

The Effectiveness of Restorative Justice Programs:
A Meta-Analysis of Recidivism and Other Outcomes

by

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Abstract

Restorative justice (RJ) is an alternative approach to the traditional criminal justice system (CJS) that focuses on repairing harm. Despite the recent proliferation of RJ programs, research suggests that their efficacy depends on various factors such as study methodology. The goal of the present study was to synthesize previous research on the effects of RJ in reducing recidivism as well as improving other outcomes. The findings from 59 studies on 67 samples examining the effectiveness of RJ programs were analyzed. The results revealed that RJ was associated with significant moderate reductions in general recidivism and improvements in satisfaction, procedural justice, offender accountability, offender attitudes, and reoffense severity. There were significant sample, study, and program moderators for general recidivism and victim procedural justice. Taken together, the results provide moderate support for the efficacy of RJ programs in reducing recidivism and suggest their potential for improving other outcomes over traditional CJS approaches.

Keywords: restorative justice, offender rehabilitation, recidivism, victim satisfaction

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The Effectiveness of Restorative Justice Programs:
A Meta-Analysis of Recidivism and Other Outcomes

Restorative justice (RJ) is an alternative approach to resolving conflict that is increasingly being integrated into criminal justice systems (CJS) around the world. In contrast to more traditional CJS approaches that emphasize segregation and punishment, the goal of RJ is to repair broken relationships and reintegrate offenders back into their communities (Daly, 2001). Through techniques that foster collaboration and healing, RJ is thought to bring back justice to its rightful recipients: the victims and extended community. Despite the progressive movement towards restorative approaches, empirical research supporting its efficacy in reducing recidivism and improving other outcomes such as victim and offender satisfaction is not well established. According to recent reviews, the inconsistent findings in the literature can be partly attributed to differences in methodology such that more rigorous research designs are less likely to demonstrate significant reductions in recidivism (Sherman, Strang, Mayo-Wilson, Woods, & Ariel, 2015). In addition, the wide variation in the principles, techniques, and goals of RJ programs present unique challenges to summarizing their overall effectiveness. Consequently, studies that evaluate a wide range of RJ programs have found more conflicting results than those that focus on specific programs (Bradshaw, Roseborough, & Umbreit, 2006). Given the increased implementation of RJ (Sherman & Strang, 2007), it is critical to address these methodological issues to achieve an accurate interpretation of its rehabilitative potential. The purpose of this study is to provide an updated summary of the efficacy of RJ in reducing recidivism using meta-analysis. In addition, given that the goals of RJ extend beyond reducing recidivism, this analysis also examined its effectiveness in improving other outcomes such as victim and offender satisfaction.

Definition

An formal definition of RJ has yet to reach consensus. In general, RJ refers to a variety of practices that focus on remedying the harm experienced by those directly affected by the criminal act over retributive traditions (Daly, 2001). It is considered a value system that views the criminal act as an offence against individuals and society rather than the state and seeks to restore justice to those directly involved (Zehr & Mika, 1997). One of the most widely cited definitions by Marshall (1996) states that: “restorative justice is a process whereby all the parties with a stake in a particular offence come together to resolve collectively how to deal with the aftermath of the offence and its implications for the future” (p. 37; cf. Braithwaite, 1999, p. 5). Although there are various forms and degrees of RJ programs, the most common procedure involves bringing together the offender, victim, and community in discussing the causes and effects of the criminal act. In doing so, RJ establishes a greater sense of accountability without relying on punitive measures and stigmatizing the offender, in contrast to the traditional CJS (Umbreit, 2001). Along with discussing the crime, all parties involved make a collaborative effort in reintegrating the offender back into the community by reaching an agreement as to how the injustices will be repaired and prevented in the future (Latimer, Dowden, & Muise, 2005).

History

A consequence of the fragmented concept of RJ is the lack of a complete analysis of its historical origins. RJ scholars have become the authority on its historical background by drawing parallels from primitive societies to account for the natural progression of RJ approaches. In their interpretation, ancient indigenous communities have used similar paradigms by favouring cooperation and collectivism over retribution and domination when handling deviant behaviour (Braithwaite, 1999). However, this paradigm shifted in modern times when crime became

officially defined as a transgression of the law rather than a moral transgression among individuals (Weitekamp, 1999). The aftereffect of these views is an over-emphasis on impersonal, punitive approaches to correcting deviant behaviour and a neglect of our deep-seated need for human connection (Ury, 2000). A common opinion among scholars is that the ubiquity and success of collaborative resolution throughout history corroborates RJ as a preferable ideology over the current system (e.g., Braithewaite, 1999; Weitekamp, 1999). Although these accounts are argued to be biased in favour of RJ (Sylvester, 2003), it is well documented that practices akin to RJ have existed for centuries in New Zealand, North America, and South Africa (Umbreit, Vos, Coates, & Lightfoot, 2007).

More recently, RJ approaches have been adopted in Canada, England, Australia, Scotland, New Zealand, Norway, the United States, Japan, and several European countries (Latimer et al., 2005). The emergence of RJ in modern times has been influenced by political movements in response to issues with traditional CJS, such as the mistreatment of female victims, efforts to abolish the prison system, indigenous peoples' emancipation movements, and the increased awareness of young offender issues (Walgrave, 2008). These developments, along with the introduction of community-based mediation programs, have led the United States and Canada to turn to RJ as an alternative to the traditional retributive system (McCold, 2006). In Canada, a major precursor to the RJ movement was the 1996 amendment in the Criminal Code to authorize community-based sentencing for adults which led to an increased interest in RJ methods at the Satisfying Justice Conference in 1997 (Tompsonski, 2014). Following this development was the *Youth Criminal Justice Act* (YCJA, 2002), which includes provisions that refer young offenders to extrajudicial sanctions. These sanctions are outside of traditional justice practices and are the primary way youth are referred to RJ (Tompsonski, Buck, Barga, &

Binder, 2011). Moreover, the YCJA (2002) allows youth justice committees and conferences to make sentencing and reintegrative decisions, in line with restorative principles and values (Tomporowski et al., 2011).

Given these recent developments, it is clear that current Canadian legislation is reflective of the of RJ movements in other countries, particularly for young offenders. RJ practices are currently found in all provinces and territories across Canada, however policies regarding referral procedures vary (Tomporowski et al., 2011). Justice Canada supported recent efforts to formulate specific guidelines for referral procedures by developing ‘Values and Principles of Restorative Justice in Criminal Matters’ and ‘Restorative Justice Program Guidelines’ (Justice Canada, 2003a, b). Funding for research and development of restorative justice programs is provided by federal, provincial, and territorial government agencies (Tomporowski, 2014). For example, Correctional Service Canada (CSC) developed a mediation program for serious offenders known as the Restorative Opportunities (RO) program and supports the National Restorative Justice Week and the National Restorative Justice Symposium (Tomporowski, 2014).

Along with its expansion within government organizations, private and non-for-profit agencies also provide various RJ services. In particular, community justice programs operated by First Nations, Tribal Councils, and other Aboriginal Organizations such as the Aboriginal Justice Strategy also provide various restorative justice services for sentencing, victim support, and offender reintegration. In addition, many non-for-profit organizations and community groups that provide restorative justice services are funded by provinces and territories across Canada, although the amount of funding varies for specific programs (Tomporowski, 2014). According to a CSC report, there were over 400 existing RJ programs in Canada during the years of 2009 and

2010 that were funded by government agencies (Correctional Service Canada, 2016). While there is currently a range of different types of RJ programs in Canada, the most common forms are victim-offender mediation, circles, and conferences, all of which are defined and discussed in a later section (CSC, 2016).

Theoretical Background

RJ is based on a theory of justice that focuses on empowering individuals and their communities in handling criminal behaviour without having to resort to punishment (Walgrave, 2001). According to Zehr (2002), the criminal act is a violation of personal relationships that creates moral obligations, which ought to be addressed through active participation of those involved. This notion of moral liability as a result of the criminal act stems from Christie's (1977) seminal critique of the traditional CJS, "Conflicts as Property". In this work, Christie (1977) proposes that conflict, such as crime, is a valuable property: an opportunity for the community to make important decisions and resolve issues pertaining to ethical behaviour within a society. However, the state takes ownership of these conflicts when the CJS is responsible for handling criminal cases. As a result, the community loses out on the potential for growth from dealing with criminal issues, the victim's needs are neglected, and the offender becomes dehumanized (Christie, 1977). In many ways, these views are manifested in RJ such that it allows the community to reclaim their power in handling criminal matters. In addition, by giving both the victim and offender a voice in the justice process, RJ achieves a greater sense of reparation without relying on punishment (Woolford, 2009).

Another theory consistent with Christie's (1977) opposition towards a punitive CJS is procedural justice theory (Tyler, 1990; Wong, Bouchard, Gravel, Bouchard, & Morselli, 2016). Procedural justice emphasizes the importance of the offender's perceived fairness and

respectfulness of the criminal justice process when encouraging law-abiding behaviour. According to this theory, when offenders feel they are treated in a respectful and dignified manner, they are more inclined to view legal authorities as legitimate (Tyler, 2006). As a result, offenders would be more likely to reciprocate respectful behaviour, thereby increasing their receptivity to change (Barnes, Hyatt, Angel, Strang, & Sherman, 2015). In contrast, when offenders feel that the legal process has been unjust, they are more likely to undermine the legitimacy of legal authorities, which may lead to further criminality. The emphasis on respectful treatment towards offenders in procedural justice coincides with RJ's general opposition towards punishment and acknowledgement of the offender's needs (Barnes et al., 2015). Procedural justice is especially apparent during the discussion phase in RJ where the offender is expected to be treated with respect and included in the decision-making process. Based on procedural justice theory, encouraging such a respectful and egalitarian atmosphere promotes a sense of belonging in the community and a moral obligation toward others (Tyler, 2006).

A major theoretical foundation of RJ closely related to procedural justice is Braithewaite's theory of re-integrative shaming. Braithewaite (1996) observed that societies who shame criminal behaviours most effectively tend to have the lowest crime rates. Drawing from this assertion, Braithewaite (1996) distinguishes between 'bad' and 'good' shaming where bad shaming refers to condemning the individual who committed the crime and good shaming refers to condemning the criminal act itself. This distinction is critical given that the former is thought to result in stigmatization while the latter promotes re-integration into the community (Hay, 2001). In this way, re-integrative shaming is that which disapproves of the criminal act while also providing a sense of support and forgiveness towards the offender (Braithewaite, 1989). According to Braithewaite (1989), using shaming in this manner elicits powerful emotions (e.g.,

regret, anger) that lead to desistance from engaging in future criminality. RJ is heavily based in re-integrative shaming theory such that it seeks to establish a supportive atmosphere for the offender to acknowledge their accountability and to be re-integrated back into the community (Woolford, 2009).

RJ is both a theory of criminal justice and a practice that claims to ultimately desist offenders from the CJS (Shapland et al., 2008). Despite its rich theoretical background, the RJ approach has paid less attention to formulating a theory of rehabilitation that underlies its common practices. In particular, there is ongoing discussion regarding where RJ stands in relation to the leading theory of offender rehabilitation known as the Risk-Need-Responsivity (RNR) model (Andrews et al., 1990). RNR theory encompasses three major principles that guide offender rehabilitation practices: 1) the risk-level of the offender should be matched with the intensity of the treatment services that they receive, 2) treatments are most effective when they target criminogenic needs (i.e., factors that are found to influence recidivism risk such as antisocial peers, substance abuse, and impulsivity), and 3) treatment should utilize empirically supported intervention strategies while taking into account the abilities and learning styles of individual offenders (Andrews & Bonta, 2010).

While there is a large body of evidence supporting the RNR model (e.g., Bonta et al., 2010; Andrews, Bonta, & Wormith, 2011; Looman & Abracen, 2013), the research investigating the application of these principles to RJ programs is limited. On the one hand, both approaches appear to be compatible in their emphasis on addressing needs that are ultimately related to desistance such as providing additional support to both victims and offenders (e.g., treatment, victim services) (Rugge, 2006). However, RJ also includes practices that are theoretically related to various positive outcomes but are not recognized as effective intervention strategies under the

RNR model, such as developing empathy (Ward, Fox, & Garber, 2014). A major point of disagreement appears to be in RJ's emphasis on the processes that eventually lead to offender desistance (e.g., healing) rather than improving specific outcomes (e.g., risk reduction). Given the dissociation between these two influential theories, some authors have suggested that RJ programs should incorporate RNR principles in order to enhance treatment outcomes (Bonta, Jessemen, Ruggie, & Cormier, 2006). However, more research is needed to investigate how these two diverging approaches can be harmonized in practice.

Types

According to Tomporowski et al. (2011), there are three main types of RJ programs in Canada: circles, family-group conferences, and victim-offender mediation (VOM). The concept of RJ is often expanded well beyond these three categories to include other programs that incorporate varying degrees of RJ principles such as restitution programs, therapeutic communities, and victim services (McCold, 2000). However, according to McCold (2000), these latter programs are considered the lowest form of 'restorativeness' in RJ and may not be representative of its ideal form. Therefore, for the purpose of this review, the most common programs considered to have the highest degree of restorativeness will be presented.

Circles. The circle process originated from Indigenous practices in North America and involves a discussion between the offender, victim, and community facilitated by a judge or respected elder (Tsui, 2014). All members are given opportunities to speak and to contribute to the decision regarding how the injustice will be resolved. According to Stuart and Pranis (2006), the stages for successful circles include suitability for the circle process, preparation, a full circle gathering, and follow-up. Bain (2012) distinguishes between three types of circles that have considerable overlap but differ in their priorities: peace circles, healing circles, and sentencing

circles. Peace circles are most often used by the Navajo nation in the US and emphasize reconciliation between victims and offenders through a discussion of the criminal act and its effects (Tsui, 2014). In healing circles, the primary focus is on restoring the wellbeing of those affected by the offence through an open and respectful discussion. Finally, sentencing circles are most common in Canada and involve a deliberative process that aims to divert a case from traditional CJS and reach a consensus in the community for an appropriate sentence for the offender (Wooldford, 2009). Circles are viewed as an effective restorative method because they provide an opportunity for balanced and non-confrontational discussion while fostering a sense of community among its members.

Family-group conferences. Family group conferences (FGC) originated in New Zealand with the *Children, Young Persons and Their Families Act* (1989). This Act was initiated by the need to address the over-representation of Maori youth within correctional institutions and to include families in the decision-making process (Daly, 2003). This Act states that a FGC must be implemented before any sanction is imposed on a youth offender (Walgrave, 2001). As a result, FGCs have become ubiquitous for handling youth criminal justice incidents in New Zealand (Wooldford, 2009). Following these developments, Wagga Wagga in Australia implemented a police-lead conference that integrates elements of New Zealand's FGC's and Braithwaite's (1996) concept of re-integrative shaming (Woodford, 2009). In general, FGCs often involve the offender, victim, their families and friends, police, and a trained facilitator (Wong et al., 2016). Like the circle process, conferences seek to bring together all parties involved to discuss and repair the harms created by the criminal act as well as prevent them from reoccurring (Luke & Lind, 2002). According to Sherman et al. (2015), conferences typically begin with an introduction by the facilitator, followed by each member introducing themselves, describing how

the crime affected them, how these harms may be repaired, and how to encourage the fulfillment of these reparations. Through this process, the needs of those harmed are acknowledged and the offender achieves a greater understanding of the impact of their actions (Sherman et al., 2015).

Victim-offender mediation. Victim-offender mediation (VOM), also known as victim-offender reconciliation (VOR), is one of the most commonly used RJ approaches in North America and Europe (Walgrave, 2008). It was first introduced in Elmira, Ontario in 1974 where a probation officer suggested community restitution as part of the sentencing of two teenage boys who went on a vandalism spree. Upon the judge's assent, the boys made reparations to all those harmed and gained a better understanding of the impact of their actions. The apparent success of such practices led to the proliferation of VOM programs in Canada (Tompsonowski, 2014). VOM typically includes the victim, offender, and a trained facilitator and focuses on establishing a safe environment, preparation, voluntary participation, face-to-face encounter, and a follow-up (Umbreit et al., 2006). VOM provides the victim a chance to discuss face-to-face with the offender how the crime has affected them while allowing the offender to understand the impact of their actions and make amends to the victim (Umbreit, Vos, Coates, & Armour, 2006). If sentencing is the major purpose of VOM, the discussion of the criminal act is followed by an agreement for how restitution will be delivered (Niemeyer & Shichor, 1996). In contrast to other RJ approaches, VOM emphasizes the victim-offender relationship over reaching an agreement and the inclusion of extended support systems (e.g., friends, family, and the community) is less common (McCold, 2006). For this reason, VOM is more often used in the later stages of the justice process (Bain, 2012).

Elements

The vision of RJ presented by scholars is not always a reflection of how it is implemented in practice. One of the reasons for this discrepancy is that many of the principles and elements of RJ are still debated (Doolin, 2007). As RJ has expanded to various forms and degrees in practice, the more difficult it has become to maintain sight of its core tenants (Ashworth, 2002). As Walgrave (2008) aptly states, “overfilling a concept [of RJ] empties it” (Walgrave, 2008; pp. 42). Nevertheless, there are consistent themes in RJ programs that can be identified for the purpose of this review. Such key elements include voluntariness, face-to-face encounter, discussion, accountability, and re-integration.

Voluntariness. According to Llewellyn and Howse (1998), voluntariness is one of the necessary conditions for RJ. Simply put, the restorative process should be completely voluntary for all parties involved (Llewellyn & Howse, 1998). The voluntary nature of RJ is not limited to consenting to a given program but is maintained throughout the process such as when contributing to discussions and the decision to make amends (Marshall, 1999). A practical reason for voluntariness concerns safety such that participation in the program should not be at the expense of the victim and the extended community’s well-being. Enforcing participation would run counter to RJ’s fundamental principle of acknowledging the needs of the victim and offender (Woolford, 2009). In addition, voluntariness functions to elicit genuine emotions in the restorative process. That is, if offenders were given the choice to participate, it is likely that they are more emotionally invested in the process and that expressions of guilt are sincere (Woolford, 2009). Unfortunately, participation in RJ programs is more often court-ordered than by choice and therefore, voluntariness is considered an ideal standard rather than a requirement (Wong et al., 2016).

Face-to-face encounter. A cardinal feature of most RJ programs is the face-to-face encounter between the offender and the victim. This is especially true for certain types of programs such as VOM where the purpose is to establish dialogue between victims and offenders (Bradshaw, Roseborough, & Umbreit, 2006). Other programs such as family-group conferences also encourage the participation of victims outside of the victim and offenders such as family, friends, community, social service workers, and criminal justice professionals (Sherman et al., 2005). As with all other features of the RJ process, face-to-face interactions between parties should be completely voluntary (Latimer et al., 2005). However, given that the primary goal of RJ is to foster healing between those directly involved, such an interaction is essential. According to McCold (2000), direct communication between the victim and offender represents the optimal level of ‘restorativeness’ of the program as it allows for a reciprocal process of emotional healing. The victim is given the chance to express how the crime has harmed them while the offender, through expressing their guilt, is able to make amends to the victim (Walgrave, 2008). However, this ideal is not always met and surrogate victims are often used to fulfill this role (Umbreit, Coates, & Vos, 2007).

Discussion. Once the participants are brought together, the general procedure of the RJ process is a discussion. During this interaction, all parties involved discuss the crime and how they were affected by it (Van Ness & Strong, 2010). In some cases, such as FGCs, this discussion is facilitated by an elder or a CJS professional (Sherman et al., 2015). It is crucial during the discussion process that all members are given an equal chance to openly and honestly express how the crime has impacted their lives with the respectful attention of others (Llewellyn & Howse, 1998). For example, peacemaking circles often utilize a talking piece (i.e., an item passed to those who wish to speak) to balance the discussion among members (Wong et al.,

2016). The purpose of this exchange is for all members to understand and acknowledge the events of the crime and its consequences as a starting point for the healing process (Braithewaite, 2002). It is only after members are given the chance to share their experiences that the reparative process can truly begin and a uniform decision regarding reparation can be made (Walgrave, 2001).

Accountability. An important outcome of this discussion phase is the offender's acknowledgement of guilt or responsibility of committing the crime. As members share their accounts of the crime, it is expected that the offender will begin to feel a deeper sense of empathy towards the victim and acknowledge the harm that they caused (Umbreit, 1995). Ideally, the result of this emotional process is that the offender voluntarily expresses feelings of guilt to make amends to the victim as well as for their own healing (Woolford, 2009). According to Braithewaite (1999), it is important that the offender experiences a natural progression into acknowledging the details of the crime and the harm that was voiced by the victim.

Disagreements as to how the crime unfolded and their role in causing the harm can lead to a confrontational atmosphere that jeopardizes the healing process and can lead to further hostility for those involved (Cook, 2006). However, a genuine expression of accountability may not always be achievable and that RJ programs often require the offender to admit responsibility in order to be referred (Daly, 2006).

Reintegration. A major goal of the RJ process is for all parties to reach a consensus as to how the crime will be repaired and prevented in the future (Latimer et al., 2005). Although decisions regarding restitution towards the victim vary, common methods of compensation include community service and cash payment (Umbreit, 1995). This reparative aspect of the restorative procedure is not intended to function as a form of punishment. On the contrary, its

major purpose is to provide the offender a chance to make amends to the victim and extended community while also establishing a greater sense of justice to those affected (Van Ness & Strong, 1997). In addition, compensating the victim and community has clear rehabilitative effects for the offender such that it allows them the opportunity to practice engaging in prosocial behaviour (Bazemore & Stinchcomb, 2004). Along with decisions regarding reparation, all members discuss how criminal behaviour will be prevented in the future. Some of the more common methods of prevention include community supervision, rehabilitation, and education about relevant criminal matters (Bazemore, 2001). Although recidivism is not always a primary concern of RJ, it is expected that this decision-making will serve to reduce future criminality.

Limitations

Despite the intuitive appeal of RJ, the approach has been subject to much criticism both theoretically and empirically. Many of the arguments presented against RJ concern the lack of consensus in its definition, processes, integrity, and elements. The nature of RJ as an all-encompassing and adaptive procedure makes itself vulnerable to inconsistencies in how it is defined and implemented (Latimer et al., 2005). One point of disagreement is that some scholars conceive of RJ as a distinct decision-making process while others place greater emphasis on its outcomes, such as victim and offender satisfaction (Dignan, 2002). These opposing views are reflected in the tension between theoretical and pragmatic approaches to RJ in the literature (Gavrielides, 2008). In addition, there are also disagreements regarding the actual processes and outcomes of RJ. As McCold (2000) has suggested, RJ programs can be categorized into their degree of adherence to principles or 'restorativeness' and can range from fully restorative to partially restorative. Thus, while some programs claim to be under the umbrella of RJ, they may not necessarily adhere to its fundamental principles (e.g., restitution programs without direct

victim involvement). It is therefore important to consider adherence to RJ principles when evaluating program outcomes.

A consequence of the breadth and complexity of RJ is its lack of a rigorous scientific foundation. The gold standard methodology when evaluating a given program is the randomized controlled trial (RCT) where participants are randomly assigned to receive either the treatment of interest or a control treatment, and potentially confounding variables are controlled (Latimer et al., 2005). However, much of the research on RJ has been largely theoretically-based, utilizing qualitative data and testimonies by participants as evidence for its effectiveness. One reason for the lack of RCTs is that randomization into groups is often not plausible in practice given the potential legal, psychological, and safety implications of specific cases. Therefore, most of the scientific research on RJ has used matched comparison group designs, which reduces the representativeness of the sample. Furthermore, the voluntary nature of RJ may give rise to a self-selection bias, where individuals who volunteer to participate are more likely to benefit from treatment (Bradshaw et al., 2006). As such, the comparison groups that are selected may come from a population of offenders who would not have otherwise been eligible or motivated to participate in RJ programs, introducing inherent bias into the research design. The disparity in the quality of RJ research is especially concerning given that more scientifically rigorous evaluations of RJ are less likely to find significant results (Wong et al., 2016). Therefore, when evaluating the efficacy of RJ, the methodological quality of the studies used is an important moderator variable to consider.

Finally, another criticism of RJ worth mentioning is its suitability for rehabilitating high-risk offenders (Brooks, 2013). As some have put forth (Reeves, 1982), RJ may not be appropriate for offenders of serious crime and may undermine the gravity of their offence. For

this reason, the vast majority RJ programs are designed for juvenile offenders and low-medium risk adult offenders because of their decreased likelihood of reoffending (Strang, 2010).

Moreover, concerns regarding safety of the victim and the community may lead policy makers and stakeholders to reject restorative approaches for resolving serious crime (Hargovan, 2010).

Reflecting this view, research on the use of RJ on serious offences such as violent and sexual offences is limited and primarily focuses on satisfaction outcomes (Brooks, 2013). However, there is some evidence suggesting that RJ is effective in reducing recidivism in high-risk offenders. In particular, Bonta and colleagues (2002) revealed that medium-high risk offenders participating in RJ were less likely to reoffend at each follow-up over a period of three years compared to those who did not participate. In line with these results, some suggest that the effects of RJ may be stronger for more serious offences given their emotional salience (Hudson, 2002). Nevertheless, it is clear that risk-level and offence severity are important variables to be taken into account in future analyses of RJ.

Proposed Benefits

Advocates of RJ have elaborated on the various benefits of the restorative process including increased victim and offender satisfaction, offender accountability, increased perceptions of fairness, reparation of harm, healing, empowerment, ability to address community needs, and so on (Walgrave, 2001). However, given the variation in the goals and methods of RJ programs, empirical research examining many of these proposed benefits is scarce. Moreover, the few outcome variables that the literature addresses are subject to methodological inconsistencies across studies, rendering the overarching findings difficult to interpret (Latimer et al., 2005). Despite these issues, the most researched outcome variables in the literature will be

reviewed. These include victim and offender satisfaction, offender empathy, economic benefits, and recidivism.

Victim satisfaction. Given that the major goals of RJ are to repair harms and address needs, it is generally believed to lead to greater victim satisfaction than routine criminal justice services (Umbreit, 1998). As such, victim satisfaction is often used in research as a measure of success of a given RJ program. According to this research, victims report greater satisfaction with RJ than traditional criminal justice processes (Latimer et al., 2005; Umbreit, Coates, & Vos, 2004). For example, in their summary of the past three decades of the VOM literature, Umbreit and colleagues (2004) indicated that victims reported satisfaction with the various processes involved with VOM such as preparation, the restitution agreement, and the opportunity to share their experience of the crime. When asked about their overall level of satisfaction, nine out of ten victims recommended VOM over traditional CJS approaches (Evje & Cushman, 2000). These findings are paralleled in RJ conferences, where victims report high levels of satisfaction with pre-conference preparation, conference proceedings, and the outcome plan (Wagland, Blanch, & Moore, 2013). Beyond victim satisfaction, Angel (2005) revealed that RJ conferences reduced post-traumatic stress disorder (PTSD) symptoms caused by the crime to a greater extent than a control group receiving traditional services. Such positive effects of RJ are expected given the victim-oriented nature of the restorative process and its emphasis on emotional healing (Braithwaite, 1996).

Despite the overwhelming positive reviews, not all victims agree with RJ practices (Umbreit et al., 2004). Coming face-to-face with the source of pain can be difficult for victims, particularly if they have experienced trauma (Stubbs, 2007). In some cases, the RJ process may be ineffective in satisfying the victim's needs, and can even be a detrimental experience for

them, exacerbating their trauma (Garvey, 2003). According to Herman (2005), this may be especially true for victims that have undergone sexual or domestic violence where safety is the primary concern rather than restoration. In addition, a common source of frustration about RJ among victims is its greater lenience towards offender retribution and the view that offenders end up with lighter sentences than they deserve (Wagland et al., 2013). Although these are valid concerns, offenders are still held accountable for their actions in RJ and sentences are found to be no more lenient than traditional criminal justice approaches (Hudson, 2002). Overall, the literature suggests that victims are generally more satisfied with the RJ process than traditional processes, but these effects vary for individual cases.

Offender satisfaction. RJ programs have also been reported to increase offender satisfaction (McGarrell & Hipple, 2007; Umbreit & Coates, 1992). Offender satisfaction is linked to procedural justice such that programs that are perceived as more fair and respectful are more likely to be considered legitimate (Miller & Hefner, 2013). In a review of VOM programs, it was found that offenders reported high levels of satisfaction, appraising the process and outcome as fairer than traditional CJS approaches (Umbreit, Coates, & Vos, 2004). For RJ conferences, youth offenders were more likely to report that they were treated with respect (97% vs. 58%), were more engaged in the program (76% vs. 20%), and were more comfortable with expressing themselves (66% vs. 24%), compared to a control group of offending youth (McGarrell & Hipple, 2007). These results demonstrate that offenders may experience greater satisfaction with programs that align with principles of procedural justice. As procedural justice would suggest, offenders who are treated fairly and respectfully are more likely to comply with the RJ process (Tyler, 1990). Consistent with this notion, Latimer and colleagues (2005) found that RJ resulted in a greater degree of restitution compliance compared to traditional justice

control groups. In particular, offenders who participated in RJ programs were more likely to repay their total restitution dollars and fulfill their community service agreement (Latimer et al., 2005). Thus, the literature suggests that the procedurally just practices in RJ have a positive impact on offenders as they do for victims.

Offender empathy. Another proposed advantage of RJ is that it enhances offender empathy to a greater extent than traditional approaches (Llewellyn & Howse, 1999). By coming face-to-face with their victims, offenders are expected to develop a deeper understanding of the consequences of their actions, thereby increasing feelings of empathy (Jackson, 2009). For example, Calhoun and Pelech (2010) compared the Calgary Community Conferencing (CCC) program for juvenile offenders to routine criminal justice services in its improvement of intermediate outcomes such as accountability, relationship repair, and closure. Their results indicated that the CCC program was more likely to enhance these outcomes, including offender empathy, compared to a control group (Calhoun & Pelech, 2010). Such findings are important given that sincere expressions of guilt are considered to be most effective in repairing harm (Harris, Walgrave, & Braithewaite, 2004). In addition to its restorative benefits, increasing empathy is theorized to lead to reductions in reoffending (Abrams, Umbreit, & Gordon, 2006). Supporting this idea, Hayes and Daly (2003) found that juvenile offenders were less likely to reoffend if they volunteered to participate in RJ conferences and expressed ‘genuine’ remorse throughout the process. However, many of the empathy assessments were based on self- and observer-reports and often did not include a comparison group. Thus, although the literature suggests the efficacy of RJ in increasing offender empathy, more research is needed to further clarify this relationship and its effects on recidivism.

Economic benefits. Aside from its advantages for individuals, RJ may also be an economical alternative to the traditional CJS (Sherman et al., 2015). Incarceration produces a significant financial burden that is reported to cost an average of \$116,000 per offender in Canada (Correctional Service Canada, 2017). Given recent concerns regarding the growing number of individuals entering the CJS (Roberts & LaPrairie, 2000), solutions for minimizing these costs are crucial. RJ is suggested to offer a conservative option to traditional justice practices given its use of volunteer facilitators and efficiency with processing cases (Umbreit et al., 2004). In their cost-benefit analysis, Shapland and colleagues (2008) compared the cost per case for RJ programs to traditional programs in the UK over a period of two years before and after the RJ program. Across different programs, RJ was found to result in greater reductions in costs associated with reoffending (e.g., training of staff, meetings) compared to traditional criminal justice approaches (Shapland et al., 2008). However, it is important to note that the overall costs of RJ programs were not concluded to be less than traditional procedures and are often an additional expense to the CJS. Furthermore, the authors did not account for indirect costs of the RJ process, such as the high demands placed on volunteers for facilitating programs as well as potential costs to victims. Nevertheless, the effects of RJ are suggested to be inherently economical as it seeks to divert offenders away from the correctional system (Brooks, 2013). According to proponents of RJ, the restorative approach not only increases prosocial behaviour among individuals, but also serves to ultimately enhance social capital within a given community (Bazemore, 2001).

Recidivism. Recidivism is not often considered an essential goal of the RJ process (Zehr 2002). Rather, RJ scholars tend to advocate a victim-centered approach where the primary objective of the program is to repair the harm caused by the crime. It is expected that reductions

in recidivism will occur as a side effect of the restorative process as opposed to a direct result (Zehr, 2002). Despite this view, examining reductions in recidivism has been the primary focus for research evaluating RJ programs.

Several meta-analyses have been conducted that summarize the literature on the efficacy of RJ in reducing recidivism and other outcomes (summarized in Table 1). Overall, these studies support the efficacy of RJ programs in reducing recidivism in both juvenile and adult offenders (e.g., Bradshaw et al., 2006; Latimer et al., 2005). For example, Latimer and colleagues (2005) examined the effectiveness of RJ programs in reducing recidivism and improving other outcomes such as victim satisfaction in both youth and adult offenders. In their analysis of 22 studies, RJ was found to be significantly more effective than traditional justice methods in reducing recidivism, increasing offender and victim satisfaction, and improving offender compliance with restitution agreements (Latimer et al., 2005).

Table 1

Meta-Analyses on Restorative Justice and Recidivism

| Meta-analysis | # of studies | Age of offender | RJ program | Significant reduction in recidivism overall for RJ | Other outcomes | Significant Moderators that resulted in lower recidivism for RJ | Conclusion |
|---|--------------|--------------------|----------------|--|--|--|--|
| Bain (2012) | 24 | Juvenile, adult | Any RJ program | Yes | N/A | Higher quality studies; victim contact; age (juvenile versus adult); country; first-time offenders versus repeat offenders | Effectiveness of RJ over traditional CJS depends on specific moderators |
| Bradshaw, Roseborough, & Umbreit (2006) | 15 | Juvenile | VOM | Yes | N/A | Higher quality studies; length of follow-up | RJ programs are significantly more effective in reducing recidivism than traditional CJS |
| Latimer, Dowden, & Muise (2005) | 22 | Juvenile and adult | Any RJ program | Yes | Victim satisfaction, offender satisfaction, restitution compliance | No significant moderators | RJ programs are significantly more effective in reducing recidivism than traditional CJS |

Table 1

Meta-Analyses on Restorative Justice and Recidivism (Continued)

| | | | | | | | |
|--|----|-----------------------|---------------------------------------|-----|--|--|--|
| Sherman, Strang, Mayo- Wilson, Woods, & Ariel (2015) | 10 | Juvenile and adult | Restorative Justice Conferences | Yes | Cost effectiveness: 3.7-8.1 times more benefit in cost of crimes prevented versus cost of program delivery | Violent versus property; diversion versus supplementation | RJCs are significantly more effective in reducing recidivism than traditional CJS |
| Wong, Bouchard, Gravel, Bouchard, & Morselli (2016) | 21 | Juvenile | Any RJ program | Yes | N/A | Higher quality studies; year program was implemented; sample size; race | RJ programs are significantly more effective in reducing recidivism than traditional CJS |

The influence of certain moderators on the effectiveness of RJ programs has been emphasized across meta-analyses focusing on specific types of RJ programs. To date, important moderators that have been identified include: age and race of offenders, offence type, program type, and program age. For example, in their sample of 10 RCTs, Sherman and colleagues (2015) found greater reductions in recidivism for violent crimes as well as for programs combined with traditional methods, supporting the use of RJ as a supplement to the CJS rather than a substitute. In addition to program and offender characteristics, study variables have also been identified as important moderators when evaluating the effectiveness of RJ programs (Bradshaw et al., 2006; Wong et al., 2016). More specifically, a recent summary of 21 studies evaluating juvenile RJ programs found that more rigorous research designs (e.g., RCTs) did not have a significant overall effect size while weaker designs did (Wong et al., 2016). In addition, studies that were more recent, included more participants (i.e., more than 100 participants), and had a primarily Caucasian sample were more likely to find significant results than those with less participants, published in the 1990s, and examining non-Caucasian participants, respectively. Therefore, a common theme of previous meta-analyses is that there are important sample, program, and study characteristics that should be taken into account when evaluating the efficacy of RJ programs in general.

There are several limitations of the aforementioned meta-analyses. First, while there is some evidence of RJ reducing reoffending, this finding is difficult to interpret as it depends on various factors relating to the methodology of the meta-analysis. In particular, meta-analyses examining a wide range of RJ approaches (e.g., Bain, 2012) may be less precise in capturing the efficacy of RJ in general due to differences across RJ programs. Some examples of these differences may include the degree to which the program adheres to principles of RJ as well as

program integrity variables such as the quality of staff training. It is therefore important to examine whether the effectiveness of RJ depends on such program-specific variables. Second, previous meta-analyses have found that more rigorous research designs yielded smaller effect sizes than weaker research designs (e.g., Wong et al., 2016). Although this finding is informative, it is unclear what specific study variables influence effect size estimates given that only type of research design (i.e., RCTs) has been used as a measure of scientific rigor. As such, future meta-analyses should measure study design in greater detail when examining its moderating effects. Third, few meta-analyses have taken into consideration important offender characteristics such as the risk-level when evaluating RJ programs, which is crucial given the uncertainty regarding its application to serious offenders (Brooks, 2013). Finally, although recidivism is not considered the primary goal of RJ, previous meta-analyses have mostly focused on recidivism as the primary outcome. Therefore, it is important to assess other important outcomes such as victim and offender satisfaction when evaluating its overall effectiveness. In sum, the results of previous meta-analyses leave many open questions about the efficacy of RJ that are important to resolve in future research.

The Current Study

The current study sought to address the inconsistent results in the literature examining the efficacy of RJ in reducing recidivism and other outcomes using meta-analysis. More specifically, the following problems with past meta-analyses were addressed:

Problem 1: Previous meta-analyses that examine all types of RJ programs are subject to unsystematic sources of variation due to differences across RJ programs (e.g., VOM vs. FGC).

Solution: RJ programs were categorized into different types that vary on their degree of face-to-face interaction with the victim(s) and community, which was examined as a potential moderator.

Problem 2: Previous meta-analyses that did not control for adherence to RJ principles may not fully capture the efficacy of the RJ approach.

Solution: RJ programs were scored on different elements of fidelity, (i.e., the degree to which the program adheres to RJ principles) as well as its overall adherence to RJ principles, which were examined as moderators on the outcome variables.

Problem 3: In relation to fidelity, previous meta-analyses have not taken into account differences in standards of program integrity (e.g., proper training, supervision).

Solution: RJ programs were scored on different elements of integrity (i.e., the degree with which the program achieves standards for proper implementation), as well as its overall integrity which were examined as moderators on the outcome variables.

Problem 4: It is suggested that the efficacy of RJ may depend on offender characteristics such as risk-level (Hudson, 2002), but previous meta-analyses have not addressed this.

Solution: Offender characteristics such as demographics and risk-level were coded along with other variables related to risk such as type of offence and offence history and examined as moderator variables.

Problem 5: Previous meta-analyses have identified study methodology to be an important factor to consider but have only used research design type (e.g., RCTs) as a measure of experimental rigor.

Solution: A standardized assessment tool was used to systematically assess studies on their methodological quality, which was examined as a moderator on the outcome variables.

Problem 6: Previous meta-analyses have focused on recidivism as its primary measure of the effectiveness of RJ programs, despite it being considered an auxiliary goal of RJ.

Solution: The current study took into consideration all possible outcome variables that could be meta-analyzed such as victim and offender satisfaction.

Based on the literature summarized, the current study tested four main hypotheses. First, it was hypothesized that RJ would demonstrate reductions in recidivism compared to traditional CJS methods. Second, it was anticipated that RJ would lead to improvements in other outcomes such as offender and victim and offender satisfaction, procedural justice, and offender accountability. Third, as previous meta-analyses have suggested, the effects of RJ on these outcomes were expected to be contingent on important variables indicated in the literature. Specifically, it was hypothesized that programs that adhere to RJ principles (i.e., fidelity) and have higher program integrity would show stronger reductions in recidivism and improve other outcomes compared to traditional methods. The influence of other program factors, such as type of RJ program (e.g., conferences, VOM), was examined for exploratory purposes. Finally, considering research demonstrating study quality as a confound variable, it was hypothesized that more rigorous research designs would yield less significant results than weaker research designs using a more comprehensive assessment of methodological quality.

Method

Search Strategy

The first step in the meta-analysis procedure was to conduct a literature search of all previous research on RJ. The key terms used included a combination of restorative justice, victim offender mediation, conference, circle, family group conference, mediated dialogue, with recidivism, reoffending, relapse, offence, and outcome. The databases used for this search were government and university libraries, government websites, and criminal justice search engines

including the Criminal Justice Abstracts and the National Criminal Justice Reference Service.

The last search was conducted on April 30, 2018. The search yielded 59 studies reporting on 67 unique samples.

Inclusion/Exclusion Criteria

All empirical studies examining the effect of RJ on recidivism or on any other outcome were considered for potential inclusion following this list of criteria:

1. Both juvenile and adult offender samples were eligible for inclusion in this analysis.
2. Each sample was required to be independent from all other samples. If there were overlapping samples, the sample with the longest follow-up period was chosen for inclusion. However, if the smaller sample was subjected to more rigorous analyses or contained less bias (as determined by the CODC guidelines described below), it was chosen for inclusion over the larger sample.
3. The program being evaluated must have been classified as RJ. In keeping with major RJ principles, it was necessary that the RJ program made an effort to involve direct victims as opposed to surrogate victims. In addition, victim involvement was considered as a face-to-face interaction as opposed to indirect communication between parties. If a portion of the sample did not include the actual victim or face-to-face interaction but had made an effort to do so, it was still eligible for inclusion. Programs that were solely restitution-based were only considered to meet the criteria for RJ if the procedure for determining restitution involved direct victim contact.
4. The study must have evaluated the RJ program by utilizing a control group. Acceptable control groups for this analysis included standard criminal justice procedures (e.g.,

probation), alternative programming (e.g., non-RJ diversion programs), or receiving no identifiable services (e.g., cautions).

5. Studies must have reported sufficient statistical information on the difference in recidivism and other outcomes across RJ and control groups. If the study results did not include sufficient data for statistical analysis, efforts were made to contact the researchers to retrieve the necessary information.
6. For the purpose of this study, there were no geographical or time restrictions. Therefore, empirical research conducted in any geographical area at any point in time was considered for inclusion.

A complete list of all studies included in the meta-analysis can be found in Table 2 below.

Table 2

List of Studies Included in the Meta-Analysis

| Study ID | Authors | Year | Peer Reviewed | Country of Origin |
|--------------|--------------------------------|------|---------------|-------------------|
| 1.00 | Bergseth & Bouffard | 2012 | No | US |
| 2.00 | Bonta et al. | 1983 | No | Canada |
| 3.00 | Bonta et al. | 2002 | No | Canada |
| 4.00 | Boriboonthana & Sangbuangamlum | 2013 | No | Thailand |
| 5.00 | Brooks | 2013 | Yes | US |
| 6.00 | Calhoun & Pelech | 2010 | No | Canada |
| 7.00 | Daly | 2006 | No | Australia |
| 8.00 | Davis | 2009 | No | US |
| 9.00 | De Beus & Rodriguez | 2007 | No | US |
| 10.00 | Dutton & White | 2006 | No | UK |
| 11.00 | Fitzgerald | 2008 | No | Australia |
| 12.00 | Forsythe | 1995 | Yes | Australia |
| 13.00 | Griffith | 1983 | No | US |
| 14.00 | Hayes | 2005 | No | US |
| 14.10 | McCold & Wachtel | 1998 | Yes | US |
| 15.00 | Heinz et al. | 1976 | Yes | US |
| 16.00 | Hill-Clark | 2014 | No | US |
| 17.00 | Humphrey et al. | 2012 | No | US |
| 18.00 | Jara et al. | 2016 | Yes | Spain |
| 19.00 | Jeong et al. | 2012 | Yes | US |
| 19.10 | McGarrell | 2001 | No | US |
| 20.00 | Jones | 2009 | No | Australia |
| 21.00 | Kruissink | 1990 | No | Netherlands |
| 22.00 | Luke & Lind | 2002 | No | Australia |
| 23.00 | Lyness | 2008 | No | UK |
| 24.00, 24.01 | Maxwell & Morris | 2001 | Yes | New Zealand |
| 25.00 | Meadows et al. | 2012 | No | UK |
| 26.00, 26.01 | Miers et al. | 2001 | No | UK |
| 27.00 | Mills et al. | 2012 | Yes | US |
| 28.00 | Nieyemeyer & Shichor | 1996 | Yes | US |
| 29.00 | Nuffield | 1997 | No | Canada |
| 30.00 | Nugent & Paddock | 1995 | Yes | US |
| 31.00 | Paulin et al. a | 2005 | No | New Zealand |
| 32.00 | Paulin et al. b | 2005 | No | New Zealand |
| 33.00 | Payne | 2017 | No | US |
| 34.00 | Poynton | 2013 | No | Australia |
| 35.00 | Roy | 1993 | Yes | US |
| 36.00 | Rugge et al. | 2005 | No | Canada |

Table 2

List of Studies Included in the Meta-Analysis (Continued)

| | | | | |
|---|---------------------|------|-----|-------------|
| 37.00, 37.01, 37.02, 37.03, 37.04, 37.05 | Shapland et al. | 2008 | No | UK |
| 37.11 | Angel et al. | 2014 | Yes | UK |
| 38.00, 38.01, 38.02, 38.03 | Sherman et al. | 2000 | No | Australia |
| 38.10 | Barnes | 1999 | No | Australia |
| 38.20, 38.21, 38.22 | Barnes et al. | 2015 | Yes | Australia |
| 38.31, 38.33 | Sherman et al. | 2005 | Yes | Australia |
| 39 | Smith & Weatherburn | 2012 | No | New Zealand |
| 40 | Stewart et al. | 2018 | Yes | Canada |
| 41 | Triggs | 2005 | No | New Zealand |
| 42 | Umbreit & Coates | 1992 | Yes | US |
| 43.00, 43.01, 43.02, 43.03 | Umbreit et al. | 1995 | Yes | Canada |
| 44.00, 44.01 | Umbreit et al. | 1996 | No | UK |
| 45 | Umbreit et al. | 2001 | No | US |
| 46 | Urban & Burge | 2006 | Yes | US |
| 47 | URSA Institute | 1993 | No | US |
| 48 | Vieria | 2003 | No | Canada |
| 49 | Walker | 2002 | Yes | US |
| 50 | Walker & Hayashi | 2009 | Yes | US |
| 51 | Wax | 1977 | No | US |
| 52 | Wiinamaki | 1997 | No | US |
| 53 | Wilcox et al. | 2004 | No | UK |

Note. ID number = the first decimal place indicates a new article while the second decimal place indicates a unique sample.

Coding Procedures

The next step in the meta-analysis procedure was to code the chosen articles according to variables of interest. A coding form was created (see Appendix A) to systematically code each article on its study particulars (e.g., where the material was published, type of control group), RJ program characteristics (e.g., referral process, type of RJ), treatment outside of RJ (e.g., integrity of treatment, dose of treatment), sample characteristics (e.g., gender, race), recidivism information (e.g., type of recidivism, length of follow-up), and other outcomes (e.g., victim and

offender satisfaction). Items capturing the fidelity (e.g., community involvement, face-to-face contact with the victim) and integrity (e.g., staff training, supervisory oversight of program) of the RJ program were also coded in order to be analyzed as potential moderators. Fidelity and integrity items were chosen based on previous research on program elements that most closely adhere to RJ principles ('restorativeness') and satisfy program standards, respectively. As already mentioned, there is evidence that studies using less rigorous experimental designs demonstrate greater efficacy of RJ (Wong et al., 2016). Therefore, the quality of the study's methodology was considered as a potential moderator for the effects of RJ on all outcomes. The Collaborative Outcome Data Committee's Guidelines for the Evaluation of Sexual Offender Treatment Outcome Studies (CODC Guidelines) were used in addition to the general coding form (see Appendix B). The CODC document represents a systematic coding guide designed for the purpose of coding studies according to their methodological quality. Although it is primarily used for sex offender treatment research, the CODC is considered to be an effective tool for program evaluation research in general (Beech et al., 2007). The CODC guidelines were based on previous research on existing study quality scales and consists of 20 items organized into seven categories such as administrative control of the independent variable, experimenter involvement, and sample size. These items are coded according to the degree of bias inherent in the methodology or the degree of confidence that can be placed in the study's findings. After rating these individual items, an overall rating on the judgments of confidence and bias in the study is made to yield a global rating score ranging from 0 (Rejected) to 3 (Strong). Some of the criteria for better quality studies include a high degree of administrative control over independent variables, low researcher bias, larger sample sizes, reported attrition rates, equivalency of groups, and reporting the least biased comparisons.

Interrater Reliability

A series of steps were taken to establish interrater reliability between two independent coders in order to ensure consistency in the coding. Both coders were graduate students with extensive knowledge of the RJ literature. The first step in this process involved randomly selecting 10 studies to be independently coded and then discussed for the purpose of reaching consensus on the coding form and to refine coding rules as necessary. After coding the initial 10 studies, further training was needed to enhance the consistency in the coding and an additional six studies were coded for this purpose. After a consensus coding was reached in consultation with a research supervisor, the coders began their first phase of interrater coding. Interrater reliability for continuous variables was determined by calculating a two-way random effects intraclass correlation coefficient (ICC) with absolute agreement (see Shrout & Fleiss, 1978) while the reliability of categorical variables was determined using kappa. When kappa could not be calculated, a percent agreement was used. There is some debate as to what constitutes acceptable reliability and it is suggested that ICC values above .60 (Fleiss, 1986) and kappa values between .40 and .60 (McHugh, 2012) are at an acceptable standard. For the purposes of this research, any variable with an ICC or kappa value above .60 was considered acceptable. The coding rule for any variable that fell below this standard was re-assessed and that variable was re-coded for all studies by both coders before proceeding.

In the first round of interrater coding, 10 studies were randomly assigned where half were coded without discussion among the coders and the other half coded with allowable discussion to allow the coders to continue to discuss potential coding issues. Note the following interrater reliability analyses for round 1 were based on the 5 studies that were independently coded without discussion. The average ICC across continuous variables was .80 (Range: .20 – 1.00).

Importantly, 6.2% (5/81) of the variables fell below the acceptable standard (composition of the control group, stage of the CJS process, source of referrals, proportion of the source of referrals, and who administers RJ). For example, the variable measuring the proportion of the sources of referrals (e.g., from the police or courts) had an ICC score of .40, which falls below the acceptable standard of .60. Given their importance, the coding rules for these variables were refined and were re-coded based on the new consensus definition.

After the first round of interrater reliability, the principle author proceeded to code 12 of the studies independently. The interrater process was repeated once more, however, to ensure that no 'drift' in coding occurred. In the second round of interrater coding, 20 studies were randomly assigned where half were coded without discussion and the other half were coded with discussion. The following interrater reliability analyses for round 2 were based on the 10 studies that were independently coded without discussion. The average ICC across continuous variables was .96 (Range: .40 – 1.00). Importantly, only 3 variables (4%) fell below the acceptable standard (i.e., whether the program was mandatory, whether the program was focused on repairing harm, and the level of the structure of the program). For example, the variable measuring whether the RJ program was mandatory had an interrater reliability score of .50, which falls below the acceptable standard of .60. After this round of interrater analysis, decision rules for future coding were implemented for the remaining items that caused discrepancy in the coding. The first author then proceeded to code the remaining studies independently. Given the complexity of the coding, certain decisions were made throughout the coding process as unique issues arose. See Appendix C for a complete list of additional coding rules.

Data Analysis

The main outcome variable for this meta-analysis was recidivism. Taking offence type into consideration, general (any reoffending) and violent recidivism were coded separately. In addition, based on previous research, other outcome variables were coded including victim satisfaction, offender satisfaction, offender accountability, and severity of recidivism. Potential moderator variables were also coded accordingly to examine their effect on the relationship between RJ and the outcomes. These potential moderators were divided into study characteristics (e.g., publication status, methodological considerations), sample characteristics (e.g., offender age, risk-level), and program characteristics (e.g., type of RJ program, fidelity to RJ principles).

In order to aggregate the results across studies, individual study findings were transformed into common effect sizes. Effect size quantifies the magnitude and direction of the overall treatment effect on the outcome variable, such as the effect of RJ on recidivism. The effect size used for the analyses pertaining to recidivism was the log odd ratio (LnOR), which compares the experimental and comparison groups on their relative odds of recidivism. When using ORs, 1 represents no relationship between treatment and outcome, which indicates that the odds of the outcome are equally likely for both groups (i.e., RJ and control). For the present analysis, studies with effect sizes below 1 can be interpreted as a positive effect of RJ on recidivism (i.e., *reduced* recidivism for the RJ group compared to the comparison group) and effect sizes above 1 are interpreted as a negative effect on recidivism (i.e., *increased* recidivism for the RJ group compared to the comparison group). When aggregating the results, the following formulas for the log odds ratios and the variance were used (see Fleiss, 1994). Please note that 0.5 is added to each cell in order to include cells with missing data.

$$LnOR = \ln \left[\frac{(a+.5)(d+.5)}{(b+.5)(c+.5)} \right], \text{ and}$$

$$\text{Variance of LnOr} = \frac{1}{a + .5} + \frac{1}{b + .5} + \frac{1}{c + .5} + \frac{1}{d + .5}$$

For the other outcomes (e.g., victim and offender satisfaction), odds ratios were not appropriate as the data were sometimes presented as mean differences between RJ groups and comparison groups and sometimes presented as 2 x 2 tables (e.g., number of victims that stated being satisfied in the RJ group and the control group). Cohen's d with corresponding 95% confidence intervals (CI) was used as the effect size indicator for these outcomes (Hasselblad & Hedges, 1995). When the Cohen's d value was derived from a 2 x 2 table, the following formulas for calculating the d and the variance were used in aggregating the findings (see Sánchez-Meca, Marín-Martínez and Chacón-Moscoso, 2003).

$$d = \ln \frac{\left[\frac{(aa + 0.5)(dd + 0.5)}{(bb + 0.5)(cc + 0.5)} \right]}{1.65}$$

$$\text{variance of } d = 0.3673 \left[\left(\frac{1}{aa + 0.5} \right) + \left(\frac{1}{bb + 0.5} \right) + \left(\frac{1}{cc + 0.5} \right) + \left(\frac{1}{dd + 0.5} \right) \right]$$

When Cohen's d was derived from means and standard deviations (e.g., mean level of victim satisfaction for the RJ group vs. the comparison group), the inverse of the variance was used in aggregating the findings, giving more weight to studies with larger samples (Borenstein et al., 2009). The convention for evaluating Cohen's d interprets values of .20 to be "small", values of .50 to be "medium", and values greater than .80 to be "large" (Cohen, 1988). If the 95% CI does not include 0, this indicates that the group means are significantly different at the

.05 level. Outcome variables must have included at least three effect sizes in order to be meta-analyzed.

The current meta-analysis calculated both fixed-effect and random-effects models (both are presented in the tables). With fixed-effect, all studies are assumed to have the same effect size and the summary effect is an estimation of the common effect size (Borenstein, Hedges, Higgins, & Rothstein, 2009). In contrast, the random-effects model assumes that the true effect size varies across studies. Therefore, the summary effect estimates the mean of the distribution of effect sizes by including an additional between-study error term (Borenstein et al., 2009). Importantly, although the random-effects model provides the more realistic interpretation of the data, it also requires a larger sample size ($k > 30$) in order for the T^2 to properly estimate the between-study variance. With smaller sample sizes, T^2 has poor precision (see Borenstein et al., 2009; Schulze, 2007). Therefore, for some of the outcomes, interpretation of the fixed-effect model may be more appropriate. For this reason, both models are presented. For recidivism, the random-effects model will be discussed in text given the large sample size whereas for other outcomes, the fixed-effect will be highlighted. Importantly, as between-study variability decreases, the results of both fixed-effect and random effects models converge.

A common issue when aggregating findings using meta-analytic techniques is the difference in research methodology across studies. To assess unsystematic sources of variation, the heterogeneity in the effect size distributions were calculated using a Cochran's Q statistic and an I^2 test. The Q statistic assesses whether the overall treatment effects are primarily due to sampling error or to systematic differences among the studies and sampling error (Borenstein et al., 2009). The I^2 test measures the proportion of the observed variance across effect sizes due to treatment effects to unsystematic variance and ranges from 0% to 100% (Higgins, Thompson,

Deeks, & Altman, 2003). If the observed treatment effects across studies are homogenous, this indicates that they come from the same population and can therefore be analyzed together.

Several steps were taken to ensure that there were no existing outliers in the data. The process for identifying outliers in meta-analyses involves examining whether there are outlying studies that have a substantial influence on the overall effect size estimate. The general rule used in this analysis was adopted from Hanson and Bussière (1998) who considered a study to be an outlier if: 1) it is an extreme value, 2) the overall Q is significant, and 3) it accounts for more than 50% of the overall Q . Studies that meet these criteria are considered to have an undue influence on average effect size estimates, suggesting their removal from the analysis (Hanson and Bussière, 1998). When outliers were identified, the interpretation of the results was based on the data after their removal.

Once effect sizes were calculated, the influence of moderator variables on effect sizes was also examined. For categorical variables (e.g., type of RJ program), Q -between analyses were conducted to test the differences between groups. The Q -between is calculated by conducting a meta-analysis on all studies with a given moderator and partitioning the variability within each level of the moderator, subtracting each level's Q -value from the total (Borenstein et al., 2009). The remaining value is then compared to the chi-square distribution with $k - 1$ degrees of freedom. A significant between-level Q statistic would indicate that the moderator accounts for a significant proportion of variance from the outcome variable across samples. It should be noted that a moderator could only be analyzed if a minimum of three effect sizes were available per level of the moderator.

Results

Sample, Study, and Program Characteristics

A total of 59 studies revealed 169 effect sizes from 67 unique samples. The majority of samples were made up of male (89.6%, $k = 60$), adult (50.7%, $k = 34$) offenders (see Table 3 for sample characteristics). In addition, most of the RJ samples were primarily Caucasian (65.9%, $k = 29$), while the remainder were Black (9.1%, $k = 4$), Aboriginal (9.1%, $k = 4$), or another minority group (9.1%, $k = 4$). The majority of the samples were also categorized as being medium risk (54.0%, $k = 27$). In terms of study characteristics (see Table 4), the majority was drawn from unpublished, non-peer reviewed reports (55.7%, $k = 37$) and the evaluators were mostly non-agency-based researchers (59.7%, $k = 40$) compared to agency-based researchers (38.8%, $k = 26$). The most common sampling procedure (41.8%, $k = 28$) involved matching RJ participants to a control group (a priori or post-hoc equivalency) who were largely eligible for RJ but were not referred (77.4%, $k = 48$). For recidivism outcomes, the average length of follow-up was 20 months (range: 2 – 144 months) and follow-up was mostly post-program only (66.7%, $k = 40$) as opposed to a follow-up that also included the study program period (33.3%, $k = 20$). The most common type of recidivism outcome reported in the studies was re-conviction rates (56.9%, $k = 33$) while others assessed charges, re-arrests, and re-incarceration rates (see Table 4 for exact percentages). When assessing the quality of the methodology in the studies using the CODC guidelines, the majority of the samples were drawn from studies that were considered “weak” (62.7%, $k = 37$), followed by both “good” (20.3%, $k = 10$), and “rejected” (20.3%, $k = 10$). Please note that “rejected” referred to studies that were very low quality to justify their rejection but were not actually rejected from the analyses.

Table 3

Sample Variables

| Variables | | % | <i>k</i> |
|-----------------------|------------------------|------|----------|
| Age | Juvenile | 49.3 | 33 |
| | Adult | 50.7 | 34 |
| Gender | Mostly female | 0.0 | 0 |
| | Mostly male | 89.6 | 60 |
| | NR | 10.4 | 7 |
| Race | Mostly Caucasian | 65.9 | 29 |
| | Mostly Black | 9.1 | 4 |
| | Mostly Aboriginal | 9.1 | 4 |
| | Mostly Other | 9.1 | 4 |
| | Minority | | |
| | NR | 34.3 | 23 |
| Average risk-level | Low | 42.0 | 21 |
| | Medium | 54.0 | 27 |
| | High | 4.0 | 2 |
| | NR | 25.4 | 17 |
| Type of index offence | Person | 29.9 | 20 |
| | Property | 53.7 | 36 |
| | Public moral & decency | 1.5 | 1 |
| | Drugs | 1.5 | 1 |
| | Alcohol & Driving | 7.4 | 5 |
| | NR | 6.0 | 4 |

Note. *k* = number of samples; NR = not reported.

Table 4

Study Variables

| Factor | | % | <i>k</i> |
|---|--|------|----------|
| Material published in peer review journal | Yes | 44.3 | 30 |
| | No | 55.7 | 37 |
| Type of research design | Random | 23.9 | 16 |
| | A priori matching | 3.0 | 2 |
| | Post hoc equivalency | 38.8 | 26 |
| | Convenience | 34.3 | 23 |
| Control group | Traditional criminal justice system | 85.1 | 57 |
| | Other alternative-type program | 10.4 | 7 |
| | Other (within-group comparison) | 4.5 | 3 |
| Control group composition | Eligible/not referred/not offered | 77.4 | 48 |
| | Non-eligible | 4.8 | 3 |
| | Eligible, refused | 4.8 | 3 |
| | Eligible, victim unwilling | 1.6 | 1 |
| | Mixed/unclear | 11.3 | 7 |
| Role of evaluators | Evaluators involved in design/service delivery | 1.5 | 1 |
| | Agency-based researchers | 38.8 | 26 |
| | Independent, non-agency-based researchers | 59.7 | 40 |
| Follow-up type | Fixed | 84.1 | 53 |
| | Variable | 15.9 | 10 |
| | NR | 6.0 | 4 |
| Loss of follow-up data > 10% for RJ | Yes | 20.0 | 6 |
| | No | 80.0 | 24 |
| | NR | 55.2 | 37 |
| Recidivism timeframe for RJ | Post-program only | 66.7 | 40 |
| | During and post-program | 33.3 | 20 |
| | NR | 10.4 | 7 |

Table 4

Study Variables (Continued)

| | | | |
|---------------------|----------------------------------|------|----|
| Recidivism based on | Graduates | 73.0 | 46 |
| | Admissions | 27.0 | 17 |
| | NR | 6.0 | 4 |
| Recidivism type | Re-conviction | 56.9 | 33 |
| | Charges | 13.8 | 8 |
| | Re-arrest (includes re-referral) | 27.6 | 16 |
| | Re-incarceration | 1.7 | 1 |
| | NR | 13.4 | 9 |
| CODC overall rating | Good | 20.3 | 10 |
| | Weak | 62.7 | 37 |
| | Rejected | 20.3 | 12 |
| | N/A | 11.8 | 8 |

Note. k = number of samples: NR = not reported. N/A for CODC overall rating refers to studies that did not examine recidivism.

Program characteristics are summarized in Table 5. Most of the programs examined in the studies were more than two-years old (76.2%, $k = 48$) (see Table 5) and owned and run by criminal justice agencies (77.6%, $k = 52$). The most common criminal justice setting in which the RJ program was held was in the court (60.6%, $k = 40$), and during the post-charge or pre-sentencing phase (74.6%, $k = 50$). The most common facilitators of the RJ services were CJS professionals (32.8%, $k = 22$), followed by non-mental health professionals (e.g., trained mediator (26.9%, $k = 18$), volunteers (25.4%, $k = 17$), and mental health professionals (3.0%, $k = 2$). Participation in RJ programs were largely voluntary (87.9%, $k = 51$), and did not preclude other typical CJS responses (84.1%, $k = 53$). Most of the studies did not identify the existence of treatment in addition to or outside of the RJ program (89.6%, $k = 60$).

Table 5

Program Variables

| Factor | | % | <i>k</i> |
|--------------------------------------|-------------------------------------|------|----------|
| Age of program at time of evaluation | New (less than 2 years old) | 23.8 | 15 |
| | Established (more than 2 years old) | 76.2 | 48 |
| | NR | 6.0 | 4 |
| Type of criminal justice setting | Court | 60.6 | 40 |
| | Police | 18.2 | 12 |
| | Probation/parole | 6.1 | 4 |
| | Institution | 3.0 | 2 |
| | Outside CJS (i.e., NGO) | 12.1 | 8 |
| | NR | 1.5 | 1 |
| Stage of criminal justice process | Pre-arrest/pre-charge | 14.9 | 10 |
| | Post-charge but pre-sentencing | 74.6 | 50 |
| | Post-sentencing but pre-release | 9.0 | 6 |
| | Other/mixed | 1.5 | 1 |
| Program owned and run by | Non-criminal justice public agency | 6.0 | 4 |
| | Private agency | 16.4 | 11 |
| | Criminal justice agency | 77.6 | 52 |
| Reduce recidivism primary goal of RJ | Yes | 89.3 | 50 |
| | No | 10.7 | 6 |
| | NR | 16.4 | 11 |
| Source of referral | Police | 15.4 | 10 |
| | Court | 43.1 | 28 |
| | Community corrections | 6.2 | 4 |
| | Custodial corrections | 4.6 | 3 |
| | Other | 30.8 | 20 |

| | | | |
|---|---------|------|----|
| | NR | 3.0 | 2 |
| Participation in program mandatory | Yes | 12.1 | 7 |
| | No | 87.9 | 51 |
| | NR | 13.4 | 9 |
| Did participation preclude typical CJS response? | Yes | 15.9 | 10 |
| | No | 84.1 | 53 |
| | NR | 6.0 | 4 |
| F1: Community represented in the session? | Yes | 49.3 | 33 |
| | No | 50.7 | 34 |
| F2: Offenders required to accept responsibility? | Yes | 76.1 | 51 |
| | No | 23.9 | 16 |
| F3: Program include face-to-face with the victim? | Yes | 95.5 | 64 |
| | No | 4.5 | 3 |
| F4: Is repairing harm a primary goal? | Yes | 98.5 | 66 |
| | No | 1.5 | 1 |
| F5: Attempts to address needs of offender? | Yes | 46.3 | 31 |
| | No | 53.7 | 36 |
| F6: Attempts to address needs of victim? | Yes | 89.6 | 60 |
| | No | 10.4 | 7 |
| Adherence to RJ principles | Minimal | 7.5 | 5 |
| | Some | 58.2 | 39 |
| | High | 34.3 | 23 |
| RJ model and structure | Vague | 32.8 | 22 |

| | | | |
|--|--|------|----|
| | Moderate | 64.2 | 43 |
| | Detailed | 3.0 | 2 |
| Evidence of advocacy/support for victim | Yes, internal to program | 20.9 | 14 |
| | Yes, external to program | 3.0 | 2 |
| | No | 76.1 | 51 |
| Evidence of advocacy/support for offender | Yes, internal to program | 20.9 | 14 |
| | Yes, external to program | 13.4 | 9 |
| | No | 65.7 | 44 |
| Integrity 1: Are the staff trained in RJ or similar? | Yes | 85.1 | 57 |
| | No | 14.9 | 10 |
| Integrity 2: Is the case closely monitored? | Yes | 61.2 | 41 |
| | No | 38.8 | 26 |
| Integrity 3: Is there supervisory oversight? | Yes | 26.9 | 18 |
| | No | 73.1 | 49 |
| Integrity of RJ services | Good/very good | 61.2 | 41 |
| | Minimal use of RJ principles | 14.9 | 10 |
| | Poor/major problems | 7.5 | 5 |
| | Not specified, cannot judge | 10.4 | 7 |
| Who administers RJ? | CJS professional | 32.8 | 22 |
| | Volunteers | 25.4 | 17 |
| | Mental health professional | 3.0 | 2 |
| | Non-mental health professional (e.g., trained mediator) | 26.9 | 18 |
| | Other | 9.2 | 6 |
| | NR | 3.0 | 2 |

| | | | |
|--|--|------|----|
| Participants in the session | Face-to-face victim offender meeting with community members | 50.7 | 34 |
| | Face-to-face victim offender meeting without community members | 46.3 | 31 |
| | Shuttle communication | 1.5 | 1 |
| | Other | 1.5 | 1 |
| Type of RJ | Conferences | 55.2 | 37 |
| | Victim-Offender Mediation | 34.3 | 23 |
| | Circles | 2.9 | 2 |
| | Restitution program with victim involvement | 7.5 | 5 |
| Amount of preparation prior to RJ meeting | Minimal | 27.5 | 14 |
| | Some | 66.7 | 34 |
| | Extensive | 5.9 | 3 |
| | NR | 23.9 | 16 |
| Elements of restitution to the victim present? | Yes | 96.9 | 63 |
| | No | 3.1 | 2 |
| | NR | 3.0 | 2 |
| Elements of community service present? | Yes | 89.6 | 43 |
| | No | 10.4 | 5 |
| | NR | 28.4 | 19 |
| Is the offender supervised post-RJ agreement? | Yes | 85.4 | 35 |
| | No | 14.6 | 6 |
| | NR | 38.8 | 26 |

Table 5

Program Variables (Continued)

| | | | |
|---|-------------------------------------|------|----|
| Evidence of treatment within the agency or outside? | Yes, integrated with the RJ program | 3.0 | 2 |
| | Yes, outside of RJ program | 7.5 | 5 |
| | No | 89.6 | 60 |
| Victim-offender meetings | Yes | 52.9 | 35 |
| | NR | 47.1 | 32 |

Note. F1 to F7 = Fidelity of RJ questions (1 through 7). *k* = number of samples; NR = not reported.

The programs evaluated in the studies represent a variety of RJ approaches. In particular, the most common type of RJ program were conferences (55.2%, $k = 37$), followed by victim-offender mediation (34.3%, $k = 23$), restitution programs with victim contact (7.5%, $k = 5$), and finally, circles (2.9%, $k = 2$). Although programs were named after these different types, it is important to note that they vary in their specific program elements. For example, while some RJ conferences included community members (e.g., Calgary Community Conferencing; Calhoun & Pelech, 2010) others did not make this a requirement (e.g., CONNECT; Shapland et al., 2008). More specifically, about half of the programs involved a face-to-face victim-offender meeting with community members (50.7%, $k = 34$), and the other half involved a face-to-face victim-offender meeting without community members (46.3%, $k = 31$). Among those that reported exact percentages of victim-offender meetings, 52.9% ($k = 35$) of offenders had a face-to-face interaction with the victim. However, it should be noted that many of the studies that did not report exact percentages implied that all offenders underwent victim-offender meetings. Along with a face-to-face interaction, the majority of programs included elements of restitution to the victim (96.9%, $k = 63$), elements of community service (89.0%, $k = 60$), and post-RJ supervision of offenders (85.4%, $k = 35$). Most of the programs identified reducing recidivism as one of the primary goals of the program (89.3%, $k = 50$).

RJ Fidelity and Integrity

The sample of RJ programs varied in their degree to which they adhered to principles of RJ (also summarized in Table 5). To assess the degree of adherence to principles, programs were scored on six “fidelity” items, which revealed that about half involved some form of community representation in the session (49.3%, $k = 33$), most required the offender to accept responsibility (76.1%, $k = 51$), intended to include face-to-face contact (95.5%, $k = 64$), identified repairing

harm as a primary goal (98.5%, $k = 66$), addressed victim needs (89.6%, $k = 60$), with a smaller proportion addressing offender needs (46.3%, $k = 31$). To achieve a global score of fidelity, an item capturing overall adherence to RJ principles was included and revealed that the majority of RJ programs involved some form of RJ principles (58.2%, $k = 39$), followed by high (34.3%, $k = 23$), and subsequently, minimal (7.5%, $k = 5$).

An additional item assessing the quality of the RJ model and structure of the program revealed that most programs had a moderate structure (64.2%, $k = 43$), while others had a vague structure (32.8%, $k = 22$), and few had a detailed structure (3.0%, $k = 2$). With regard to the integrity of the RJ program, RJ programs were more commonly found to involve staff training (85.1%, $k = 57$), closely monitor the case (61.2%, $k = 38.8$), with a small proportion reporting supervisory oversight (26.9%, $k = 18$). Programs were scored in their degree of overall integrity, which identified most to have good or very good integrity (61.2%, $k = 41$), followed by minimal integrity (14.9%, $k = 10$), and poor or major problems (7.5%, $k = 5$).

The Effects of RJ on Recidivism

The current analysis used both fixed-effect and random-effects models to calculate the mean weighted LnORs for recidivism outcomes of the RJ group compared to the control group (see Table 6). The unweighted base rate of recidivism for the RJ group was 33.51% for general recidivism and 19.67% for violent recidivism. For the control group, the unweighted base rate for general recidivism was 39.01% and 25.98% for violent recidivism. Using the random-effects model (given the large sample size), the mean LnOR of general recidivism was 0.83 (95% CI [0.72; 0.96]). This translates to a reduction of 17% in the odds of recidivism for the RJ group compared to the control group. There was a significant degree of variability across studies for general recidivism ($Q = 298.26$, $p < .001$), which accounted for a large proportion of the total

between-study variability ($I^2 = 83.91\%$). For violent recidivism, the mean LnOR was 0.88 (95% CI [0.70; 1.11]), indicating that the odds of recidivism are 12% less likely in the RJ group compared to the control group, which was not significant. Furthermore, there was no significant degree of variability across studies ($Q = 4.10, p > .05$). Overall, these results indicate that RJ programs result in significant reductions in general recidivism but not violent recidivism. Given that there is significant between study variability for general recidivism but not violent recidivism, the influence of moderator variables was examined for general recidivism only.

Table 6

Mean Odds Ratios of the Effect of Restorative Justice by Recidivism Outcome (General and Violent Recidivism)

| Recidivism Outcome | Mean OR | Fixed | | Mean OR | Random | | <i>Q</i> | <i>I</i> ² | <i>k</i> | <i>n</i> |
|--------------------|---------|--------|-------|---------|--------|-------|------------------|-----------------------|----------|----------|
| | | 95% CI | | | 95% CI | | | | | |
| | | Lower | Upper | | Lower | Upper | | | | |
| General | 0.79 | 0.75 | 0.83 | 0.83 | 0.72 | 0.96 | 298.26*** | 83.91 | 49 | 39,627 |
| Violent | 0.88 | 0.70 | 1.11 | 0.88 | 0.70 | 1.11 | 4.10 | 0.00 | 6 | 1,598 |

Note. General recidivism encompasses any recidivism outcome; Bolded values represent significant differences. CI = confidence interval; OR = odds ratio; *k* = number of samples.

****p* < .001.

Influence of Moderators on General Recidivism

The influence of sample (Table 7), study (Table 8), and program variables (Table 9) was analyzed using the Q -change (Q_A) as the moderator index. The effects of moderator variables were determined by assessing the significance of the Q -change statistic for each level of the moderators (e.g., North America vs. Other). A minimum of three effect sizes for each level of the moderator was required to evaluate their influence on the outcomes.

Influence of sample characteristics (Table 7). The analysis identified sample moderators on the effects of RJ on recidivism, namely, age ($p < .001$), race ($p < .001$), average risk-level of RJ participants ($p < .001$), and whether the index offence was violent for the RJ group ($p < .05$). In particular, juvenile offenders showed the greatest reductions in recidivism compared to adult offenders. In addition, Caucasian participants showed the greatest reductions in recidivism compared to Aboriginal participants and Black participants as well as other races combined. Offenders who were reported to be lower risk (e.g., first offenders) were more likely to show reductions in recidivism compared to offenders who were higher risk (e.g., repeat offenders). Finally, offenders who committed a non-violent offence as their index offence showed greater reductions in recidivism compared to offenders who committed a violent offence.

Table 7

Sample Moderator Analyses for General Recidivism

| Moderator | Mean OR | Fixed | | Q | Q_{Δ} | I^2 | k | n |
|--|---------|--------|-------|--------|-----------------|-------|-----|--------|
| | | 95% CI | | | | | | |
| | | Lower | Upper | | | | | |
| Age | 0.79 | 0.75 | 0.83 | 298.26 | 24.51*** | 83.91 | 49 | 39,627 |
| Juvenile | 0.72 | 0.68 | 0.77 | 192.20 | | 86.47 | 27 | 28,515 |
| Adult | 0.94 | 0.86 | 1.03 | 81.55 | | 74.25 | 22 | 11,112 |
| Race | 0.80 | 0.75 | 0.84 | 231.58 | 58.61*** | 85.75 | 34 | 29,666 |
| Mostly Caucasian | 0.70 | 0.66 | 0.75 | 104.52 | | 81.82 | 20 | 20,220 |
| Mostly Black | 1.30 | 1.06 | 1.60 | 47.45 | | 93.68 | 4 | 1,882 |
| Mostly Aboriginal | 0.96 | 0.74 | 1.24 | 5.20 | | 42.29 | 4 | 980 |
| Mostly other | 1.04 | 0.92 | 1.18 | 15.80 | | 68.36 | 6 | 6,584 |
| Average risk-level of RJ participants | 0.79 | 0.75 | 0.83 | 222.37 | 30.93*** | 81.11 | 43 | 33,446 |
| Low | 0.71 | 0.67 | 0.76 | 89.34 | | 84.33 | 15 | 21,587 |
| Medium-High | 0.96 | 0.88 | 1.05 | 102.10 | | 73.56 | 28 | 11,859 |
| Index violent offence for majority of RJ group? | 0.79 | 0.75 | 0.83 | 298.05 | 4.75* | 84.23 | 48 | 38,314 |
| Yes | 0.98 | 0.80 | 1.20 | 50.49 | | 84.16 | 9 | 2,869 |
| No | 0.78 | 0.74 | 0.82 | 242.81 | | 84.35 | 39 | 35,445 |

Note. Bolded values represent significant differences. CI = confidence interval; OR = odds ratio; k = number of samples; Q_{Δ} = Q-change.

* $p < .05$. *** $p < .001$.

Influence of study characteristics (Table 8). The analysis revealed the following study moderators on the effects of RJ on general recidivism: published ($p < .001$), country ($p < .001$), study design ($p < .001$), control group type ($p < .001$), role of evaluators ($p < .001$), loss of follow-up data for RJ and control group ($p < .001$), whether recidivism was based on RJ graduates or admissions ($p < .001$), and the CODC score ($p < .01$). In particular, studies that were published were associated with greater reductions in recidivism than studies that were unpublished. With regard to Country, studies that were conducted in North America (Canada, US) were associated with greater reductions in recidivism compared to studies that were conducted in other countries combined (e.g., UK, Australia, New Zealand, Continental Europe).

For study design, overall weaker methodological choices were associated with *greater* decreases in general recidivism for the RJ group. More specifically, studies that used a convenience sample had larger reductions in recidivism than those using random assignment or a matched design. When there was a reported loss of data that exceeded 10% for the RJ group, RJ had no significant effect on recidivism. Additionally, RJ showed greater reductions in recidivism when recidivism was based on offenders that graduated from the program instead of all those that had been admitted to the program. Using the CODC guidelines, studies that had a weaker study methodology overall were found to be associated with greater reductions in recidivism compared to studies that had a stronger methodology. Studies that were rated as weaker did not demonstrate optimal research practices including blinding in selection procedures, equivalency of groups, and sufficient reporting of attrition rates and data loss. Contrary to the effects of research bias outlined above, there were also greater effects of RJ when the evaluators were independent, non-agency-based researchers compared to evaluators that were agency-based (i.e., involved in the design or service delivery of the program).

Table 8

Study Moderator Analyses for General Recidivism

| Moderator | Mean OR | Fixed | | Q | Q_{Δ} | I^2 | k | n |
|---|---------|--------|-------|--------|-----------------|-------|-----|--------|
| | | 95% CI | | | | | | |
| | | Lower | Upper | | | | | |
| Published | 0.79 | 0.75 | 0.83 | 298.26 | 37.43*** | 83.91 | 49 | 39,627 |
| Yes | 0.70 | 0.66 | 0.75 | 130.86 | | 81.66 | 25 | 20,704 |
| No | 0.97 | 0.89 | 1.05 | 129.97 | | 82.30 | 24 | 18,923 |
| Country | 0.79 | 0.75 | 0.83 | 298.26 | 24.75*** | 83.91 | 49 | 39,627 |
| North America | 0.72 | 0.68 | 0.77 | 227.80 | | 89.03 | 26 | 25,574 |
| Other | 0.94 | 0.87 | 1.03 | 45.71 | | 51.87 | 23 | 14,053 |
| Study Design | 0.79 | 0.75 | 0.83 | 298.26 | 48.81*** | 83.91 | 49 | 39,627 |
| Random | 0.86 | 0.75 | 0.99 | 20.18 | | 45.49 | 12 | 4,630 |
| Matched (A priori matching and Post-hoc equivalency) | 0.92 | 0.86 | 0.99 | 129.62 | | 81.48 | 25 | 15,737 |
| Convenience/ non- equivalence | 0.63 | 0.59 | 0.69 | 99.65 | | 88.96 | 12 | 19,260 |
| Control Group Type | 0.79 | 0.75 | 0.83 | 298.26 | 83.31*** | 83.91 | 49 | 39,627 |
| Traditional CJS | 0.92 | 0.87 | 0.98 | 175.97 | | 76.70 | 42 | 24,747 |
| Other alternative-type program or within group comparison | 0.56 | 0.52 | 0.62 | 38.98 | | 84.61 | 7 | 14,880 |
| Control Group Composition | 0.72 | 0.68 | 0.77 | 214.68 | 3.49 | 80.90 | 42 | 32,731 |
| Eligible, not referred | 0.72 | 0.68 | 0.76 | 197.13 | | 81.23 | 38 | 31,678 |
| Eligible but refused or victim unwilling | 0.94 | 0.71 | 1.23 | 14.06 | | 78.67 | 4 | 1,053 |
| Role of evaluators | 0.79 | 0.75 | 0.83 | 298.26 | 27.59*** | 83.91 | 49 | 39,627 |

| | | | | | | | | |
|--|------|------|------|--------|-----------------|-------|----|--------|
| Evaluators involved in design/service delivery or agency-based researchers | 1.01 | 0.91 | 1.12 | 82.83 | | 71.03 | 25 | 8,999 |
| Independent, non-agency based researchers | 0.74 | 0.70 | 0.78 | 187.84 | | 87.76 | 24 | 30,628 |
| Loss of follow-up data more than 10% for RJ group? | 0.77 | 0.73 | 0.82 | 197.51 | 47.20*** | 87.34 | 26 | 28,651 |
| Yes | 1.03 | 0.85 | 1.25 | 9.64 | | 58.50 | 5 | 3,351 |
| No | 0.76 | 0.71 | 0.80 | 178.61 | | 88.80 | 21 | 25,300 |
| Recidivism for RJ based on? | 0.70 | 0.75 | 0.83 | 298.26 | 46.42*** | 83.91 | 49 | 39,627 |
| Admissions | 0.93 | 0.87 | 1.00 | 171.95 | | 79.06 | 37 | 21,696 |
| Graduates | 0.66 | 0.62 | 0.71 | 79.89 | | 86.23 | 12 | 17,931 |
| CODC Outcome | 0.79 | 0.75 | 0.83 | 298.26 | 9.60** | 83.91 | 49 | 39,627 |
| Reject | 0.63 | 0.53 | 0.75 | 32.18 | | 75.14 | 9 | 6,290 |
| Weak | 0.79 | 0.74 | 0.83 | 224.79 | | 87.10 | 30 | 26,972 |
| Good | 0.87 | 0.78 | 0.97 | 31.69 | | 71.60 | 10 | 6,365 |

Note. Bolded values represent significant differences. CI = confidence interval; OR = odds ratio; k = number of samples; Q_{Δ} = Q-change.

** $p < .01$. *** $p < .001$.

Influence of Program Characteristics (Table 9). The analysis revealed a wide range of program moderators on the effects of RJ on recidivism: stage of criminal process ($p < .001$), mandatory participation in RJ ($p < .05$), requirement for accepting responsibility ($p < .05$), true diversion ($p < .001$), attempts to identify and address offender needs ($p < .001$), overall adherence to RJ principles ($p < .001$), overall integrity of RJ services ($p < .001$), RJ model and structure ($p < .001$), who administers RJ ($p < .001$), main type of RJ offered ($p < .05$), and amount of preparation time prior to RJ meeting ($p < .05$).

Many of the results were in line with what is considered effective RJ practices in the literature. More specifically, programs that were voluntary were associated with greater reductions in recidivism compared to programs that were mandatory. When programs required offenders to accept responsibility, RJ was reported to reduce recidivism to a greater extent compared to programs that did not have this requirement. When programs focused on identifying and addressing the offender's needs, RJ was associated with greater reductions in recidivism compared to the control group. In addition, when RJ programs had a moderate or detailed structure, they were associated with greater reductions in recidivism compared to programs with a vague structure. RJ programs that were administered by volunteers led to greater reductions in recidivism than programs administered by professionals (e.g., trained mediators, mental health professionals). Consistent with the use of RJ as a diversion strategy, programs that were at the pre-arrest and pre-charge stage were associated with greater reductions in recidivism followed by programs in the post-charge/pre-sentencing stage and programs in the post-sentencing and pre-release phase. Finally, when there was some or an extensive level of preparation prior to the RJ program, there were greater reductions in recidivism compared to RJ programs with a minimal level of preparation.

Table 9

Program Moderator Analyses for General Recidivism

| Moderator | Mean OR | Fixed | | Q | Q_{Δ} | I^2 | k | n |
|--|------------|-------|-------|--------|-----------------|-------|-----|--------|
| | | Lower | Upper | | | | | |
| Program age | 0.79 | 0.75 | 0.83 | 294.17 | 2.59 | 84.36 | 47 | 39,115 |
| New (less than 2 years old) | 0.70 | 0.60 | 0.82 | 60.12 | | 85.03 | 10 | 9,224 |
| Established (2 or more years old) | 0.80 | 0.76 | 0.85 | 231.46 | | 84.45 | 37 | 29,891 |
| Stage of criminal justice process | 0.78 | 0.75 | 0.82 | 295.16 | 58.36*** | 84.08 | 48 | 39,344 |
| Pre-arrest/pre-charge | 0.61 | 0.56 | 0.66 | 94.68 | | 92.61 | 8 | 17,104 |
| Post-charge/pre-sentencing | 0.88 | 0.81 | 0.95 | 113.72 | | 70.10 | 35 | 16,044 |
| Post-sentencing, pre-release | 0.95 | 0.86 | 1.05 | 28.40 | | 85.92 | 5 | 6,196 |
| Reduce recidivism primary goal of RJ | 0.79 | 0.75 | 0.83 | 282.13 | 0.59 | 84.76 | 44 | 37,242 |
| Yes | 0.78 | 0.74 | 0.82 | 240.56 | | 84.20 | 39 | 28,583 |
| No | 0.82 | 0.73 | 0.93 | 40.98 | | 90.24 | 5 | 8,659 |
| Participation mandatory? | 0.77 | 0.73 | 0.81 | 281.46 | 4.64* | 86.14 | 40 | 35,035 |
| Yes | 0.97 | 0.77 | 1.24 | 12.46 | | 75.92 | 4 | 1,669 |
| No | 0.76 | 0.72 | 0.80 | 265.03 | | 86.79 | 36 | 33,366 |
| Was the community represented in the session? | 0.79 | 0.75 | 0.83 | 298.26 | 3.22 | 83.91 | 49 | 39,627 |
| Yes | 0.81 | 0.77 | 0.86 | 205.31 | | 87.82 | 26 | 24,360 |
| No | 0.73 | 0.67 | 0.80 | 89.73 | | 75.48 | 23 | 15,267 |
| Were the offenders required to accept responsibility? | 0.79 | 0.75 | 0.83 | 298.26 | 3.90* | 83.91 | 49 | 39,627 |

| | | | | | | | | |
|--|------|------|------|--------|-----------------|-------|----|--------|
| Yes | 0.78 | 0.74 | 0.82 | 245.95 | | 84.96 | 38 | 36,924 |
| No | 0.96 | 0.78 | 1.17 | 48.41 | | 79.34 | 11 | 2,703 |
| Attempts to address and identify needs of offender? | 0.79 | 0.75 | 0.83 | 298.26 | 30.54*** | 83.91 | 49 | 39,627 |
| Yes | 0.70 | 0.65 | 0.74 | 170.10 | | 87.65 | 22 | 24,927 |
| No | 0.92 | 0.85 | 0.99 | 97.62 | | 73.37 | 27 | 14,700 |
| Attempts to address and identify needs of victim? | 0.79 | 0.75 | 0.83 | 298.26 | .01 | 83.91 | 49 | 39,627 |
| Yes | 0.79 | 0.75 | 0.83 | 287.88 | | 85.76 | 42 | 37,185 |
| No | 0.78 | 0.63 | 0.98 | 10.37 | | 42.13 | 7 | 2,442 |
| Adherence to RJ principles | 0.79 | 0.75 | 0.83 | 298.26 | 33.56*** | 83.91 | 49 | 39,627 |
| Minimal | 0.72 | 0.50 | 1.03 | 4.53 | | 33.84 | 4 | 575 |
| Some | 0.73 | 0.70 | 0.78 | 196.74 | | 86.28 | 28 | 31,285 |
| High | 1.06 | 0.95 | 1.19 | 63.43 | | 74.77 | 17 | 7,767 |
| RJ model and structure | 0.79 | 0.75 | 0.83 | 298.26 | 14.73*** | 83.91 | 49 | 39,627 |
| Vague | 0.94 | 0.85 | 1.04 | 44.61 | | 59.65 | 19 | 10,289 |
| Moderate or detailed | 0.75 | 0.71 | 0.79 | 238.92 | | 87.86 | 30 | 29,338 |
| Evidence of advocacy or support for victims | 0.79 | 0.75 | 0.83 | 298.26 | .08 | 83.91 | 49 | 39,627 |
| Yes, internal or external | 0.80 | 0.69 | 0.93 | 13.81 | | 5.89 | 14 | 3,634 |
| No | 0.79 | 0.75 | 0.83 | 284.37 | | 88.04 | 35 | 35,993 |
| Evidence of advocacy or support for offenders | 0.79 | 0.75 | 0.83 | 298.26 | 1.4 | 83.91 | 49 | 39,627 |
| Yes, internal or external | 0.84 | 0.75 | 0.93 | 54.67 | | 63.42 | 21 | 7,514 |
| No | 0.78 | 0.74 | 0.82 | 242.19 | | 88.85 | 28 | 32,113 |
| Integrity of RJ services | 0.79 | 0.75 | 0.83 | 296.19 | 63.89*** | 84.47 | 47 | 39,168 |
| Good/very good | 0.91 | 0.85 | 0.98 | 179.41 | | 83.64 | 30 | 20,031 |
| Minimal use of RJ principles | 0.59 | 0.54 | 0.64 | 29.75 | | 79.83 | 7 | 10,420 |
| Poor/major problems | 0.83 | 0.67 | 1.01 | 8.68 | | 53.91 | 5 | 2,944 |

| | | | | | | | | |
|--|------|------|------|--------|-----------------|-------|----|--------|
| Not specified, cannot judge | 0.90 | 0.79 | 1.03 | 14.96 | | 73.27 | 5 | 5,773 |
| Who administers RJ? | 0.79 | 0.75 | 0.83 | 292.31 | 23.64*** | 84.26 | 47 | 39,265 |
| CJS professional | 0.93 | 0.81 | 1.06 | 22.34 | | 41.80 | 14 | 5,438 |
| Volunteers | 0.71 | 0.66 | 0.76 | 132.24 | | 89.41 | 15 | 17,362 |
| Non-mental health professional (trained mediator) | 0.89 | 0.81 | 0.98 | 109.84 | | 87.25 | 15 | 14,586 |
| Other (includes mental health professional) | 0.91 | 0.62 | 1.35 | 4.25 | | 52.91 | 3 | 1,879 |
| Main type of RJ offered | 0.78 | 0.75 | 0.82 | 287.50 | 6.94* | 84 | 47 | 39,183 |
| Face-to-face victim offender meeting with community members | 0.82 | 0.77 | 0.87 | 205.71 | | 87.36 | 27 | 27,263 |
| Face-to-face victim offender meeting without community members | 0.70 | 0.64 | 0.77 | 74.85 | | 74.62 | 20 | 11,920 |
| Amount of preparation time prior to V-O meeting | 0.92 | 0.86 | 0.98 | 182.13 | 4.99* | 81.33 | 35 | 24,457 |
| Minimal | 0.99 | 0.90 | 1.08 | 26.21 | | 61.85 | 11 | 10,014 |
| Some to extensive | 0.85 | 0.77 | 0.94 | 150.93 | | 84.76 | 24 | 14,443 |
| Any evidence of treatment? | 0.79 | 0.75 | 0.83 | 298.26 | 2.89 | 83.91 | 49 | 39,627 |
| Yes (internal or external to program) | 0.93 | 0.76 | 1.12 | 39.74 | | 84.90 | 7 | 3,273 |
| No | 0.78 | 0.74 | 0.82 | 255.63 | | 83.96 | 42 | 36,354 |
| RJ Type | 0.79 | 0.75 | 0.83 | 295.09 | 19.5*** | 84.41 | 47 | 39,339 |
| Conferences | 0.82 | 0.78 | 0.87 | 207.04 | | 86.48 | 29 | 30,018 |
| Victim Offender Mediation | 0.60 | 0.53 | 0.69 | 55.99 | | 76.78 | 14 | 8,725 |
| Restitution with Victim Involvement | 0.92 | 0.65 | 1.30 | 12.56 | | 76.12 | 4 | 596 |

Note. Bolded values represent significant differences. CI = confidence interval; k = number of samples; Q_{Δ} = Q-change.

* $p < .05$. *** $p < .001$.

Contrasting the literature, RJ programs that were considered to have minimal to some adherence to RJ principles were associated with greater reductions in recidivism compared to RJ programs that had high RJ principles. In addition, programs that were rated with a minimal degree of integrity were associated with greater reductions in recidivism, followed by programs with major problems, and subsequently, programs with a high degree of integrity. In addition, programs that included a face-to-face interaction between victims and offenders without community members had the greatest reductions in recidivism compared to such programs with community members.

The Effects of RJ on Other Outcomes

Victim and offender satisfaction. The effect of RJ on other outcomes compared to the control group was examined using both the fixed-effect and random-effects model (only the fixed-effect model results will be summarized in text given the small sample size, see Table 10). The mean Cohen's *d* for victim satisfaction was 0.63 (95% CI [0.48; 0.77]). This result indicates that RJ is associated with a moderate significant increase in victim satisfaction compared to the control group. There was no significant degree of variability across the studies for victim satisfaction ($Q = 17.08, p > .05$), and the variability that was present accounted for less than half of the variability between studies ($I^2 = 41.46\%$). For offender satisfaction, the mean Cohen's *d* was 0.53 (95% CI [0.33; 0.73]), suggesting that RJ is associated with significant increases in offender satisfaction compared to the control group. As with victim satisfaction, there was no significant variability among the studies for offender satisfaction ($Q = 9.98, p > .05$). Given that there was no significant between-study variability for both victim and offender satisfaction, moderator analyses on these outcomes were not conducted.

Table 10

Mean Cohen's d of the Effect of Restorative Justice on Other Outcomes

| Outcome | Mean Cohen's <i>d</i> | Fixed | | Mean Cohen's <i>d</i> | Random | | <i>Q</i> | <i>I</i> ² | <i>k</i> | <i>n</i> |
|-------------------------------|--------------------------|--------|-------|--------------------------|--------|-------|-----------------|-----------------------|----------|----------|
| | | 95% CI | | | 95% CI | | | | | |
| | | Lower | Upper | | Lower | Upper | | | | |
| Vic. Satisfaction | 0.63 | 0.48 | 0.77 | 0.63 | 0.42 | 0.85 | 17.08 | 41.46 | 11 | 1,622 |
| Offend. Satisfaction | 0.53 | 0.33 | 0.73 | 0.53 | 0.32 | 0.75 | 9.98 | 9.86 | 10 | 1,348 |
| Vic. Procedural Justice | 0.53 | 0.37 | 0.70 | 0.49 | 0.13 | 0.86 | 37.36*** | 75.91 | 10 | 1,478 |
| Offend. Procedural Justice | 0.32 | 0.14 | 0.51 | 0.36 | 0.01 | 0.72 | 28.76** | 65.22 | 11 | 1,370 |
| Offend. Accountability | 0.81 | 0.62 | 0.99 | 1.15 | 0.60 | 1.70 | 35.92*** | 80.50 | 8 | 1,072 |
| -Minus 4.00 | 1.32 | 1.03 | 1.62 | 1.30 | 0.76 | 1.84 | 16.82** | 64.33 | 7 | 594 |
| Offender Attitudes | 1.98 | 1.71 | 2.31 | 1.98 | 1.71 | 2.31 | 1.44 | 0 | 3 | 768 |
| Severity of Recidivism | -0.07 | -0.13 | -0.01 | -0.04 | -0.18 | 0.10 | 26.61*** | 69.94 | 9 | 6,170 |
| Cost Effectiveness | 0.06 | -0.06 | 0.18 | 0.04 | -0.11 | 0.18 | 7.47 | 33.09 | 6 | 1,053 |

Note. Study 4.00 was identified as an outlier for Offender Accountability. Bolded values represent significant differences. CI = confidence interval; *k* = number of samples.

p* < .01. *p* < .001.

Victim and offender procedural justice. Procedural justice was defined as victim and offender perceptions that they were treated with fairness, dignity, and respect throughout the RJ process. The mean Cohen's d for victim procedural justice was 0.53 (95% CI [0.37; 0.70]), suggesting that RJ is associated with significant increases in victim procedural justice compared to the control group. There was a significant degree of variability across the studies, however ($Q = 37.36, p < .001$), which accounted for a large proportion of the total variability between studies ($I^2 = 75.91\%$). For offender procedural justice, the mean Cohen's d was 0.32 (95% CI [0.14; 0.51]), indicating that RJ is associated with a small significant increase in offender procedural justice ($Q = 28.76, p < .01$), which accounted for a moderate proportion of the total variability between studies ($I^2 = 65.22\%$).

Offender accountability. The mean Cohen's d for offender accountability was 0.81 (95% CI [0.62; 0.99]), suggesting that RJ is associated with significant increases in offender accountability compared to the control group. After an outlier was removed (study 4.00), the effect size was 1.32 (95% CI [1.32; 1.03]), indicating that there is a large effect of RJ on increasing offender accountability. There was a significant degree of variability across the studies for offender accountability ($Q = 16.82, p < .01$), and the variability for offender accountability accounted for a moderate proportion of the total variability between studies ($I^2 = 64.33\%$).

Offender attitudes. The mean Cohen's d for offender attitudes towards the victim was 1.98 (95% CI [1.71; 2.31]), suggesting that RJ is associated with significant improvements in offender attitudes compared to the control group. Offender attitudes were indexed as positive attitudes the offender felt towards the victim (e.g., respect towards the victim) as a result of participating in RJ. There was a no significant degree of variability across the studies for

offender attitudes ($Q = 1.44, p > .05$), and the variability for this outcome did not account for any of the total variability between studies ($I^2 = 64.33\%$). Given that there was no significant between-study variability for offender attitudes, a moderator analysis was not conducted.

The effects of RJ on severity of recidivism. The mean Cohen's d for severity of recidivism was -0.07 (95% CI $[-0.13; -0.01]$), suggesting that RJ is associated with significant decreases in the severity of reoffences compared to the control group. There was a significant degree of variability across the studies for severity of recidivism ($Q = 26.61, p < .001$), which accounted for a moderate proportion of the total variability between studies ($I^2 = 64.33\%$).

The effects of RJ on cost effectiveness. The mean Cohen's d for cost effectiveness was 0.06 (95% CI $[-0.06; 0.18]$), indicating that RJ is not associated with significant increases in mean cost savings compared to the control group. There was no significant degree of variability across the studies for cost effectiveness ($Q = 7.47, p > .05$), which accounted for some of the total variability between the studies ($I^2 = 33.09\%$). Given that there was no significant degree of between-study variability for cost effectiveness, moderator analyses were not conducted for this outcome.

Influence of Study, Sample, and Program Characteristics on Other Outcomes

For victim procedural justice, the analysis only identified whether the study was published ($p < .05$) and whether the offenders were required to accept responsibility ($p < .05$) as significant moderators. More specifically, studies that were published in peer-reviewed journals were associated with higher degrees of victim procedural justice, $d = 0.67$ (95% CI $[0.46; 0.88]$) than studies that were non-peer reviewed reports, $d = -0.33$ (95% CI $[-0.78; 0.11]$). In addition, when programs required offenders to admit responsibility, RJ was associated with greater victim procedural justice, $d = 0.67$ (95% CI $[0.49; 0.84]$) than when programs did not make this a

requirement, $d = -0.33$ (95% CI [-0.78; 0.11]). There were no significant moderators on the effects of RJ on offender procedural justice. There were also no significant moderators identified for the effects of RJ on offender accountability or severity of recidivism. Importantly, given the requirement that each level of the moderator contain at least three effect sizes in order to be analyzed, many of the moderator variables could not be assessed for these outcomes.

Discussion

The present study represents the largest meta-analysis to date of research examining the effectiveness of RJ practices on reducing recidivism and improving other outcomes. Using our criteria for inclusion of studies (e.g., direct victim contact), RJ participants demonstrated greater reductions in general recidivism compared to control group participants. In addition, the effect of RJ on violent recidivism was not significant. The analyses also revealed significant effects of RJ on all other outcomes (e.g., victim and offender satisfaction, offender accountability, etc.), with the exception of cost effectiveness. The coding procedures also enabled a detailed examination of the presence and influence of various study, sample, and program characteristics on these outcomes. According to these analyses, there are various moderators that help to explain the effects of RJ on general recidivism and on victim procedural justice.

RJ and Recidivism

Previous research on RJ has largely focused on its success in reducing reoffending behaviours compared to traditional CJS practices. Although reducing recidivism is considered a secondary goal from a theoretical perspective (Zehr, 2002), this outcome has the greatest implications for policy decision-making and public safety. As the results from this analysis demonstrate, the research conducted over the past 40 years show moderate support for the efficacy of RJ programs in reducing recidivism. In particular, the results revealed that the odds of

recidivism were 17% less likely for RJ participants compared to control group participants. The moderate efficacy of these programs reported in the literature contrasts the theoretical stance that recidivism is most effectively reduced through restorative methods. While RJ did not lead to substantial reductions in recidivism compared to control groups, an important insight of this research is that the efficacy of RJ was found to be moderated by various sample, study, and program characteristics. It is therefore critical to examine whether the interpretation of these overall findings depend on the influence of moderating variables.

RJ and Recidivism: Sample Moderators

The results of this analysis revealed various sample moderators on the effects of RJ on recidivism. Most notably, it was found that juvenile offenders experienced the greatest reductions in recidivism compared to adult offenders. This pattern of results is in line with previous research emphasizing the application of RJ to young offenders as a preventative strategy to divert them from the CJS (Wong et al., 2016). According to some theorists, young offenders may benefit more from RJ practices than adult offenders due to its emphasis on developing moral reasoning and empathy (Farrington & Welsh, 2007). By targeting offender needs and promoting prosocial development at an early stage, RJ can be a more promising system compared to traditional approaches to diversion (Sherman & Strang, 2007). Along these lines, it is also possible that young offenders who are more amenable to change are more likely to be referred to RJ programs compared to adults. Such results suggest the potential influence of a self-selection bias where the positive effects of RJ are driven by individuals who are more likely to benefit from its practices.

In addition, the RJ approach may be more suitable for youth because they are inherently more likely to be first-time offenders and lower risk than adults (White, Temple, & Reynolds,

2010). Indeed, moderator analyses indicated that low risk offenders benefitted more from RJ compared to medium- and high-risk offenders. As previously mentioned, RJ programs are primarily focused on youth and low-risk offenders due to their perceived ‘softer’ approach to resolving conflict (Walgrave, 2009). While RJ programs for high-risk offenders exist and have shown some success (e.g., Brooks, 2013), they are unlikely to benefit as much as low-risk offenders according to the RNR model’s risk principle. That is, higher risk offenders who receive treatment lower in intensity may be at an even greater risk of reoffending than they would have if they received the appropriate intensity of treatment (Andrews & Bonta, 2010). Consistent with the findings for risk-level, it was found that offenders who committed a non-violent index offence were less likely to reoffend than those who had a violent index offence. These findings, as well as the results on risk and age, provide further support for the application of RJ towards the earlier stages of criminality rather than the later stages.

Another significant study moderator was the race of the offenders. In particular, Caucasian participants demonstrated the largest reductions in recidivism compared to Aboriginal participants, Black participants, and other races (e.g., Asian, Hispanic). Moreover, Black participants as well as minority groups in the ‘other’ category (e.g., Latino) demonstrated increases in recidivism as a result of RJ. Although it is unclear whether these differences were due to racial bias or discrimination throughout the RJ process, these results suggest that RJ may be less sensitive towards other races. However, it should be noted that most of the studies on RJ have been conducted on Caucasian participants, and therefore more research is needed to determine whether racial bias is major factor contributing these differences.

RJ and Recidivism: Study Moderators

Although the overarching finding that RJ reduces recidivism is consistent, the influence of study characteristics can call into question the robustness of this claim. For this reason, examining the influence of study characteristics is crucial to accurately interpreting the results of the current study. For example, it was found that studies published in a peer-reviewed journal were associated with greater reductions in recidivism compared to non-peer-reviewed reports. Relatedly, studies conducted by independent, non-agency-based researchers, who were more often publishing in peer-reviewed journals in the current sample, exhibited greater program effects than those conducted by agency-based researchers. Both of these results may suggest the influence publication bias, such that significant findings are more likely to be published than non-significant findings. Indeed, unpublished reports did not result in significant reductions in recidivism for the RJ group.

A consistent finding in previous meta-analyses on RJ is the influence of study methodology on the effects of RJ on recidivism. In particular, Wong et al. (2016) reported study quality as an important moderator such that weaker methodologies were associated with greater program effects than stronger methodologies. Using the CODC guidelines, the present analysis supports this finding by demonstrating that studies scored as weak were associated with greater reductions in recidivism compared to studies scored as strong. The major criteria for scoring the CODC form included the extent of administrative control of independent variables, experimenter expectancies, sample size, attrition, equivalency of groups, reliability and validity of outcome variables, and using the least biased comparisons. The studies that were given the highest CODC scores were often those that involved a randomized selection procedure, larger sample size, sufficient reporting of data loss, longer follow-up periods, and unbiased comparisons. In contrast, studies that were given the lowest CODC scores were often those that involved convenience

groups, smaller sample sizes, little to no information about group equivalency, insufficient information about data loss, and potential data dredging. However, it should be emphasized that while studies with the strongest methodologies were associated with reduced program effects, they were still significant in reducing recidivism. Therefore, although the robustness of the results was dependent on study methodology, it was not enough to nullify the effects of RJ on recidivism. Altogether, these results demonstrate the influence of methodological bias on reductions in recidivism but do not fully account for this effect.

In line with this finding, the analyses revealed the potential influence of selection biases that call into question the representativeness of the selected RJ and control samples. In particular, studies that used convenience samples were associated with greater reductions in recidivism compared to studies that used a more representative sample from a randomized selection procedure. In line with the CODC results, this finding suggests the possibility that RJ groups already referred to the program before conducting the study were less likely to reoffend than control groups a priori. Furthermore, recidivism results that were based on graduates only showed greater reductions in recidivism compared to results based on admissions (i.e., intention to treat analysis). As such, the greatest program effects were found for those who actually completed the program as opposed to those who were admitted, which would further suggest the existence of selection bias. In sum, many of the moderators on the efficacy of RJ in reducing recidivism suggest the influence of inherent biases in the study methodology.

RJ and Recidivism: Program Moderators

Understanding which RJ practices enhance program efficacy was a major goal of the present study. As previously mentioned, RJ practices vary widely in different types, procedures, theoretical orientations, and goals. Even within certain types of RJ programs (e.g., conferences),

there are wide variations in specific practices, resulting in major differences as to how RJ is experienced by its participants (Van Ness & Strong, 2010). For this reason, closer analysis of specific program moderators is crucial in understanding how RJ can be most effective in reducing reoffending. Given the large number of significant program moderators, this section will begin with a discussion of those that were consistent with the literature, followed by those that either contrasted or have not been explored in previous research.

In line with much of the theoretical and empirical work on RJ, some program elements conforming to RJ principles were associated with greater program efficacy. More precisely, when offenders were required to admit responsibility or guilt for their actions, RJ was associated with greater reductions in recidivism compared to those that did not involve this practice. This finding is in agreement with one of the basic tenants of RJ that concerns fostering empathy and understanding to encourage prosocial behaviour and reduce further criminality (Umbreit, 1995). Although it is unclear whether empathy accounts for reductions in recidivism, these results support the efficacy of such practices and warrant future research on the role of empathy in offender rehabilitation. In addition, RJ programs that were implemented during the pre-arrest or pre-charge stage were associated with greater reductions in recidivism compared to programs implemented at later stages of the CJS process. This is consistent with the results on age and risk-level as well as some of the theoretical literature of RJ suggesting that RJ is best implemented as a diversion strategy (Wong et al., 2016). As with the results regarding age and risk-level, it is possible that offenders entering RJ at an earlier stage are inherently more likely to benefit than those entering at a later stage, therefore the influence of self-selection bias cannot be eliminated completely.

There is also some evidence that RJ practices that align with procedural justice theory enhance program efficacy. For example, programs that were voluntary exhibited greater reductions in recidivism than programs that were mandatory. Although it is debatable whether mandatory programs can still be considered RJ (Woolford, 2009), it is likely that programs are perceived by offenders as less fair when they have no choice in their decision to participate. Similarly, programs that were facilitated by volunteers were found to be more effective in reducing recidivism compared to programs facilitated by CJS professionals and other professionals (e.g., mental health workers). Such findings allude to the possibility that offenders are less receptive to CJS professionals because of their higher position of power relative to volunteers. This may be especially true given previous research showing increases in recidivism as a result of legal professionals unfairly exercising their authority (e.g., McCluskey, 2003). Moreover, volunteer facilitators are often members of the community, who are in an ideal position to elicit meaningful emotional experiences such as re-integrative shaming (Dzur & Olson, 2004).

Finally, it was found that RJ practices that attend to offender needs as well as provide support for offenders (either internal or external to the program) were associated with greater reductions in recidivism than those that did not offer these services. According to procedural justice theory, a part of being treated with dignity and respect involves having one's needs acknowledged and addressed (Tyler & Blader, 2000). The importance of offender needs is also in line with the RNR model, which views targeting criminogenic needs as an essential practice in effective offender rehabilitation (Andrews & Bonta, 2010). However, addressing offender needs is often a secondary goal to addressing victim needs in the RJ process (Zehr, 2002). In addition, RJ emphasizes individual offender needs (e.g., having their side of the story acknowledged)

rather than criminogenic needs due to its prioritization of other outcomes over recidivism (Zehr, 2002). Nevertheless, these results agree with the well-supported notion that offender needs are important for reducing criminality.

Some of the program integrity variables were also found to enhance program efficacy. Specifically, programs that had a moderate to detailed structure (i.e., included a standard protocol that was the same for all participants) were associated with greater effects than those that had a vague structure. Although the coding for this item was somewhat subjective due to the limited information provided in the articles, this result lends more support towards structured programs over those that are more flexible. Drawing from this finding, it may be beneficial for programs to develop manuals and standardized procedures to enhance program efficacy, which could be explored in future research. Another finding related to integrity was that programs involving moderate to extensive preparation prior to the RJ meeting (i.e., 2-5 hours per participant) had greater reductions in recidivism compared to those involving a minimal amount of preparation (i.e., less than two hours per participant). Preparation is a critical stage in the RJ process that functions to inform participants what to expect, assess their needs and goals, ensure they are ready and able to benefit from the process, and to build a connection with the participants (Daly, 2003). Altogether, these results imply that factors related to program integrity such as program structure and preparation can play a role in reducing recidivism, which should be investigated further.

While many of the moderators revealed in the current research were in line with past studies and the proposed hypotheses, other findings were less intuitive. Most surprisingly, the findings on overall adherence to RJ principles and program integrity were opposite to what was expected based on previous research. Contrary to our hypotheses, lower levels of adherence to

RJ principles (i.e., minimal to some) were found to be associated with greater program effects than programs rated with a high degree of adherence (i.e., high). Some of the criteria used to code this item included adhering to essential principles of RJ such as voluntariness, accountability, reparation, respect, and empowerment. As with other variables however, coding this item involved some degree of subjectivity in interpreting the limited information provided in the articles. Given the disagreement regarding the definitions of RJ program elements (e.g., what is considered reparation), an accurate assessment of these variables to yield an overall score of adherence may not be plausible. Such coding-related issues highlight the need for more detailed program descriptions in future research.

Putting coding-related issues aside, these findings still call into question the efficacy of adhering to RJ principles in the context of reducing recidivism. One potential explanation for these findings is the discrepancy between the RJ approach and the most widely supported model of offender rehabilitation, known as the RNR model. Although some aspects of RJ are in line with the principles of risk, need, and responsivity (e.g., focusing on offender needs), RJ principles were not designed for the purpose of reducing recidivism (Zehr, 2002). This may be especially problematic given that programs that considered reducing recidivism a primary goal were indeed more effective in improving that outcome. In addition, major guiding principles of RJ such as healing and fostering empathy are not recognized as ‘what works’ in reducing recidivism under the RNR model (Andrews & Bonta, 2010). Therefore, while some of the major tenants of RJ may be theoretically related to reducing recidivism, they are not established in the empirical literature, which largely supports the RNR framework. Given these results, it may be informative to explore how RJ practices can integrate RNR principles in order to enhance program efficacy. One strategy already suggested by the current research is to address

criminogenic needs throughout the RJ process, along with addressing victim needs. Although victim needs take precedence over offender needs in RJ, reducing criminality by addressing offender needs is a valuable goal that concerns all parties involved and the extended community.

In line with the unexpected findings on adherence to RJ principles, the moderator analysis on program integrity also revealed the opposite results. In particular, it was found that programs with a high degree of integrity (i.e., good or very good), were associated with lower reductions in recidivism compared to programs scored with a minimal degree of integrity. These results directly contrast what is considered good practice, namely, that the program has adequate levels of training, supervision, and follows standard protocol. In addition, these results contrast the finding that a higher degree of program structure yielded greater program effects than minimal amount of structure. As with the variable for adherence to RJ principles, however, the item assessing integrity was likely influenced by a degree of subjectivity in the scoring. For example, only a small portion of articles mentioned staff training in their program description, and for those that did, the quality of training could only be evaluated based on the little information provided. Therefore, the findings on program integrity should be interpreted with caution due to the subjectivity involved in coding this item, which further emphasizes the need for more detailed program descriptions in future research. Another possible reason for these discrepant results is that programs with less staff training were more often community-based and volunteer-driven, which are found to enhance program efficacy in the current research. In this regard, programs that had a high level of staff training may have been more situated within traditional CJS spheres, which would have been less aligned with procedural justice principles. Regardless of the reasons for these discrepant results, these findings highlight the need for more accurate methods of evaluating the degree and quality of program implementation.

Other unexpected results were those that concerned the moderating effects of program age, the involvement of community members, and the type of RJ program on recidivism. Specifically, programs that were newer (i.e., less than two years old) were associated with greater reductions in recidivism compared to programs that were older (i.e., more than two years old). This finding is less intuitive given that programs that are older would likely have more established protocols and experienced staff members. Alternatively, it is possible that newer programs are becoming more aligned with effective practices in rehabilitation based on recent research. Such results would suggest the improvement of RJ programs in recent years.

Finally, it was found that programs that did not include community members, which were mostly victim-offender mediation programs, were most effective in reducing recidivism compared to conferences involving community members. As previously articulated, community members play a crucial role throughout the RJ process and such results are therefore surprising in the context of RJ theory as well as re-integrative shaming. One possibility is that community members who are not directly tied to the criminal act do not substantially contribute to the offender's reintegration and could have potentially negative effects if there is hostility between the offender and other participants (Cook, 2006). In addition, while the community is considered to play a primary role, the definition of what constitutes community in RJ is less clear. The current analysis only assessed community involvement based on whether the study identified community members to be present at the session. However, it has been suggested that RJ more often involves the community that the offender is a part of rather than their appropriate community whom they have a deeper connection with (Berlin, 2016). As such, community involvement would be less effective for reducing recidivism and can have potentially harmful

effects. Regardless of the reason for these results, future research should further examine whether community involvement provides an additional benefit in reducing recidivism.

RJ and Recidivism: Summary

In sum, our main hypothesis was supported: RJ was found to significantly reduce recidivism to a greater extent than control groups. However, as expected, there were various sample, study, and program moderators on the effects of RJ on recidivism. Consistent with previous meta-analyses, there were important sample moderators on the effects of RJ on recidivism, such as age and risk-level, suggesting the application of RJ at earlier stages of stages of the CJS process. Also in line with our hypotheses, studies that had weaker methodologies were found to be associated with greater reductions in recidivism compared to studies with rigorous methodologies. However, all CODC scores were associated with significant reductions in recidivism, demonstrating that RJ remains effective regardless of methodological quality. There were various program moderators on recidivism that further supported previous research as well as influential theories of offender rehabilitation such as procedural justice theory and the RNR model. However, our hypotheses on the influence of adhering to RJ principles and program integrity on recidivism were not supported. Although the reason for these conflicting results is unclear, methodological improvements can be made for future research, which will be discussed in a later section.

RJ and Other Outcomes: Victim and Offender Satisfaction and Procedural Justice

A major goal of the current research was to examine the influence of RJ on other outcomes such as victim satisfaction. In line with our hypotheses, previous research on RJ suggests that it is more effective in enhancing victim satisfaction compared to traditional CJS approaches (given that control groups largely consisted of traditional CJS approaches). Such

results are expected given that RJ is designed for the interests of victims, who have historically been neglected in traditional CJS procedures (Wooldford, 2009). Considering that the major goal of RJ is reparation, victims are involved in all stages of the RJ process and the decision-making regarding how the offender will provide restitution (Van Camp, 2016). By allowing them to play a central role in the RJ process, victims gain a sense of empowerment that they would have not otherwise gained in traditional procedures (Choi, Green, & Kapp, 2010). In addition to the importance of victim involvement, RJ processes are oriented towards attending to and addressing victim needs (Umbreit & Coates, 1992). Some of the victim needs that RJ addresses are built into its specific procedures, such as allowing the victim to express how the crime has impacted them and witnessing the offender express remorse for their actions (Hayes & Daly, 2003). The opportunity to rebuild broken relationships and foster empathy are other elements unique to RJ not found in traditional approaches but are likely related to victim satisfaction. The results of the current research are therefore in agreement with the widely accepted notion that RJ enhances victim satisfaction over traditional CJS approaches.

Related to overall victim satisfaction is the victim's perceptions of fairness and respect of the RJ process. As expected, it was found that RJ was associated with a greater degree of procedural justice for victims compared to traditional CJS procedures. These findings are largely based on victims' perceptions of how fairly and respectfully they were treated throughout the RJ process, such as by facilitators and the offenders themselves (e.g., Umbreit & Coates, 1992). Considering the neglect of victim needs in the traditional CJS, as well as the emphasis on victim empowerment in RJ, it is clear why victims would experience a greater level of procedural justice in RJ programs. Given that victim procedural justice is likely related to their overall satisfaction, promoting fairness and respect towards victims may further improve their

experience of the RJ process. It would therefore be beneficial for future research to investigate specific methods of enhancing perceptions of procedural justice as well as other factors related to victim satisfaction.

The most interesting finding of the moderation analysis for perceptions of victim procedural justice is that when programs required the offender to accept responsibility, victims reported experiencing greater procedural justice. In line with RJ theory, the process of offenders expressing their guilt to victims functions to restore the power imbalance caused by the criminal act (Zehr & Mika, 1997). Through such an experience, victims may feel as if they are being treated with more dignity and respect than they would have if they underwent traditional CJS dispositions. Given this result, future research should further examine the effects of offenders admitting responsibility to victims on their perceptions of procedural justice as well as overall victim satisfaction.

The results of the current analysis also support previous research on the effects of RJ on offender satisfaction. As with victim satisfaction, RJ enhanced offender satisfaction over traditional approaches, supporting our hypotheses. This finding was also expected given the emphasis on punishment in traditional CJS approaches, which are largely unconcerned with enhancing offender satisfaction (Strang, Barnes, Braithewate, & Sherman, 1999). Contrasting the traditional CJS, RJ is theorized to benefit the wellbeing of offenders due to its humanistic, person-centered approach (Umbreit, Coates, & Kalanj, 1994). As with victims, offenders are also empowered throughout the RJ process such that they are given a chance to express their feelings and often have a say in sentencing decision-making (Tyler, Sherman, Strang, Barnes, Woods, 2007). Offenders also experience other advantages to RJ that victims experience such as building broken relationships, fostering empathy, and having their needs acknowledged and addressed.

Therefore, the results of the current study agree with previous research suggesting the ability of RJ to enhance both victim and offender satisfaction above the traditional CJS.

As with victims, offender satisfaction variables are likely related to offender perceptions of procedural justice. Conforming to our hypotheses, it was found that RJ enhanced offender feelings of fairness, respect, and dignity compared to traditional CJS approaches. This finding supports previous research articulating the adherence of RJ to principles of procedural justice (e.g., Tyler et al., 2007). As previously mentioned, procedural justice theory postulates that when offenders feel they are treated with respect and dignity, they are more likely to view legal authorities as legitimate, thereby encouraging law-abiding behaviour and a sense of belonging in the community (Tyler, 2006). Although much of the research on procedural justice and RJ has focused on its effects on recidivism, the current research suggests that procedural justice is an additional benefit of RJ that may improve overall offender experiences. The lack of significant moderators on offender procedural justice was largely due to the insufficient number of studies required for moderation analysis and limited variability. Thus, future research should further explore the various factors in the RJ process that contribute to offender perceptions of procedural justice, as well as other factors related to their satisfaction.

RJ and Other Outcomes: Offender Accountability and Attitudes

The present study also provides further grounding for the notion that RJ increases offenders' sense of accountability over traditional CJS approaches, in line with our hypotheses. The results of this outcome were largely based on a mix of self-report assessments of offenders feeling accountable for the criminal act, victim perceptions of offender accountability, and whether or not the offender expressed feelings of accountability, such as through apologizing. Given that encouraging feelings of remorse and guilt is often built into the RJ process (Hayes &

Daly, 2003), there is little reason to question the greater program effects of RJ on offender accountability compared to traditional CSJ approaches. However, while offenders may have expressed their accountability, it cannot be determined whether offenders experienced genuine responsibility for their actions. Feeling accountable for one's actions and expressing remorse are related to improving the offender's feelings towards the victim, which is considered a fundamental goal in RJ (Braithwaite, 1999). As demonstrated by the present research, offender attitudes were found to be enhanced compared to traditional CJS approaches, suggesting that RJ increases offender empathy. However, given the limited number of studies examining offender attitudes, such findings may not have accurately captured improvements in remorse and empathy. In addition, while there was some evidence that RJ increases empathy specifically (e.g., Calhoun & Pelech, 2010), there were not enough studies that reported sufficient information to be included in the current analysis. Given the central role of empathy in the RJ process as well as the evidence for offender accountability and attitudes, it is crucial for future research to further examine the effects of RJ on offender empathy.

RJ and Other Outcomes: Severity of Recidivism

In addition to reducing further criminality, RJ was found to significantly reduce the severity of reoffences compared to traditional CJS approaches. More precisely, when RJ offenders committed a further criminal act, their reoffences were more often less severe than offenders who had undergone traditional CJS dispositions. Decreases in severity were either assessed as a total score from a measure employed by the evaluators or an increase in severity relative to the offender's index offence. As an example, Urban and Burge (2006) utilized a severity scale where each level represented a type of offence ranging from 1 (municipal violation) to 13 (sex crime). While much of the research on RJ focuses on rates of reoffending,

there are less studies addressing why reductions in specific types of crime might be expected. One possibility may be that many severe types of crimes are those involving harm to individuals, which RJ may be better equipped at improving given its person-centered approach (Braithewaite, 1989). Another possibility may be the influence of self-selection bias, whereby offenders who are less likely to commit more severe offences are less likely to be referred into RJ. Given that many of the studies matched offenders based on risk-level, this latter reason may be less probable. Nevertheless, the positive influence of RJ on the severity of reoffences is supported in the current research and is generally robust throughout the literature. More work on the underlying theory accounting for this additional advantage of RJ should be articulated in future research.

RJ and Other Outcomes: Cost Effectiveness

Given its efficiency for dealing with cases and its reliance on volunteer facilitators, many experts have suggested that RJ is an economical alternative to traditional approaches (Shapland et al., 2008). However, RJ was not found to be associated with significant increases in mean cost savings compared to traditional procedures. This finding is in line with previous research suggesting that RJ is more expensive than traditional procedures and is often an additional cost to the CJS. Moreover, many of the studies included in this outcome did not account for indirect costs of the RJ process such as the high demands placed on volunteers as well as potential costs to victims. These results should also be interpreted with caution given that there were only two studies (yielding a total of eight samples) included in this analysis that used different definitions of cost savings (one of them accounted for cost savings as a result of recidivism and the other did not). Considering that adequate funding is a consistent barrier for implementing RJ programs

(CSC, 2016), it is critical for future research to further examine whether RJ results in significant economic advantages, as well as what can be done to increase cost savings.

RJ and Other Outcomes: Summary

To summarize, our hypotheses stating that RJ results in improvements in other outcome variables was largely supported. In particular, RJ was found to significantly enhance victim and offender satisfaction, victim and offender procedural justice, offender accountability, offender attitudes, and result in less severe recidivism. On the one hand, such findings are striking given the variations in how these variables were defined and assessed across studies. However, this pattern of results is expected given that RJ is designed for improving these outcomes as well as the rich theoretical background articulating why its practices are effective. Contrary to our hypotheses however, there were no substantial differences in cost effectiveness between RJ programs and traditional approaches. Overall, the results on the other outcome variables generally support previous research on RJ and the hypotheses proposed in the current research. Future studies should seek to improve the assessment of these outcomes as well as the factors that effectively enhance them.

Implications for Improvements in RJ Policy

Taking together the themes that were uncovered in the results of the present analysis, there are five major recommendations that can be made to improve policies involving RJ. These recommendations are as follows:

1. *Increased Funding towards RJ Research*

As previously mentioned, a major barrier to RJ development is the lack of funding devoted to research on best practices and their implementation. As demonstrated by the present study, RJ was shown to have moderate effects on recidivism that was not significantly greater than

traditional CJS approaches. This is especially true when considering the influence of important moderators such as study quality, which suggest the influence of methodological bias on the overall findings. If RJ is intended for reducing recidivism, more research is needed to investigate how its current practices can be improved and how they can incorporate empirically-supported rehabilitation methods, such as those suggested by the RNR model. Despite its minimal effects on recidivism, the findings demonstrate RJ's efficacy in improving other outcomes, which are often neglected in the traditional CJS. It would therefore be beneficial for future research to examine other potential positive outcomes of RJ such as increasing offender empathy. Such findings would provide greater justification for the increased implementation of RJ programs as well as how they can contribute to overall improvements in the CJS.

2. Implementation of RJ Focused at Earlier Stages of the CJS Process

In line with the previous research on RJ demonstrating its effectiveness for juveniles (e.g., Wong et al., 2016), the current study suggests that RJ practices are most effective for young offenders. Therefore, it is recommended that RJ programs should be focused on preventing criminality in young offenders rather than treating adult offenders. Moreover, RJ programs are most effective when targeting offenders who were lower risk and less likely to commit a violent offence compared to high-risk offenders. Altogether, a major theme of the current study is the increased implementation of RJ programs at earlier stages of the CJS process (i.e., low risk, young offenders) rather than later stages (high-risk, adult offenders). Although this appears to contrast the risk principle in RNR theory positing little to no intervention for low risk offenders, the intensity of RJ practices is generally lower level (Walgrave, 2009). In this way, RJ still aligns with the risk principle and provides additional advantages such as increasing accountability that may be more meaningful for low-risk offenders.

3. Increased Sensitivity towards other Races and Cultural Practices

A surprising finding of the current research is the reduced program efficacy of RJ for other groups including Indigenous and Black offenders. Although it is unclear as to why these differences were found, the disparity in the effectiveness of RJ for Caucasian offenders compared to other races suggests the influence of racial bias. In addition, it has been previously articulated by theorists that there are various implicit and explicit power dynamics within the CJS which should be acknowledged and addressed in RJ (Umbreit & Coates, 1992). Therefore, as with other research on effective practices of offender rehabilitation (e.g., Andrews & Bonta, 2010), it is recommended that practices should be responsive towards other races and cultural practices to enhance program efficacy.

4. Structure over Flexibility in Program Procedures

Another common theme found in the current research is the advantage of structured procedures in RJ over more flexible approaches in reducing recidivism. It is therefore recommended that RJ programs be equipped with program manuals and adequate staff training for effective implementation of procedures. Achieving this standard would not only enhance the effectiveness of the program in reducing recidivism but also promote better quality evaluations of RJ programs due to the increased ability to control variables of interest.

5. Increased Efforts to Align with Procedural Justice

Another common theme of the current study supported in previous research is the value of adhering to the principles of procedural justice, which is closely tied to victim and offender satisfaction. RJ practices are designed for the purpose of promoting respect and dignity among its members, and the current research supports its success in doing so. Some of these practices include providing all members an opportunity to express their interests and to have their needs

addressed. A particularly effective practice revealed in the current study is providing the offender the opportunity to express feelings of remorse, which was found to both reduce recidivism as well as enhance victim perceptions of procedural justice. Given the advantages of procedural justice, it is in the best interests of public safety to promote respect and fairness among all members in both the RJ process and the CJS at large.

Implications for Improvements in RJ Research

With these recommendations in mind, it is important to acknowledge that policy changes cannot be justified if they are not well grounded in reliable, scientific evidence. That is, if the quality of the research on RJ is problematic, then it becomes more challenging to convince policy makers to take recommendations such as increased funding towards RJ programs seriously. The major take-home recommendation for improving RJ research is to utilize more scientifically-rigorous research methods that reduce bias as well as provide sufficient information such that study can be included in future meta-analyses. Suggestions for how these standards can be achieved as well as other recommendations for future research are as follows:

1. *Utilizing Good Research Practices and Transparency about Study Methodology*

Although this recommendation applies to all types of research and not just RJ, it is worth mentioning given the influence of study quality on program efficacy. The aforementioned results using the CODC guidelines suggest that lower quality studies were associated with greater reductions in recidivism compared to studies using more rigorous methodologies, suggesting the influence of experimental bias. Examples of the criteria used for making this distinction included type of design (e.g. randomized versus matched design), effectiveness of statistical controls, findings on group equivalency, and whether there was reason to suspect the existence of data dredging. Some of the major ways RJ research methods can improve include using random

sampling methods, measuring outcomes based on admissions rather than graduates, examining and controlling for group differences, and using the least biased comparison whenever possible. In addition, future replications and meta-analyses can greatly be improved with sufficient reporting of study methodology. For example, many of the studies did not explore group differences on basic characteristics such as gender and age and often did not report attrition rates or loss of data. Although recidivism was significantly reduced across CODC scores, these results suggest that there are still major methodological improvements to be made in RJ research, which are essential for its moving forward.

2. Providing Sufficient Information about Programs in Future Evaluations

In relation to providing insufficient study information, a major challenge experienced in this research was the lack of detail provided in the articles regarding the very programs they sought to evaluate. Many articles did not make any mention of the procedures involved in the RJ program to such a degree that it was difficult to determine how they were implemented in practice. This is especially problematic given that RJ is a general approach that encompasses a wide range of programs, all involving their own specific practices, values, and goals. Thus, while the results of a single study on RJ represent a piece of evidence for RJ's overall effectiveness, it provides little insight into the program elements that account for these findings. Moreover, providing adequate detail about program structure can lead to discovering certain practices that enhance program efficacy. For example, if program evaluations explained how the program addressed victim needs, more informed approaches for implementing these practices could be achieved.

3. Examining the Effects of RJ on Other Outcomes

One of the main goals of the current research was to examine the effects of RJ on other outcomes such as victim and offender satisfaction. While there were enough studies found to reveal significant results, there is still a paucity of research on these outcomes compared to the extensive work on recidivism. This disparity should be resolved in the literature given that recidivism is considered a secondary goal of the RJ process below other outcomes such as victim and offender satisfaction, procedural justice, offender accountability, and offender attitudes. Drawing from the significant findings of the current research, further exploration into improvements in these outcomes is warranted. In addition, the current analysis revealed a lack of findings on potential moderators for these outcomes, which may be a promising avenue for future research.

4. *Integrating Research on RJ and RNR*

A major oversight in the previous literature on RJ is the lack of research relating RJ principles to RNR principles of effective offender treatment. As previously mentioned, there are notable parallels that can be drawn between these models, such as focusing on addressing offender needs, although the needs that are prioritized differ. In addition, both models take into consideration the risk-level of the offender in determining the appropriate form of treatment (e.g., RJ mostly designed for low-risk offenders). Although the responsivity principle in RNR has not been thoroughly explored in previous research in RJ, it is suggested based on the current research that racially and culturally responsive practices may serve to enhance program efficacy. Integrating both theories in future research may also reveal effective practices for harmonizing RJ with more traditional CJS approaches, which is also shown to be promising for improving program outcomes. For example, the utility of offenders expressing remorse in the current research suggests the effects of fostering empathy on improving offender outcomes, which is not

considered an effective practice under RNR. Despite the little attention towards the efficacy of fostering empathy in offenders, the results of the current study support the notion that these practices could encourage significant changes in offender behaviour. For these reasons, future research should work towards minimizing the gap between RJ and RNR theories, which may reveal potential methods for improving offender rehabilitation within RJ and the traditional CJS.

Strengths and Limitations

There were many advantages of the current research over previous meta-analyses conducted on RJ. First, the current study represents the largest and most updated review the literature on the efficacy of RJ practices, spanning over 40 years of research. Second, the scope of this meta-analysis far exceeded that used by previous meta-analyses by considering all outcome variables reported in previous studies. Third, by implementing a detailed coding procedure, the influence of a large number of study, sample, and program moderators could be determined, which can be used to inform program development and further research on best RJ practices. Fourth, the current research utilized an additional coding procedure that allowed for a detailed and accurate assessment of study quality. Fifth, the methodology implemented ideal research practices whenever possible, such as recruiting RJ experts in the field to participate in the coding procedure and achieving an acceptable level of interrater reliability.

Along with the advantages of the current research, there were also various limitations that are important to address. First, the results of meta-analyses are only as accurate and reliable as the articles included in the analysis. Hence, the influence of a 'file drawer effect' is still possible such that findings that were not supported were less likely to be published and thereby cast away in the file drawer (Simonsohn, Nelson, & Simmons, 2014). However, this concern is attenuated when considering the finding that a large proportion of included studies were unpublished.

Second, as previously articulated, many of the items scored by the coders were vulnerable to some degree of subjectivity due to variations in definitions in RJ theory as well as the limited information provided in the articles. Despite these coding-related issues, the interrater procedure in the current research provided substantial protection against subjectivity and other potential biases in the coding.

A related issue is the scoring for program adherence to RJ principles and integrity, which revealed the opposite findings than what was expected. While the interrater reliability for these items reached acceptable levels, these items may not adequately capture program fidelity and integrity. Therefore, other methods for measuring these variables should be explored in future research. A related limitation is the stringent criteria for including studies in the analysis. While this could also be viewed as a strength of the current study by only considering optimal forms of RJ, this excluded a wide range of studies examining RJ practices, particularly those not involving direct victims. By including a wider range of articles, the current research could have examined the influence of the criteria implemented (e.g., victim contact) on RJ outcomes.

Finally, the interpretation of the results on other outcomes is limited due to the small number of studies included in the sample. When the number of studies (k) is small, the results of moderator analyses should be interpreted with caution, given that the variability between studies will be small, thereby inflating Type I error rates (Hunter & Schmidt, 2004). For example, although the current research revealed the effects of offender accountability (i.e., admitting responsibility) on victim procedural justice, this result was only based on 10 studies. In addition, while some of the expected program moderators of RJ and recidivism were supported, there were many that could not be examined due to limited variability. Some of these potential moderators include some of the fidelity variables such as addressing victim needs, focus on repairing harm,

and direct victim contact, as well as an integrity variable assessing whether RJ staff were trained. A major reason for the lack of variability in these variables is due to the fact that they were either inherent (e.g., direct victim contact) or implied (e.g., focus on repairing harm) in the inclusion criteria. It is therefore possible that these variables, many of which represent fidelity and integrity items, have strong effects on recidivism, but this could not be determined in the current study.

Conclusion

Despite these limitations, the results of the present study provide considerable insight into the overall effectiveness of RJ practices. The results of previous research revealed that RJ has moderate effects on reducing recidivism compared to controls. Although study methodology was found to be a significant moderator on these results, RJ significantly reduced recidivism regardless of methodological quality. The efficacy of RJ was also found to be influenced by other factors in line with RJ theory as well as those that conflict with it. Some of the major themes from these analyses included the influence of implementing RJ at an earlier stage of the CJS process, the effectiveness of adhering to principles of procedural justice and RNR, the potential influence of cultural bias, and the advantages of structured programs over flexible programs. In addition to reducing recidivism, RJ was associated with a host of other positive outcomes, such as improving victim and offender satisfaction, victim and offender procedural justice, offender accountability and attitudes, and severity of recidivism. Based on the analysis of previous research, several recommendations were made to improve the quality of future RJ program evaluations. Further research is needed to provide a more comprehensive picture of the overall efficacy of RJ as well as how these practices can be improved to enhance positive outcomes for everyone involved.

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Appendix A:

Coding Form

| STUDY PARTICULARS: | | | |
|---|---|---|-------|
| Publish | Material is published in a peer-reviewed journal | 0.00 No 1.00 Yes | page: |
| Sample | Type of sample | % juvenile offenders/clients _____ % adult offenders/clients _____ <input type="checkbox"/> Not reported | page: |
| Country | Country | 1.00 Canada 2.00 United States 3.00 United Kingdom 4.00 Continental Europe 5.00 Australia 6.00 New Zealand 7.00 Other <input type="checkbox"/> Not reported | page: |
| Design | Type of research design | 1.00 Random 2.00 A priori matching 3.00 Post-hoc equivalency 4.00 Convenience/non-equivalence 5.00 Other, specify: _____ <input type="checkbox"/> Not reported | page: |
| ConType | Control group | 1.00 Traditional criminal justice system 2.00 Other alternative-type program 3.00 Other: _____ (e.g., within-grp comparison) <input type="checkbox"/> Not reported | page: |
| ConComposition | Control group composition | 1.00 Eligible, not referred/not offered 2.00 Non-eligible 3.00 Eligible, refused 4.00 Eligible, victim unwilling 5.00 Mixed/unclear <input type="checkbox"/> Not reported | page: |
| Role | Role of evaluators | 1.00 Evaluators involved in design/service delivery 2.00 Agency-based researchers (i.e., same agency that provides service) 3.00 Independent, non-agency based researchers <input type="checkbox"/> Not reported | page: |
| RJ PROGRAM CHARACTERISTICS: | | | |
| Progrname | Name of program being evaluated | _____ | page: |
| ProgAge | Age of program at time of evaluation | 1.00 New (less than 2 yrs old) 2.00 Established (more than 2 yrs old) 3.00 Defunct <input type="checkbox"/> Not reported | page: |
| Setting **If mixed, analyze separately, if possible. Otherwise use 2/3rds rule. | Type of criminal justice setting (area of CJS where RJ is administered) | 1.00 Court 2.00 Police 3.00 Probation/Parole 4.00 Institution 5.00 Outside CJS (i.e., NGO), specify: _____ <input type="checkbox"/> Not reported | page: |
| CJprocess | | 1.00 Pre-arrest/arrest/pre-charge (Police) | page: |

| | | | |
|----------------------|---|--|-------|
| | Stage of criminal justice process (at time of referral) | 2.00 Post-charge but Presentencing (Crown & Courts) 3.00 Post-sentencing but pre-release (Corrections) 4.00 Post-release (after serving time inside, Parole) 5.00 Probation (probation is a sentence) 6.00 Other, specify: _____ | |
| Sponsor | Program owned and run by ... | 1.00 Researchers 2.00 Non-criminal justice public agency (e.g., social services) 3.00 Private agency (non-profit; victim advocacy groups) 4.00 Criminal justice agency <input type="checkbox"/> Not reported | page: |
| RJGoal | Reduce recidivism primary goal of RJ Was reducing recidivism listed as a main priority/goal for the program? | 1.00 Yes 2.00 No <input type="checkbox"/> Not reported | page: |
| Referral | Percent coming from source of referral to RJ program (e.g., if all participants are referred by friends and families, enter 100%) | 1.00 _____% Police 2.00 _____% Court (e.g., Crown, judge, defense) 3.00 _____% Community corrections (e.g., parole, probation) 4.00 _____% Custodial corrections (e.g., prison) 5.00 _____% Non-criminal justice professionals (e.g., social work) 6.00 _____% Family, friends, volunteers 7.00 _____% Other: <input type="checkbox"/> Not reported | page: |
| Mandatory | Participation in program mandatory? Whether the participants have the choice to decline | 0.00 No 1.00 Yes <input type="checkbox"/> Not reported | page: |
| Participation | Did participation preclude typical CJ response (i.e., diversion?) | No Yes <input type="checkbox"/> Not reported | page: |
| Control | Control group receives ... | 1.00 Nothing/Wait List 2.00 Treatment services 3.00 Alternative services (e.g., apology letter) 4.00 Routine criminal justice services, specify: _____ <input type="checkbox"/> Not reported | page: |
| RJFidelity | Was the community represented in the session? | 1.00 Yes 0.00 No | page: |
| | Were the offenders required to be willing to accept responsibility? | 1.00 Yes 0.00 No | page: |
| | Did the program include face-to-face contact with the victim? | 1.00 Yes 0.00 No | page: |
| | Is it a true diversion? (i.e. no return toCJS) | 1.00 Yes 0.00 No | page: |

| | | | | |
|--------------------|---|--|--|-------|
| | Is repairing harm a primary goal? | 1.00 Yes 0.00 No | | page: |
| | Attempts to identify and address needs of offender? | 1.00 Yes 0.00 No | | page: |
| | Attempts to identify and address needs of victim? | 1.00 Yes 0.00 No | | page: |
| | Was the program sensitive to the identities of those involved (e.g., gender)? | 1.00 Yes 0.00 No <input type="checkbox"/> Not reported | | page: |
| | Equal consideration given to the needs and dignity of the victim, offender, support persons, and community? | 1.00 Yes 0.00 No <input type="checkbox"/> Not reported | | page: |
| RJadher | Adherence to RJ principles | 1.00 <i>Minimal</i> (RJ activity is part of routine criminal justice processing; e.g., court orders restitution or community service with no effort to involve victim on a personal level). 2.00 <i>Some</i> (Some effort to involve victim or community members with a goal of reparation and healing as opposed to victim impact statement. Victim/community members play a limited role in formulating reparation). 3.00 <i>High</i> (Clear intention to involve victims and/or community members in efforts to promote reparation and healing. Score regardless of success in achieving reparation and healing.) | | page: |
| RJmodel | RJ model and structure | 1.00 Vague, poor (no mention of principles) 2.00 Moderate (some mention) 3.00 Detailed/Manual (clearly formulated model) | | page: |
| VictimSup | Evidence of advocacy/support by RJ for victim(s) any form of support for the victim or offender, whether it be explicitly included in the program or outside the program (e.g., outside psychological services) | 0.00 No 1.00 Yes, internal to the program 2.00 Yes, external to the program (e.g., victim services) | | page: |
| OffenderSup | Evidence of advocacy/support by RJ for offender any form of support for the victim or offender, whether it be explicitly included in the program or outside the program (e.g., outside psychological services) | 0.00 No 1.00 Yes, internal to the program 2.00 Yes, external to the program (e.g., treatment) | | page: |
| RJ Focus | | Offender-focused Victim-focused | | page: |

| | | | | |
|--|--|---|---------------------------------------|-------|
| RJTrain | Are the staff trained in RJ or something similar? | 1.00 Yes 0.00 No | <input type="checkbox"/> Not reported | page: |
| RJMonitor | Is the case closely monitored? | 1.00 Yes 0.00 No | <input type="checkbox"/> Not reported | page: |
| RJSuper | Is there supervisory oversight? | 1.00 Yes 0.00 No | <input type="checkbox"/> Not reported | page: |
| RJInteg | Integrity of RJ service | 1.00 Good/Very Good (staff trained, supervised, case progress closely monitored) 2.00 Minimal use of true RJ principles (A simple adjunct to criminal justice processing). 3.00 Poor/Major Problems (Poorly trained staff, problems with compliance, attrition rate exceeds 50%) 4.00 Not specified, cannot judge 4.00 Non-mental health professional (e.g., trained mediator) 5.00 Researcher 6.00 Other: _____ <input type="checkbox"/> Not reported | page: | |
| RJAdmin | Who administers RJ? | 1.00 CJS professional (includes police, could be volunteer) 2.00 Volunteers 3.00 Mental health professional 4.00 Non-mental health professional (e.g., trained mediator) 5.00 Researcher 6.00 Other: _____ <input type="checkbox"/> Not reported | page: | |
| RJdose | # of hours of RJ service | Time from referral to completion (in business days): # of hours of RJ service: # of minutes per session: <input type="checkbox"/> Not reported | page: | |
| RJtype (2/3rds rule) If mixed and cannot determine what type is majority of sample, "check all that apply" | Main type of RJ offered Main = highest % | 1.00 Face-to-face victim and offender meeting with community members (circles, forums, etc.) 2.00 Face-to-face victim and offender meeting without community members (e.g., only support people) 3.00 Shuttle Communication 4.00 Other: _____ <input type="checkbox"/> Not reported | page: | |
| RJprep | Amount of preparation time prior to V-O mtg | 0.00 None 1.00 Minimal (less than 2 hours per participant) 2.00 Some (2-5 hours per participant) 3.00 Extensive (many meetings, weeks/months of prep) <input type="checkbox"/> Not reported | page: | |
| Restitut | Elements of restitution to the victim present (any evidence of practice is sufficient; includes community service) | 0.00 No Yes <input type="checkbox"/> Not reported | page: | |
| CommServ | Elements of community service present (any evidence of practice is sufficient) | 0.00 No Yes <input type="checkbox"/> Not reported | page: | |
| ComSuper | | 0.00 No | page: | |

| | | | |
|--|--|--|-------|
| | Is the offender supervised post-RJ agreement? Supervision could be facilitated by criminal justice or non-governmental agency | 1.00 Yes <input type="checkbox"/> Not reported | |
| TREATMENT | | | |
| Treat | Any evidence of treatment, either within the Agency or outside? | 0.00 No evidence of treatment 1.00 Yes, integrated with RJ program 2.00 Yes, outside of RJ program | page: |
| ⇒ If no treatment, do not score the next 8 variables | | | |
| TRstruct | Treatment program structure | 0.00 No, minimal structure 1.00 Yes, structured (manuals, formal routines, etc.) <input type="checkbox"/> Not reported | page: |
| TRinteg | Integrity of treatment service Score only if TR is provided in addition to RJ. | 1.00 Good/Very Good 2.00 Minor problems 3.00 Poor/Major Problems <input type="checkbox"/> Not reported | page: |
| TRrisk | Does treatment adhere to the risk principle? | .00 No 1.00 Yes (e.g., intensive treatment for high-risk offenders, etc.) <input type="checkbox"/> Not reported | page: |
| TRneed | Does treatment adhere to the need principle? | .00 No 1.00 Yes (e.g., targeting criminogenic needs) <input type="checkbox"/> Not reported | page: |
| TRresp | Does treatment adhere to the responsivity principle? | .00 No 1.00 Yes (e.g., cognitive-behavioural treatment incorporating the offenders learning style) <input type="checkbox"/> Not reported | page: |
| TRadher | Treatment adherence to RNR? | 1.00 <i>No or Minimal</i> : Routine without consideration to RNR principles 2.00 <i>Some</i> : Some adherence (if 1 or 2 of risk, need or responsivity is checked) 3.00 <i>High</i> : Clear statements of adherence (if all 3 of risk, need and responsivity are checked) <input type="checkbox"/> Not reported | page: |
| TRdose | # of hours of treatment: | <input type="checkbox"/> Not reported | page: |
| TRrisk | Average risk-level of those treated | 0.00 Low (predominantly 1st-timers, misdemeanor) 1.00 Medium 2.00 High <input type="checkbox"/> Not reported | page: |
| SAMPLE CHARACTERISTICS: | | | |
| RJGender | Gender for RJ sample Mostly = 2/3 of sample | 1.00 Mostly female 2.00 Mostly male 3.00 Equal proportion <input type="checkbox"/> Not reported | page: |
| ConGender | Gender for Control group Mostly = 2/3 of sample | 1.00 Mostly female 2.00 Mostly male 3.00 Equal proportion <input type="checkbox"/> Not reported | page: |
| TRRace | Race for RJ sample Mostly = 2/3 of sample, include % if it is available | 1.00 Mostly Caucasian 2.00 Mostly Black 3.00 Mostly Hispanic | page: |

| | | | | | |
|-----------------|---|--------------------------|-----------------------|--------|-------|
| | | 4.00 | Mostly Aboriginal | | |
| | | 5.00 | Mostly Other Minority | | |
| | | 6.00 | Mixed | | |
| | | <input type="checkbox"/> | Not reported | | |
| ConRace | Race for Control group Mostly = 2/3 of sample, include % if it is available | 1.00 | Mostly Caucasian | | page: |
| | | 2.00 | Mostly Black | | |
| | | 3.00 | Mostly Hispanic | | |
| | | 4.00 | Mostly Aboriginal | | |
| | | 5.00 | Mostly Other Minority | | |
| | | 6.00 | Mixed | | |
| | | <input type="checkbox"/> | Not reported | | |
| RJn | RJ sample size | Sample Size: | | | page: |
| Controln | Control group sample size | Sample Size: | | | page: |
| Totaln | Total Sample Size with control | Sample Size: | | | page: |
| RJAge | Mean age for RJ participants (use mid-point if categorized) | Mean Age: | SD: | Range: | page: |
| | | <input type="checkbox"/> | Not reported | | |
| ConAge | Mean age for Control participants (use mid-point if categorized) | Mean Age: | SD: | Range: | page: |
| | | <input type="checkbox"/> | Not reported | | |

Appendix B:

CODC Guidelines

| Abridged CODC GUIDELINES | | | | |
|--|--------------------------|----------------------------|----------------------------|--------------------------|
| Study Quality Rating Guide Summary Sheet | | | | |
| | <i>Confidence</i> | <i>Little confidence</i> | <i>Some confidence</i> | <i>High confidence</i> |
| | | 0 | 1 | 2 |
| | <i>Bias</i> | <i>Considerable bias</i> | <i>Some bias</i> | <i>Negligible bias</i> |
| | <i>Direction of Bias</i> | + | - | ? |
| | | <i>Increases Treatment</i> | <i>Decreases Treatment</i> | <i>Unknown Direction</i> |
| Administrative Control of Independent Variables | | | | |
| 1. Defining Treatment | | <i>Confidence</i> | | |
| 2. Defining Comparison | | <i>Confidence</i> | | |
| Experimenter Expectancies | | | | |
| 4. Experimenter Involvement | | | <i>Bias</i> | <i>Direction</i> |
| 5. Blinding in Data Management | | | <i>Bias</i> | <i>Direction</i> |
| Sample Size | | | | |
| 6. Sample Size of Treatment* | | <i>Confidence</i> | | |
| 7. Sample Size of Comparison* | | <i>Confidence</i> | | |
| Attrition | | | | |
| 9. Subject Selection | | | <i>Bias</i> | <i>Direction</i> |
| 10. Program Attrition* | | | <i>Bias</i> | <i>Direction</i> |
| 11. Intent-to-treat* | | | <i>Bias</i> | <i>Direction</i> |
| 12. Attrition in Follow-up | | | <i>Bias</i> | <i>Direction</i> |
| Equivalency of Groups | | | | |
| 13. A Priori Equivalency of Groups* | | | <i>Bias</i> | <i>Direction</i> |
| 14. Adequacy of Search for Differences* | | <i>Confidence</i> | | |
| 15. Findings on Group Equivalency* | | | <i>Bias</i> | <i>Direction</i> |
| Outcome Variables | | | | |
| 16. Length of Follow-up* | | <i>Confidence</i> | | |
| 17. Validity/Reliability of Recidivism | | <i>Confidence</i> | | |
| 18. Equivalency of Follow-up | | | <i>Bias</i> | <i>Direction</i> |
| Correct Comparisons Conducted | | | | |
| 19. Data Dredging | | <i>Confidence</i> | | |

| | | | |
|---|-------------------|-------------|------------------|
| 20. Effectiveness of Statistical Controls* | <i>Confidence</i> | | |
| 21. Compute Least Bias Comparison | | <i>Bias</i> | <i>Direction</i> |
| CODC GLOBAL RATING | | | |
| Global Confidence (0 = Little/No, 1 = Some, 2 = High) | | | |
| Global Quantity of Bias (0 = Considerable, 1 = Some, 2 = Negligible) | | | |
| Global Direction of Bias (? = Unknown, + = Increases Rx, - = Decreases Rx) | | | |
| Global Rating (0 = Rejected, 1 = Weak, 2 = Good, 3 = Strong) | | | |

Appendix C:

Additional Coding Rules

| Question | Answer |
|--|---|
| Study particulars section: how to code if evaluators do not provide the funding for the program but work for the agency that funds the program? | If they are at all associated with the program (funding, working for the agency that runs the program), they CANNOT be coded as independent. They would be coded as agency-researchers (2). |
| Role of evaluators: if the evaluators are associated with a university but write a government report, how should this be coded? | If they are contracted by the government, it should still be coded as Independent, non-agency researchers (3). |
| Program age: should there be a "pilot" option? | For pilot studies, the program age should be coded as New (1). |
| Setting: if there are different settings, should they be analyzed separately if the data is available? Should a mixed section be included? | If it is possible to disaggregate the data, they should be analyzed separately. Otherwise, select the setting or stage that has the majority of cases (2/3rds rule). |
| Mandatory: if offenders decline an RJ program, can it still be mandatory? | This item is intending to capture whether the cases participating in the RJ program were automatically considered for it. Therefore, it is still possible that offenders had the choice to decline if it was "mandatory". |
| Participation: if offender was assigned to RJ, and subsequently sent back to typical CJ response (say, due to non-compliance), is it still considered diversion? | This item was intending to capture whether RJ was being used to supplement the typical criminal justice process versus serve as the primary justice response. |
| RJ adherence/integrity: should specific conditions for these be quantified to create an overall fidelity score? | Yes, an overall fidelity score should be calculated based on the inclusion of RJ principles/practices in a Yes/No format. |
| Victim/offender support: how should the presence of support people be coded? Would that be considered victim support OR is this item looking for things that would go beyond the typical elements of RJ? | This item is trying to capture any form of support for the victim or offender as part of the RJ program for the RJ process (not for the overall CJS process), whether it be explicitly included in the program or outside of the program (e.g., external psychological services). |
| Should an item that codes for whether the program is more victim- vs. more offender-focused be added? | This would be beneficial and may be possible to extrapolate from RJGoal item. |
| RJ admin: does CJS professional include police? | Yes. If it is ambiguous, code as not reported. |
| RJ dose: it may be informative to include different time variables. | Two time variables will be coded: time from referral to completion (in days, assuming business days), and # of minutes per conference session. |
| RJ type: if different types used, how to code? | Code using the 2/3rds rule. If this is not reported, it may be useful to include a "select all that apply" instead. |
| TR RNR: should RNR be examined in the program itself along with examining it in the additional treatment? | Unlikely to find this information reported in articles but is worth mentioning in discussion section. |
| RJ risk: is misdemeanour a legal term in Canada? | The distinction between misdemeanours and felonies is no longer used in Canada and instead divides these crimes into summary offences and indictable offences. |

| | |
|--|--|
| If there are different samples, should they be coded separately? | Yes. |
| If surrogate victims are used, should the study be excluded? | Not necessarily. If there was an intention to include the actual victim, then the study should be included anyway. |
| RJ admin: does it matter whether the CJS professional administering the program is a volunteer or not? | It does not matter because the skills/knowledge they bring from being CJS professionals. |
| Victim/offender support: should support programs external to RJ program also be included? | Victim/offender support will be changed to ask whether the support is internal or external to the program, therefore support from family/friends will be moved to fidelity section. |
| Fidelity/integrity: how should fidelity and integrity items be defined? | Fidelity will include items regarding the adherence to basic tenants of RJ and integrity will include items regarding how well the program was run. |
| Fidelity: how to write the item capturing whether the offender accepted responsibility/guilt? | “The offender was required to accept responsibility for the harm caused in order to participate.” |
| Fidelity: how to word the item, “were the victims included in the forum?” | This item can be changed to whether the victim was in face-to-face contact with the offender. |
| If there are two studies that use the same sample, same follow-up and same study design, how to decide which to use? | Choose the study with the most rigorous statistical analyses. |
| Are direct victims necessary? | Yes. |
| Are actual statistical analyses required or are descriptive statistics enough? | As long as recidivism information can be reported. |
| Control: <i>minimal</i> treatment services? | Minimal qualification in the options will be removed. |
| If it is only a restitution-based program with no mention of RJ, but includes victims, is it still considered RJ? | If it includes victims, then yes. |
| If there are multiple samples in one study that are not equivalent, should we code them separately? | Yes. |
| Country: does this item mean country article was published or country the program was implemented? | Country the program was implemented. |
| Design: if results are reported for different research designs, which to report? | Report the results of the most rigorous research design. |
| Results: how to report Cox regressions? | Include all of the information for the regressions it can be converted later. |
| Mandatory: is mandatory redundant with whether the offender volunteered to participate? | No, they are different: the former is about whether the justice official is required to consider them for RJ and the other is about whether the offender is asked if they want to go through RJ. |
| Mean age: if there is a range, should the median be used? | Yes. Calculate mean age if possible, but median works as well. |
| Should more outcomes than what are listed in ‘other outcomes’ be considered? | Consider all outcomes that were examined along with recidivism. |
| If a description of the program is referred to another source, can this information be coded? | Yes, if the information about program goals and procedures applies to the study. |
| Treatment: if treatment is not mentioned, should it be coded as not reported or No? | If there was a treatment, it would be indicated in the study. Therefore, ‘not reported’ option will be removed. |

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| RJInteg/monitoring/supervisory oversight/post-supervision: how do these differ? | Monitoring refers to the case being monitored throughout RJ program whereas supervised post-RJ is after. Supervisor oversight refers to whether the person administering RJ is being supervised. |
| CODC: what is “least biased comparison”? | Controlling for different factors (e.g., moderators, offence type). |
| CODC: what do we mean by “defining treatment?” | Whether the treatment was explained clearly and whether the method for testing it was methodologically sound. |
| CODC: if there are different RJ groups, should they be added together? | For this item, consider number of participants per group/type of RJ if they are different. |
| CODC data dredging: how to detect this? | There are ways to detecting subtle forms of data dredging such as only reporting strange comparisons and not including information about attrition and follow-up equivalency. |
| Offender risk: how can offender risk and severity of risk be distinguished on the coding form? Is our definition of risk limited to those measured by actuarial measures? | Severity of index offence is not the same as risk-level and cannot be used in place of actuarial risk-level to predict recidivism. However, include both information if it is available. |
| Recidivism Type: should technical violations be included? | If it results in a new conviction (rather than a revocation or ‘breach’), then it should be counted as recidivism. |
| Recidivism Type: how should re-referral be coded? | Only if it is a re-referral after receiving RJ, it should be coded under re-arrest. |
| Race: should the % of race be reported? | If it is available, then yes. |
| Fidelity: are we mostly interested in fidelity as in adherence to RJ principles/practices or a more theoretical concept of ‘restorativeness’? | Our intention is to operationally define fidelity as adherence to the major principles and practices of RJ. |
| Empathy: how can our measure of empathy be refined? | We will include a section on empathy where coders will indicate how empathy was measured. |
| Victim/Offender support: should personal support (e.g., family/friends) be added? | It is expected that there will be personal support, regardless of whether it is RJ or not, and therefore, it will not be useful. Support is intended to assess whether there is additional support within the program or outside (e.g., referrals to outside agencies). |
| Eligibility: should eligibility be dichotomized instead of having specific non-eligibility categories? | It is important information to include “refused” and “victim unwilling” non-eligible groups. However, an option was included for mixed non-eligible groups. If a % is available for different categories, report it. |
| Role of evaluators: how to code? | It doesn’t matter where the researchers are, just whether they are the same agency as the RJ program and/or are involved in the design/delivery of service. |
| Referral: sometimes it is unclear whether referrals come from the crown. | Crown, judge, and defense, will be subsumed under “Court”. |
| Responsibility: should programs where offenders were required to accept responsibility only be included? | The wording is changed to “required to be willing to accept responsibility” to better capture the requirement of responsibility in keeping with RJ principles. |
| Repairing harm: is this item useful if all RJ programs repair harm? | The wording is changed to “is repairing harm a goal of the RJ program” to make this item more precise and to not assume that harm can be repaired. |
| Role of evaluators: it's sometimes difficult to distinguish between evaluators involved in design/service delivery and agency-based researchers (i.e., how involved researchers were with | There still needs to be evidence that its agency-based researchers – if unclear, it would be not report. |

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| design/service delivery). Therefore, unless there are clear reasons to believe the evaluators were involved with design/service delivery, we will assume agency-based researchers. | |
| Setting: does this mean where the RJ conference/meeting was held? If so, most will be outside of CJS. If it means the setting at which referral was given, is this redundant with referral item? | Where the program runs out of, not where the meeting occurs. |
| Mandatory: should mandatory measure whether the program was automatically considered? | This variable is to ensure participant participation is voluntary. For example, some restitution “programs” were court-ordered and therefore mandatory. |
| Volunatriness: should voluntariness be removed? | Yes, it is redundant with mandatory. |
| Addressing victim/offender needs: how to code more reliably? | If the program is suggesting that it addresses needs, code as yes. |
| Attrition: is attrition those who were referred vs those actually treated? | Attrition are those actually accepted in the process but did not complete it. |
| RecInfo: does “official” only mean national repositories like CPIC or OMS or does it also mean records from provincial police departments? Are we just distinguishing between professional records and self-report with this item? | Official provincial records would count. Yes, we are distinguishing from self-report or word of mouth (program “heard” they reoffended). |