earlier analyses, no significant interaction patterns emerged.

Discussion and conclusion

Prior research has suggested that restorative justice processes typically yield clear benefits for victims (Braithwaite 2002; McGarrell 2001) and may also be associated with reduced levels of re-offending (Bonta et al. 2002; Bradshaw and Roseborough 2005; de Beus and Rodriguez 2007; Hayes 2005; Latimer et al. 2005; Maxwell and Morris 2002; McGarrell 2001; McGarrell and Hipple 2007; Rodriguez 2004, 2007; Sundell and Vinnerljung 2004). The existing research that has tested for recidivism, however, has typically been based on relatively short follow-up periods (e.g., 6 months to 2 years). Therefore, the main purpose of the current study was to provide an assessment of the long-term impact of FGC on re-offending. The findings suggest that the positive impact on re-offending observed within the initial 24-month follow-up period of the Indianapolis experiment (McGarrell and Hipple 2007) did not persist when examined over a 12-year period.

Although these findings may be disappointing to proponents of restorative justice processes generally, and FGCs specifically, they should not be surprising. The FGC, at least as implemented in the Indianapolis Juvenile Restorative Justice Experiment (2000), was a short-term intervention that typically lasted less than one hour (Hipple and McGarrell 2008). The finding that the impact of FGCs on re-offending was most pronounced during the initial 6 months (McGarrell and Hipple 2007), but then

⁷ For interpretation, the estimated coefficients have been transformed into hazard ratios.

Table 3 Rates of officially recorded failures by assignment group (Logistic)

Group	Model 1 (All)			Model 2 (Person)			Model 3 (Property)			Model 4 (Other)		
	<i>b</i>	SE	<i>Exp(b)</i>	<i>b</i>	SE	<i>Exp(b)</i>	<i>b</i>	SE	<i>Exp(b)</i>	<i>b</i>	SE	<i>Exp(b)</i>
FGC	-.03	.17	.97	-.02	.15	.98	-.16	.15	.85	-.08	.16	.92
-2 Log Likelihood	823.95			1,038.42			1,038.22			915.65		
Chi-Square	.03			.02			1.20			.24		
<i>df</i>	1			1			1			1		

decayed over time as evidenced in the present analysis certainly seems reasonable given the limited dosage of the intervention. Indeed, Braithwaite (2002), perhaps anticipating results like these, made the argument that rather than viewing FGCs as a one-time intervention that they be considered as interventions that would be repeated in order to have maximum impact in assisting offenders learn how their behavior has

Table 4 Rates of officially recorded failures (Logistic)

Group	Model 1 (All)			Model 2 (Person)			Model 3 (Property)			Model 4 (Other)		
	<i>b</i>	SE	<i>Exp(b)</i>	<i>b</i>	SE	<i>Exp(b)</i>	<i>b</i>	SE	<i>Exp(b)</i>	<i>b</i>	SE	<i>Exp(b)</i>
FGC	.35	.36	1.42**	-.14	.32	.87	-.13	.31	.88**	.18	.33	1.20*
Demographic												
Gender ^a	.11	.26	1.11**	.16	.22	1.18	.32	.22	1.38**	.14	.24	1.15*
Race ^b	-.43	.26	.65†**	-.21	.22	.81	-.58	.23	.56**	-.41	.24	.67†
Initial Offense												
Person ^c	1.04	.38	2.83**	.24	.27	1.27	.46	.27	1.59†*	.72	.33	2.05*
Property ^c	.55	.29	1.73†*	.34	.25	1.40	.27	.25	1.30**	.34	.27	1.40*
Interaction Effects												
Group × Gender	-.27	.37	.77**	.14	.31	1.15	-.22	.31	.80**	-.11	.34	.90*
Group × Race	-.34	.36	.71**	-.46	.31	.63	.23	.31	1.26**	-.36	.33	.71*
Group × Person Offense ^d	-.32	.50	.73**	.29	.38	1.34	.09	.38	1.10**	-.25	.44	.78*
Group × Property Offense ^d	.15	.42	1.16**	.50	.35	1.64	.05	.35	1.05**	.17	.39	1.18*
-2 Log Likelihood	792.73			1,011.27			1,018.84			891.05		
Chi-Square	31.26**			27.17**			20.58*			24.84**		
<i>df</i>	9			9			9			9		

***p* < .01, **p* < .05, †*p* < .10

^a Male is the reference category

^b White is the reference category

^c Public Order/Other offense is the reference category

^d Other Diversions × Public Order/Other offense is the reference category

Table 5 Cox regression: basic

Group	Model 1 (All)			Model 2 (Person)			Model 3 (Property)			Model 4 (Other)		
	<i>z</i>	SE	<i>H.R.</i> ^a	<i>z</i>	SE	<i>H.R.</i> ^a	<i>z</i>	SE	<i>H.R.</i> ^a	<i>z</i>	SE	<i>H.R.</i> ^a
FGC	-.76	.08	.94**	-.29	.11	.97**	-1.05	.10	.89**	-.88	.08	.93**
-2 Log Likelihood	7,444.26			3,828.62			3,839.64			7,007.50		
Chi-Square	.57			.08			1.09			.78		
Df	1			1			1			1		

***p*<.01,

^aH.R. = Hazard Ratio

Table 6 Cox regression: full model with other offense

Group	Model 1 (All)			Model 2 (Person)			Model 3 (Property)			Model 4 (Other)		
	<i>z</i>	SE	<i>H.R.</i> ^a	<i>z</i>	SE	<i>H.R.</i> ^a	<i>z</i>	SE	<i>H.R.</i> ^a	<i>z</i>	SE	<i>H.R.</i> ^a
FGC	.49	.18	1.09**	-.43	.23	.90	-.62	.21	.86**	.28	.18	1.05**
Demographic												
Gender ^b	.30	.12	1.04**	.57	.19	1.10	1.50	.22	1.29**	.46	.13	1.06**
Race ^c	-.74	.11	.91**	-.75	.15	.88	-2.62	.11	.63**	-.77	.11	.91**
Initial Offense												
Person ^d	-.68	.14	.90**	.67	.26	1.16	-.63	.19	.87**	-1.42	.13	.79**
Property ^d	-2.95	.09	.65**	-.87	.18	.83	-1.68	.14	.71†*	-2.66	.10	.67**
Interaction Effects												
Group × Gender	-.08	.17	.99**	.43	.27	1.11	-.49	.22	.89**	-.02	.17	.99**
Group × Race	-1.48	.13	.78**	-1.50	.17	.69	.80	.30	1.22**	-1.40	.14	.78**
Group × Person Offense ^c	-.70	.18	.87**	.76	.37	1.26	.39	.32	1.12**	-.99	.17	.81**
Group × Property Offense ^c	.19	.20	1.04**	1.07	.36	1.33	.30	.30	1.09**	.59	.22	1.12**
-2 Log Likelihood	7,415.45			3,828.67			3,819.19			6,878.45		
Chi-Square	29.39**			26.03**			21.55*			21.83**		
df	9			9			9			9		

***p*<.01, **p*<.05, †*p*<.10

^aH.R. = Hazard Ratio

^bMale is the reference category

^cWhite is the reference category

^dPublic Order/Other offense is the reference category

^eOther Diversions × Public Order/Other offense is the reference category

negatively affected others. Given that such processes better meet the needs of most victims, the call for FGCs to be the routine as opposed to exceptional response to youth offending seems logical.

The current study is not without limitations. First, the study focused on whether the youths re-offended once and, if so, when in the follow-up period the youthful offender's recidivated. The current study does not, however, examine two other critical dimensions of re-offending. Specifically, future research should consider the incidence or number of incidents for those youths who re-offend. Similarly, future analysis should consider the seriousness of re-offending. Perhaps participation in a FGC affects incidence and seriousness over the long-term even if the current results suggest only a short term impact on prevalence and timing of re-offending.

Another limitation of the current study is that the comparison is limited to a control group who participated in other court-ordered diversion programs. The theory of reintegrative shaming (Braithwaite 1989) and balanced and restorative justice (Bazemore 1998) suggests that restorative processes are most likely to be effective when viewed in contrast to adversarial court processes. It is unclear where the control group experiences fell in terms of a continuum ranging from adversarial court procedures to restorative conferences. Perhaps long-term effects would be more pronounced if the control group had experienced court processes as opposed to these other diversion programs.

The outcome measures of the current study solely relied on official court records within Marion County, Indiana. This limitation reduces the ability to capture a full picture of re-offending prevalence and incidence. Although official records are the most widely used data to measure re-offending, some studies have demonstrated that self-reported data provide higher validity of prevalence and incidence of delinquency measures (Junger-Tas and Marshall 1999). Clearly, the study would have benefitted from self-report measures. However, the common outcome measure using official records does provide a consistent measure, although with a lower base rate than would be the case with self-reports.

An additional limitation is that the current experiment did not include blocking procedures to examine whether the treatment effects of FGCs were moderated by gender, race, and initial offense type. Prior research has generated inconsistent findings regarding the impact of these factors on the efficacy of restorative processes (e.g., de Beus and Rodriguez 2007; Rodriguez 2007; Shapland et al. 2008; Sherman and Strang 2004, 2007). As noted, we approached this question by examining interaction effects but found no significant relationships. In order to better understand the potential moderating effects of factors such as gender, race, and type of initial offending on the treatment effect of FGCs, future experiments with adequate sample sizes would benefit through inclusion of blocking procedures in the experimental design.

There is no evidence that youths participating in conferences were placed at greater risk for re-offending. Indeed, the earlier study suggests that treatment group youths experienced reduced risk in the short-term. Given these findings and the body of research suggesting improved outcomes for victims, continued experimentation with FGCs and related restorative processes, including the repetitive use of conferences for repeat youthful offenders, seems warranted.

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