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Youth Justice Conferences versus Children's Court: A comparison of re-offending

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Aim*: To compare re-offending between young people processed in NSW with a Youth Justice Conference and those eligible for a conference but processed in the Children's Court.*

Method*: Using propensity score matching, young persons whose offending was allocated to be dealt with by a Youth Justice Conference in 2007 were matched to those who were eligible for a conference but who were referred to Children's Court in 2007. These samples were then compared on various re-offending outcomes both without and with adjustment for potential covariates. Both intention-to-treat and as-treated analyses were conducted. For the intention-to-treat analyses, all young persons allocated a conference not just those who completed their conference outcome plan where included in the conference group. While for the as-treated analyses only young persons who completed their conference outcome plan where included in the conference group. Inverse probabilities of treatment weightings were also applied to estimate the effect of conferencing on re-offending.*

Results*: After adjusting for other factors in the intention-to-treat analyses, no significant differences were found between conference and court participants in the proportion re-offending, the seriousness of their re-offending, the time to the first proven re-offence or the number of proven re-offences. Non-significant results were obtained regardless of whether the definition of re-offending included or excluded justice procedures offences. In the as-treated analyses, the results were similar.*

Conclusion*: The evidence strongly suggests that the conference regime established under the NSW Young Offenders Act (1997) is no more effective than the NSW Children's Court in reducing juvenile re-offending among young persons eligible for a conference.*

Keywords*: NSW Young Offenders Act (1997), Youth Justice Conference, conferencing, restorative justice, juvenile re-offending*

INTRODUCTION

The principal objectives of the *NSW Young Offenders Act 1997*, as stated in section 3 of the Act, are to (a) create a community-based response to offences involving all affected parties; (b) emphasise restitution by the offender and acceptance of responsibility for his or her behaviour; (c) meet the needs of victims and offenders; and (d) address the over-representation of Aboriginal and Torres Strait Islander children in the criminal justice system. Under the *NSW Young Offenders Act 1997,* juvenile offenders in NSW can be sanctioned with a police warning or caution; referred to a Youth Justice Conference (hereafter referred to as a conference); or formally charged and dealt with by the Children's Court (hereafter referred to as court). Victims of crime play little or no role in relation to warnings, cautions and criminal court appearances, but they play a significant role in conferences.

Trimboli (2000) provides a detailed description of how conferences operate. In brief, the basic procedure is as follows. Referrals to a conference can be made by police, by a court or by the Director of Public Prosecutions, but there are a number of constraints on eligibility. The most important constraints are that the young offender must admit the offence, must agree to the matter being dealt with by a Youth Justice Conference and must not have committed certain types of offence (e.g. sexual offences). Conference proceedings begin with an introductory statement by the convenor explaining his or her role and that of each of the participants. Following this, the offender is invited to make a statement regarding the offence. The victim is then invited to make a statement regarding both the offence and the direct effect it has had on him/her and his/her family. Other participants (e.g. support persons for victim and offender) may

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then be invited to speak. Following these statements from various participants, the focus of the conference shifts to a consideration of the future and how the offender can make the victim feel better about the offence.

The Children's' Court process is very different. When a young person is charged with a criminal offence they are normally given a Court Attendance Notice setting out the details of the charge and the date and place of their first court appearance. All young people who appear in the Children's Court are represented by lawyers, usually from the Children's Legal Service or the Aboriginal Legal Service.

Victims are entitled to be present in court unless the Magistrate decides that they should be excluded. It is, however, unusual for a victim to be present for charges where there is a plea of guilty unless that victim also happens to be a family member of the young person.

If a young person pleads not guilty (except for very minor charges) an order is made for the prosecution to provide the child's defence lawyer with copies of statements from witnesses or any other evidence (e.g. fingerprints, DNA, CCTV footage). The prosecutor and defence lawyer then make submissions to the magistrate about whether the charge is proved or not. Following this, the magistrate makes a decision and gives reasons for finding that the charge is proved or not proved beyond reasonable doubt.

When the Children's Magistrate is told that the young person is pleading guilty, a statement setting out the facts on which the police rely together with a document setting out the young person's criminal history (including any matters which have been dealt with by caution or youth justice conference) will be given to the magistrate.

If the magistrate finds the offence proved, he or she will hear submissions from the prosecutor and defence on an appropriate penalty. If the young person or the court is proposing a caution or youth justice conference this will normally be raised at this time. After having heard submissions, the magistrate will explain the penalty or penalties to be imposed and the reasons for those penalties.

The *NSW Young Offenders Act 1997* makes no specific mention of re-offending in its general statement of objectives and principles. The only reference to re-offending appears in section 34 of the legislation, which deals with the principles governing conferences. Section 34 states that measures for dealing with children who are alleged to have committed offences [should] provide the child with developmental and support services that will help the child overcome the offending behaviour. Arguments that conferencing should be more effective than court in reducing re-offending generally appeal to Braithwaite's (1989) theory of reintegrative shaming (see Hayes & Daly, 2003). The argument, in brief, is that courts stigmatize juvenile re-offenders and this reinforces their 'deviant identity'. Conferences, by contrast, stigmatize unwanted (criminal) behaviour (rather than offenders) and include rituals (the opportunity for apologies and restitution) that foster social reintegration.

Participants in the conference process (victims, offenders and their support people) generally find the experience both satisfying and rewarding (Trimboli, 2000). Findings in relation to the effect of conferencing on re-offending are much less clear. The Bureau examined the effectiveness of conferencing in an earlier research study (Luke & Lind, 2002) which examined juvenile re-offending rates before and after the introduction of the *Young Offenders Act 1997*. Re-offending rates were found to be 15-20 per cent lower among those referred to a conference than among those attending court. The authors were able to show that this was not a consequence of low risk juvenile offenders being 'cherry picked' from court for conference following the introduction of the legislation. However, their study did not control for the possibility that low risk juvenile offenders who had been given an informal caution or warning prior to the introduction of the Act were referred to a conference after the introduction of the Act (see Past Research and Discussion sections for more on this).

Subsequent research conducted on the effectiveness of conferencing has failed to overcome the problems of selection bias faced by Luke and Lind (2002). Many of the studies conducted since the introduction of conferences have had significant methodological problems. The aim of the present study is to re-examine the relative effectiveness of conferencing and court in reducing juvenile re-offending using techniques that overcome many of these weaknesses.

PAST RESEARCH

There have been several reviews of research on the effectiveness of restorative justice (RJ) programs in reducing re-offending (Bonta, Jesseman, Rugge, & Cormier, 2006; Braithwaite, 1989; Hayes, 2005; Latimer, Dowden, & Muise, 2005; Luke & Lind, 2002; Sherman & Strang, 2007). The review of studies published between 1986 and 2005 by Sherman and Strang (2007) serves as a convenient starting point. They identify what they describe as '23 reasonably unbiased point estimates of the impact of RJ on repeat offending' (Sherman & Strang, 2007, pp.15). The point estimates all arose from studies that either involved randomised trials or comparisons of a group of offenders referred to an RJ program with a matched group of offenders dealt with via some other form of disposition or 'treatment'. Nineteen of the point estimates (arising from seven studies) cited by Sherman and Strang (2007) involved juvenile or young adult offenders. In what follows, we discuss these studies as well as several published since the Sherman and Strang (2007) review. As our focus is on the relative effectiveness of conferencing versus the Children's Court, we begin by reviewing studies that compare these two types of disposition. For completeness, we then review studies that compare conferencing to some other disposition.

EVALUATIONS OF CONFERENCING VERSUS COURT

McCold and Wachtel (1998) conducted an experiment in which 75 eligible violent juvenile offenders and 140 eligible juvenile property offenders were randomly allocated to either a conference or to court. Recidivism was measured in terms of re-arrest rates over a one-year follow-up period following referral to court or conference. A substantial proportion (34%) of those allocated to a conference did not end up receiving a conference because they declined to participate. Rather than analysing the data on the basis of intention-to-treat, three groups were compared: those who declined a conference, those who attended a conference and those dealt with by a court. Separate analyses were carried out for property and violent offenders. No effects were found for property offenders, but the re-offending rate of violent offenders who attended a conference was significantly lower than the re-offending rate of violent offenders dealt with by a court. Re-offending in the court group was midway between the conference group and the group that had been referred to a conference but declined to participate. This suggests that the lower rate of re-offending among the conference group might have been nothing more than a selection artefact.

Sherman, Strang and Woods (2000) conducted a randomised controlled trial of the relative effectiveness of conferencing and court in reducing juvenile property offending with personal victims, juvenile shoplifting and violent offending by offenders under the age of 30 years.[1] The recidivism measure employed in the study was the mean offending rate (court contacts per month). The main comparison made with this measure was the differences in rates of offending for each group before and after treatment. The data were analysed on the basis of intention-to-treat. They reported a significant reduction in offending rates for the conference group involving violent offenders, no significant difference for shoplifting offenders and no significant difference for juvenile property offenders (involving personal victims). Although the researchers concluded that conferences can reduce crime by violent offenders, this conclusion would seem open to question on at least four grounds.

Firstly, as McGrath (2008) points out, with only two data points for the treatment (conference) group and a higher base rate of offending, the fall in the conference group may have been a case of regression to the mean. Secondly, Sherman et al. (2000) did not count further offences dealt with at a conference. This might have biased the recidivism outcome against those referred to court (because juvenile offenders attending a conference may be more likely to be referred to another conference if they re-offend than juvenile offenders whose offending has brought them to court). Thirdly, the results could have been the result of selection bias. As already noted, the court group had a higher pre-treatment offending rate than the conference group. It also had a higher self-reported rate of binge drinking. Had prior offending and binge drinking been included as controls in a regression analysis of the effect of conferencing on re-offending, the observed difference in offending rates between court and conference groups might have disappeared. The use of t-tests to examine the difference in offending rates between the two groups is also open to question. T-tests assume a normal distribution of the variables being examined. Offending rates typically have a strong positive skew—with many offenders having no contact and a few having very high rates of contact. The use of t-tests with highly skewed data could have led to a spurious finding of significance.

As noted earlier, Luke and Lind (2002) examined the relative effectiveness of conferencing versus the NSW Children's Court in reducing juvenile re-offending. They compared the time to first re-appearance in court or at a conference and the number of re-appearances in court or at a conference (per year) for 590 juveniles who were given a conference in the first year of the operation of the *NSW Young Offenders Act* and 3,830 juveniles who were referred to court. After adjusting for offence type, age and number of prior convictions, they found that juveniles referred to a conference took longer to re-appear and had fewer re-appearances than those who were dealt with at court. They acknowledged the possibility that the lower recidivism rate among conference participants might have been the result of a selection process in which low risk offenders appearing in court prior to the introduction of the Act were referred to conferences after the introduction of the Act. However, they rejected this explanation on the grounds that the court re-appearance rate of juvenile offenders dealt with in the Children's Court was the same before and after the Act.

There are two weaknesses in the Luke and Lind (2002) study. The first is that police may have been 'cherry picking' low risk juveniles, not from among those they previously referred to court but from among those who they previously would have cautioned. The referral to conferences of low risk juveniles would have lowered the re-offending rate of juveniles in conferences relative to those in court even if conferencing itself had no effect on re-offending. The second weakness is that they had limited controls for other factors that might have influenced rates of re-offending. There were, for example, no controls for the number of concurrent offences or Indigenous status. Both of these factors are known to influence rates of re-offending (Smith, 2010).

Triggs (2005) compared 193 young offenders referred by the District Court to a conference in New Zealand with 10 samples of 193 offenders (in each sample) who had been dealt with by the court. Re-offending was defined as a new (proven) offence within two years of the date of the index conference or finalisation of the court matter. The conference and court groups were matched in two steps. First, they were matched as closely as possible on gender, age, first offender status (whether a first offender or not), offence group and ethnic group. Then best matches for each conference offender were selected by choosing comparison offenders with the most similar *predicted* reconviction rates.

The predicted reconviction rate was derived from a logistic regression model linking risk of reconviction in the District Court to a variety of offence and offender characteristics, including number of proven charges per year since the age of 13 years, time since last court appearance, offence type, number of concurrent charges, age and sex.

The actual reconviction rates for the 10 court groups ranged from 42 per cent to 49 per cent, with an overall average of 45 per cent. None of the differences between the conference and the court groups in re-offending was statistically significant. The conference group took slightly longer to re-offend than the court group, but this difference was also not statistically significant. The actual reconviction rate was found to be lower than the predicted rate for the conference group (41% versus 45%) but the difference was not statistically significant. Triggs (2005) argued that the consistently lower reconviction rates for the conference group suggested that the lower reconviction rate for the conference group was 'real' (Triggs, 2005, pp. 7). This conclusion seems unwarranted given that these differences were not significant.

A study since the review by Sherman and Strang (2007) compared 164 juvenile offenders referred to a conference with 166 dealt with by a traditional court (Bergseth & Bouffard, 2007). The court sample was developed by selecting youth referred to court during the same time period (2000 to 2003) as the conference cases and for offences which were largely similar to those committed by members of this group. The key dependent variables in the study were the likelihood of any new officially recorded contact with police, the number of such contacts and time to re-arrest. Significant effects favouring the conference group were found on all three measures, even after adjusting for age, race, area (urban versus rural), number of prior contacts with the justice system and offence type (property offence versus violent offence). Unfortunately, 49 of the original sample of offenders in the conference group who were also dealt with by court were excluded from the analysis. This could have biased the comparison between conference and court.

EVALUATIONS OF CONFERENCING VERSUS OTHER DISPOSITIONS

Conferencing is not always compared with court. Quite a number of studies compare juveniles referred to a conference by a court or by police, with juveniles dealt with by a court or by police using some other disposition (e.g. a caution). In some evaluations, it is not entirely clear how the control or comparison group were dealt with. Although it is obviously difficult to infer anything about the effectiveness of conferencing versus court from studies that compare conferencing to some other disposition, we include them for whatever probative value they may have.

Schneider (1986) conducted four randomised controlled trials of the effectiveness of restitution in reducing recidivism rates among juvenile offenders. In the first experiment (in Boise, Idaho), 86 juveniles required to pay restitution to the victim(s) of their crime or to complete a specified number of community service hours were compared with 95 juveniles assigned to weekend detention. In the second experiment (in Washington D.C.), 274 juveniles ordered to pay restitution were compared with 137 placed on probation. In the third experiment (in Clayton County, Georgia), 73 juveniles required to pay restitution or to perform community service were compared with 55 placed on probation. In the final experiment (in Oklahoma County), 104 juveniles required to pay restitution were compared with 78 placed on probation. Forty per cent of the young offenders assigned to restitution in Washington D.C. refused to pay restitution. Seven per cent of the young offenders in Clayton County received a sentence other than the one randomly allocated. The problems of selection bias this could have created were avoided by conducting the analysis on the basis of 'intention-to-treat'.[2]

The principal outcome measures in all experiments were re-contact frequency (the total number of post-adjudication contacts with the court system for each youth) and re-contact rate (re-contact frequency divided by the follow-up period). No significant differences between treatment and control conditions were observed in the Boise or Oklahoma County studies. The study in Washington D.C. produced significantly lower rates of offending among those who were allocated to restitution than among those randomly assigned to probation, but the differences were only just significant (re-contact frequency: $p = .04$; re-contact rate: $p = .05$). No significant differences were found in relation to re-contact frequency or seriousness when those allocated to restitution in Clayton County were compared with those allocated to probation. A borderline effect emerged favouring the restitution group when the measure was re-contact rate but the difference was only marginally significant ($p = .04$). Overall, the Schneider (1986) study provides only limited evidence that restitution is more effective than other dispositions in reducing re-offending.

McGarrell, Olivares, Crawford and Kroovand (2000) conducted a randomised trial evaluation of a conferencing program in Indianapolis. From September 1, 1997 to September 30, 1999, 458 young offenders were randomly assigned either to a conference group ($n = 232$) or to a 'control' group ($n = 226$) placed on a variety of other diversionary programs (e.g. mediation). The outcome measures were re-arrest proportions observed at six and 12 months following referral to a conference or to the alternative diversionary program. At the six month mark the re-arrest proportion for the conference group was 12.3 per cent, compared with 22.7 per cent for the control group. At 12 months, the percentages re-arrested were 30.8 per cent and 41.2 per cent, respectively. Both differences were statistically significant. Unfortunately, for reasons that are not clear, they are based on far fewer offenders (conference $n = 167$; control $n = 168$) than were originally assigned to the conference and

control groups. Without knowing why such a large proportion of the sample was lost, it is difficult to take these significant results as an indication of the effectiveness of conferences.

Miers et al. (2001) evaluated a number of conferencing schemes operating in the UK. Three of these (respectively located in Leicestershire, Suffolk and Gloucestershire) dealt specifically with young offenders. The Leicestershire study compared recidivism rates (defined as the proportion re-cautioned or reconvicted over two years) amongst a sample of 145 conference participants and 46 non-participants (the control group). Of the 46 non-participants, five had been considered unsuitable for a conference, nine already had other provisions in place and the remainder declined to take part. This raises questions about the comparability of treatment and control groups. No differences in recidivism were found between conference and control groups either before or after adjusting for age, gender, age at first court appearance, history of burglary and employment status. Nor was any difference found between the groups in either the number or type of subsequent offences. The Suffolk study produced 'strikingly similar' results (Miers et al., 2001, pp. 56). The Gloucestershire study also found no significant difference between court and conference groups. None of these results are very surprising given the small samples involved.

Hayes (2005) re-analysed the data from the study conducted by McCold and Wachtel (1998), combining the control and refusal group and comparing it to the conference group using survival analysis methods. No overall difference was found between conference and court groups, but violent offenders who went to court (including those who refused to attend a conference) were found to be more likely to re-offend than those who attended conferences. Hayes (2005, pp. 91) concluded that violent offenders may be more responsive to a restorative intervention than violent offenders adjudicated normally. This conclusion is hard to sustain. The randomization in the study broke down but instead of analysing the data on the basis of 'intention-to-treat', those who refused to participate in a conference were included in the control group who were 'adjudicated normally'. Given that many of those in the control group refused to attend a conference, there is every reason to believe that there were pre-existing differences between the treatment and 'control' groups. As McGrath (2008, pp. 327) points out, the only conclusion that could safely be drawn from the study is that violent offenders who choose to attend a conference are less likely to re-offend. It is unclear why this is the case.

Studies of the effect of conferencing on juvenile recidivism that have been published since the review by Sherman and Strang (2007) include studies by Rodriguez and his colleagues (De Beus & Rodriguez, 2007; Rodriguez, 2007) and Shapland et al. (2008). Rodriguez (2007) compared 1,708 young offenders referred to a conference in Maricopa County, Arizona, with 3,262 given 'standard' diversion (not further described). The dependent variable in the study was a juvenile court appearance within 24 months of the date of diversion. Juveniles within either group who failed to meet the terms of their diversion were excluded from the analysis. The comparison was between juveniles who fulfilled their conference outcome obligations and juveniles who completed some other set of (unspecified) diversionary program obligations. The effect of disposition on re-offending was analysed using logistic regression with controls for a variety of factors, including gender, age, race, attendance at school, offence, prior criminal record and year of disposition. Controlling for these factors, juveniles dealt with by way of a conference were found to be less likely to re-offend than juveniles diverted in some other way (odds ratio = 0.704). Unfortunately, the failure to analyse the data on the basis of intention-to-treat (offenders who did not complete their diversionary obligations were excluded) means that the results may reflect nothing more than selection bias.

De Beus and Rodriguez (2007) compared recidivism rates (measured as in Rodriguez, 2007) amongst a sample of 9,255 juvenile referrals eligible for diversion who were processed in either a restorative justice program or a standard diversion program. The latter involved participating in unpaid community service, paying restitution to the victim and/or receiving counselling, rehabilitation or being supervised. While De Beus and Rodriguez (2007) note that program allocation decisions were made by juvenile justice officers and the county attorney's office, they provide no information on the criteria employed to make these decisions. The controls included in the study were the same as those employed by Rodriguez (2007). After adjusting for potentially confounding factors, the authors found lower rates of recidivism among conference program completers than among offenders placed on the standard diversionary program. This is hardly surprising if (as seems to have happened) the comparison group included both those who completed their alternative diversionary program and those who did not. The comparison process would be biased in favour of the conference group in ways not necessarily captured by factors controlled for in the study.

Shapland et al. (2008) examined the effectiveness of conferencing in reducing re-offending in three UK programs known as CONNECT, JRC and REMEDI. The evaluation of CONNECT took the form of a matched comparison of offenders dealt with by way of either a conference (n = 43) or via some other form of mediation from which victim and offender support persons were excluded (n = 45). The evaluation of JRC took the form of a comparison of offenders randomly assigned to either a conference (n = 374) or to a condition where the only further action taken was an interview conducted by the researchers (n = 354). REMEDI was evaluated by conducting a matched comparison of offenders referred to either direct (face-to-face) mediation (n = 113) or indirect mediation (n = 124). The key dependent variables were whether or not the offender had

a further offence proved against them in the two-year period following the date of the conference or alternative disposition and the number of further offences. Separate analyses were carried out for different crime types in different locations. In all, 13 separate estimates of the effect of conferencing were obtained.

Summed over all three restorative justice schemes, conference offenders were found to have committed statistically fewer offences in the two-year follow-up period than their control group counterparts. However, the only individual effect to reach significance involved property offenders in the JRC evaluation. Offenders attending conferences in this group were found to be less likely to have a further conviction and to have fewer additional convictions.

Shapland et al. (2008) did not conclude from these findings that conferencing had been shown to reduce re-offending and it is not hard to see why. As they themselves acknowledge, they were unable to properly control for differences between the groups in the nature and length of their prior criminal record. They were also unable to control for any time spent in custody. Furthermore, control group offenders in the London randomised controlled trial were found to have been more likely than conference offenders to have been sentenced to prison, while Northumbria conference offenders were found to have a different offence profile. Shapland et al. (2008) argued that there were no significant differences between the conference and control groups in risk of re-offending, as measured by a standard risk assessment instrument (OGRS2). Given the small sample sizes in many of the individual comparisons, however, the absence of any significant difference in predicted risk of re-offending provides only limited assurance that the groups being compared were equal prior to the intervention in risk of re-offending.

THE CURRENT STUDY

The studies reviewed provide little basis for confidence that conferencing reduces re-offending at all, let alone by the seven to eight per cent claimed by Bonta et al. (2006) and Latimer, Dowden and Muise (2005) in their meta-analyses of research findings on restorative justice. The methodological problems encountered in past research on conferencing include failure to adjust for manifest differences between treatment and control groups, failure to analyse data on the basis of intention-to-treat, small sample sizes, inappropriate statistical methods, a restrictive definition of re-offending (that may have biased results in favour of conferencing) and failure to adjust for time at risk of re-offending. Nonetheless, the fact that there is limited evidence showing that conferencing reduces re-offending cannot be construed as evidence that conferencing does not work. The possibility remains that conferencing does result in lower rates of recidivism than referral to court. The aim of the present study was to re-evaluate the effectiveness of conferencing versus court in reducing re-offending using methods that overcome the limitations of past research.

In this study, propensity score methods were used to examine the effect of youth justice conferencing in NSW on re-offending. To our knowledge, propensity score methods have not so far been used for this purpose. Propensity score methods are increasingly being used in observational studies to adjust for the impact of treatment-selection bias when estimating the effect of treatment on outcomes (Austin, 2010). One propensity score method, propensity score matching, aims to approximate the conditions of randomisation by finding pairs of individuals who are equally likely to receive treatment (e.g. a conference), one of whom is referred to treatment and one of whom is not. This normally involves running a logistic regression model predicting treatment entry on the basis of factors known or expected to influence selection into treatment and/or known or expected to be related to the outcome (e.g. re-offending). Individuals who have comparable probabilities of treatment are then compared to determine whether those actually referred to treatment experience better outcomes than those not referred to treatment.

It should be acknowledged at the outset that propensity score matching is not a substitute for a randomised controlled trial. Comparability between groups is only guaranteed for factors that are known and when tested found to be balanced between groups after propensity score matching. Where the factors that influence selection into treatment are well known and measurable, however, it is a viable and credible alternative (Apel & Sweeten, 2010). In the present context, propensity score matching has a distinct advantage over a randomised trial. As we have already seen, attempts to randomise cases to treatment and control have not always succeeded in producing treatment and control groups matched on characteristics associated with re-offending. While it is difficult to be sure about the reasons for this, two possible reasons are that: (1) offenders sometimes refuse to participate in conferences; and (2) conference administrators and others involved in case allocation often find it hard to accept a requirement to allocate cases at random to treatment and control. One advantage of propensity score matching in the present context is that both of these problems are avoided.

A second propensity score method, inverse probability of treatment weighting (IPTW; Austin, 2010), incorporates propensity scores as weights when estimating treatment effects. More specifically, each subject is weighted by the inverse of the probability of receiving the treatment that the subject received. This results in a synthetic population in which treatment assignment is independent of measured covariates (Austin, 2010). Whereas treatment effects estimated from the propensity score matching approach are based on the subset of subjects who are matched, IPTW includes all subjects when estimating treatment effects. In relation to numerous statistical properties (e.g. bias, variance estimation, coverage of confidence intervals, mean-squared error, type I error rates), IPTW has been found to out-perform other propensity score methods when estimating

treatment effects (Austin, 2007). However, a disadvantage of IPTW in comparison to propensity score matching is that there are no methods available to determine the adequacy of the propensity score model (Austin, 2007). Hence, in the current study, treatment effects using both propensity score matching and IPTW are presented, and the adequacy of the propensity score model used for propensity score matching is examined in detail.

To further improve on past research, a number of additional measures were implemented. The analyses were conducted on a relatively large sample of offenders from 2007 (e.g. there are 918 young persons in the matched conference group and 918 in the matched court group), increasing the power to detect a treatment effect. To adjust for differences between treatment and control groups, the offenders were matched on a large set of factors. In addition, offenders processed by both a conference and a court finalisation were included in the conference group, unlike some past studies such as Bergseth and Bouffard (2007) where this type of record was excluded from the study. To properly capture further offending (and avoid biasing the outcome) a re-offence is defined as any proven offence committed after the index conference or court finalisation date that resulted in a finalised appearance, whether dealt with in a Children's Court, Local Court, Higher Court, conference or caution. Four re-offending outcomes were analysed: proportion reconvicted[3] of a further offence committed within 24 months of the index date; re-offence seriousness for re-offences that resulted in reconviction (measured as the difference in seriousness between the most serious index offence and the most serious re-offence committed up to 30 June 2010); time to the first re-offence (measured up to 30 June 2010) that resulted in a reconviction; and number of reconviction episodes for re-offences committed within 24 months of the index date. Pseudo convictions (that is, convictions after the intervention for offences committed prior to the intervention) were excluded.

To test whether differences in re-offending rates between young persons sent to conference and those sent to court are being obscured by policing/surveillance effects, we examined differences in re-offending outcomes with and without justice procedures offences included in the definition of re-offending. Justice procedures offences are important in the current context for the following reason. Most people charged with a justice procedures offence are the subject of a pre-existing court order, such as a community based order, and breach this order. Juveniles whose last contact with the justice system was a conference are less likely to be the subjects of earlier court orders than those whose last contact with the justice system was an appearance in court. Including justice procedures offences in the definition of re-offending could therefore bias the outcome of the study against juveniles dealt with by court.

Two sets of analyses are reported below. The primary analysis involves a comparison of conference and court groups on the basis of 'intention-to-treat'. This means including young persons in the conference group if they were given a conference date, regardless of whether the conference actually occurred or resulted in a completed outcome plan or whether some of the index offences were finalised in court. Comparing treatment and control groups on the basis of intention-to-treat is preferable to comparing them on the basis of whether or not treatment was actually completed because it minimizes the risk of selection bias. This said, analyses were also conducted comparing those whose cases were finalised in the Children's Court with those who actually completed a conference outcome plan. This provides some idea of the maximum possible benefit that could have been conferred by treatment (that is, attendance at a conference). The results of the 'as-treated' analysis should not be regarded as an alternative or 'fairer' comparison than those involving 'intention-to-treat'.

METHOD

DATA SOURCE

The data for the current study were drawn from the NSW Bureau of Crime Statistics and Research (BOCSAR) Reoffending Database (ROD; Hua & Fitzgerald, 2006) and Juvenile Justice NSW (JJ). ROD is a collection of data from agencies within the criminal justice system in NSW, including JJ. ROD contains demographic and offending characteristics for all persons who received a police caution, had a finalised court appearance or who completed an outcome plan for a conference (from 1994 for court appearances and from 1998 for conferences and cautions). Information on conferences that did not result in a completed outcome plan is not routinely included in ROD and was extracted directly from the data BOCSAR received from JJ. Data on conferences received from JJ was linked to ROD using person identifiers such as Criminal Names Index, name, date of birth and criminal charge related identifiers such as police H number.

Data were extracted from all conferences where a conference date was set in 2007 and from all Children's Court finalisations in 2007. This resulted in the extraction of 1,399 conference and 7,591 court records. Multiple records per young person may have been extracted if more than one matter was processed in 2007 (a matter is defined as a group of offence charges processed together). Further, matters may have resulted in both a conference and a court record. For example, if a young person was referred to a conference by the court and was required to return to court upon the completion of the conference outcome plan, he/she has both a conference and a court record. In this case, only the conference record was included in the study.

To ensure the final conference and court samples used in the re-offending analysis were as similar as possible, a two-step selection process was implemented. First, study eligibility criteria were applied (see below) and a unique record per person was randomly selected (if more than one). Second, propensity

score methods were applied to these eligible records. The following sections describe the study eligibility criteria, variables, propensity score methods and the re-offending models used in the current study.

STUDY ELIGIBILITY CRITERIA

Legal restrictions determine whether or not a young offender is eligible for a conference. Where possible, available data were used to apply these restrictions to both the conference and court groups included in the study. As shown in Figure 1, these requirements were:

- An admission of guilt (conference group) or a plea of guilty (court group) for all index offences.
- Young person was aged 18 years or less at the time of the conference or court finalisation.[4]
- Index offences were not traffic offences (if aged 16 years at time of the principal offence), drug offences, robbery offences, sex offences or offences that resulted in death.

The *Young Offenders Act 1997* does not explicitly exclude young persons from having a conference if they had a prior custodial sentence. However, a prior custodial sentence was very rare among the remaining conference records (0.8%, 11 of 1,350) compared with the court records (11.2%, 335 of 2,993). Hence, to make the conference and court groups as similar as possible, records for young persons with a prior custodial sentence were excluded.

As noted earlier, the primary analyses proceed on the basis of intention-to-treat. Therefore, if a record of a conference in 2007 met all the study eligibility criteria, it was included in the study, regardless of whether the conference resulted in a completed outcome plan or whether any of the index offences resulted in a court finalisation. Among the 1,399 records of a conference in 2007, the 208 records that did not result in a completed outcome plan were considered eligible for inclusion in the study if they met all the other study eligibility criteria.[5] Further, 193 of the 1,399 conference records that had at least one index offence finalised in the Children's Court were also considered eligible for inclusion in the study in the conference group if they met all the other study eligibility criteria. If more than one conference was set for the index offences, only the earliest record of a conference was deemed eligible (according to this criteria, 8 of the 1,399 records were not eligible). To ensure no overlap between the conference and court groups, if an offender had an index offence dealt with via conference and the same or another index offence dealt with by court, the court record was excluded from the study. This resulted in 160 of the 7,591 court records for which a conference was set (either in, or prior, to 2007) for at least one of the index offences being excluded from the study.

Among the 1,339 remaining conference records and the 2,658 remaining court records, one record per person was selected (see Figure 1) as eligible for consideration in the propensity score methods. Eligible records comprised 1,041 young persons in the conference group and 2,160 young persons in the court group.

VARIABLES

Treatment variables

For the 'intention-to-treat' analyses, the treatment variable was whether the index matter in 2007 was processed by way of a conference or court finalisation. A court finalisation is when the sentence is handed down. For the 'as-treated' analyses, the treatment variable was whether the index matter in 2007 was a conference with a completed outcome plan or a finalised court matter.

Re-offending outcomes

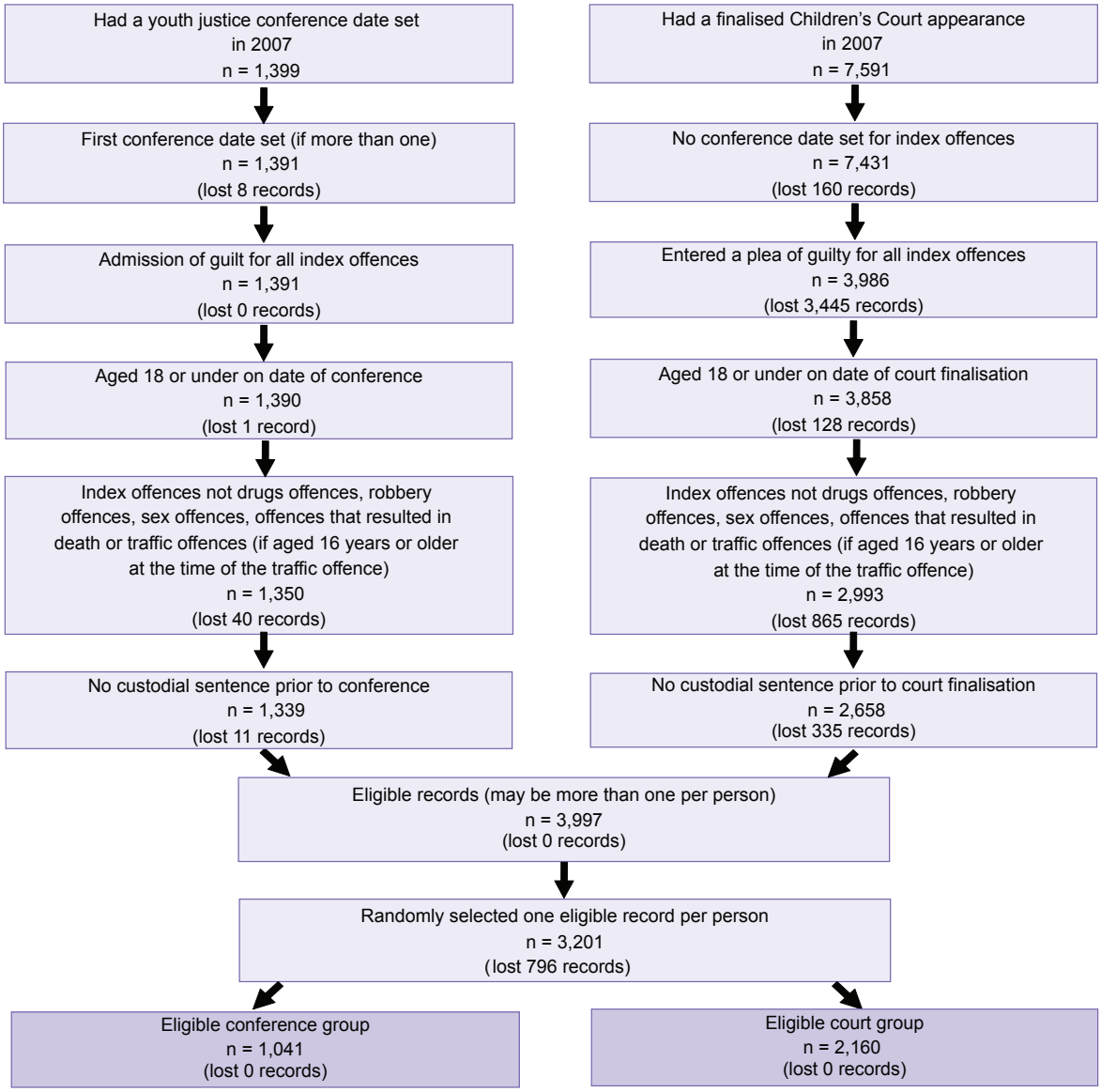
For the conference group, the index date was defined as the date set for the conference.[6] For the court group, the index date was defined as the date the court matter was finalised. Re-offending was defined as any proven offence committed after the index date that resulted in a finalised court appearance (in a Children's Court, Local Court or Higher Court), a completed conference outcome plan or a police caution.

The re-offending outcomes investigated in the current study were:

- **Re-offending within 24 months**: whether there was a further proven offence committed within the 24 months after the index date.
- **Re-offending seriousness**: whether any further proven offence committed after the index date (up until 30 June 2010)[7] was more serious than the most serious index offence (coded as 1 = a further offence was more serious than the most serious index offence, 0 = the offender either did not re-offend or had no further offence that was more serious than the most serious index offence). Seriousness was assessed using the Median Sentence Ranking (MacKinnell, Poletti, & Holmes, 2010).
- **Time to re-offend:** for young persons who re-offended after the index date (up until 30 June 2010), the number of days were counted from the index date until the first proven re-offence.[8] For young persons who did not re-offend, the number of days from the index date until 30 June 2010 was counted.
- **Number of re-appearances within 24 months**: the number of re-appearances (either a finalised court appearance, a conference with a completed outcome plan or a police caution) for re-offences committed within 24 months of the index date (count variable ranging from 0 to 5+).

As noted earlier, each of these outcomes was examined with and without justice procedures offences included in the definition of re-offending.[9]

Figure 1. Study eligibility criteria for the conference and court groups



Explanatory variables

A number of variables relating to the young persons' demographic characteristics and the characteristics of their index and prior offending were included in the propensity score models and were considered for inclusion in the re-offending models. The list of potential control variables was limited by the data available. However, these variables were considered to be potentially related to treatment allocation (receiving an index conference) and/or re-offending (e.g. Luke & Lind, 2002; Vignaendra & Fitzgerald, 2006).

The explanatory variables considered were:

- **Demographic characteristics**
  - ***Gender***: whether the young person was male
  - ***Indigenous (unknown)***: whether Indigenous status was unknown[10]
  - ***Indigenous (yes)***: whether the young person ever identified as Indigenous
  - ***Age***: age, in years, on the date of the index conference or court finalisation (numeric variable ranging from 13 to 18 years [values 10, 11 and 12 coded 13 due to low numbers])

- **Index offence characteristics**
  - ***Concurrent offences***: number of proven concurrent offences for the index conference or court matter (numeric variable ranging from 0 to 3+)
  - ***Index offence types***: whether any proven offence for the index conference or court matter was a:
    - *Serious violence offence* (ANZSOC Divisions 1-Homicide, 5-Abduction, and 6-Robbery; and Subdivisions 211-Serious assault resulting in injury, and 311-Aggravated sexual assault)
    - *Non-serious violence offence* (ANZSOC Divisions 2-Acts intended to cause injury [except Subdivision 211], 3-Sexual [except Subdivision 311], and 4-Dangerous acts)
    - *Break and enter offence* (ANZSOC Division 7)
    - *Theft offence* (ANZSOC Division 8)
    - *Property damage offence* (ANZSOC Division 12)
    - *Public order offence* (ANZSOC Division 13)
    - *Justice procedures offence* (ANZSOC Division 15)
    - *Other offence type* (ANZSOC Divisions 9-Deception, 11-Weapons, 14-Traffic, and 16-Miscellaneous)
- **Prior offence characteristics**
  - ***Prior court finalisations***: number of finalised court appearances for proven offences prior to the date of the index conference or court finalisation (numeric variable ranging from 0 to 3+)
  - ***Prior conference***: whether there was any conference resulting in a completed outcome plan prior to the index conference or court finalisation
  - ***Prior cautions***: number of police cautions prior to the index conference or court finalisation (numeric variable ranging from 0 to 3+)
  - ***Prior offence types***: whether any proven offence prior to the index conference or court finalisation was a:
    - *Serious violence offence* (ANZSOC Divisions 1-Homicide, 5-Abduction, and 6-Robbery; and Subdivisions 211-Serious assault resulting in injury, and 311-Aggravated sexual assault)
    - *Non-serious violence offence* (ANZSOC Division 2-Acts intended to cause injury [except Subdivision 211], 3-Sexual offences [except Subdivision 311], and 4-Dangerous acts)
    - *Break and enter offence* (ANZSOC Division 7)
    - *Theft offence* (ANZSOC Division 8)
    - *Property damage offence* (ANZSOC Division 12)
    - *Public order offence* (ANZSOC Division 13)
    - *Justice procedures offence* (ANZSOC Division 15)
    - *Other offence* (ANZSOC Divisions 9-Deception, 10-Drugs, 11-Weapons, and 16-Miscellaneous)

PROPENSITY SCORE METHODS

Propensity score matching

Propensity score matching was conducted in Stata/IC using the *psmatch2* module. One-to-one nearest neighbour matching without replacement with a caliper of .01 units was used. Propensity scores represent the predicted probability of receiving treatment, an index conference, obtained from a logistic regression model. All explanatory variables listed above were included in the propensity score model (Austin, 2007). For matched samples in the intention-to-treat analyses, a young person who had an index court finalisation was considered to be matched to a young person who had an index conference if their propensity scores were within .01 units of each other. As-treated analyses were conducted matching young persons in the conference group who had a completed outcome plan to young persons in the court group.

The balance between the conference and court samples on each of the 25 variables expected to be related to treatment allocation and re-offending was assessed before and after matching with Rosenbaum and Rubin's (1985) standardised bias (SB). An SB with an absolute value of less than 10 was deemed optimal (Apel & Sweeten, 2010) and indicated good balance across the conference and court samples for the variable of interest.[11]

The number of young persons in the conference and court groups that were matched and unmatched across the distribution of the propensity scores was examined. The percentage point difference in each of the 25 variables between the conference and court samples before and after matching was also compared. In the following sections, the analysis based on the matched samples is referred to as the 'matched' analysis.

Inverse probability of treatment weighting (IPTW)

The estimated propensity scores used in the propensity score matching approach in the previous section were also utilised for estimating treatment effects using IPTW. For young persons who received the treatment (conference group), the weighting was defined as the inverse of the propensity score predicting treatment. For young persons who did not receive the treatment (court group), the weighting was defined as the inverse of one minus the propensity score predicting treatment. Weightings were obtained for *all* study eligible young persons, not only those who were matched. In the following sections, the IPTW analysis is referred to as the 'weighted' analysis.

MODELLING RE-OFFENDING OUTCOMES

The outcome:

- **Re-offending within 24 months**: was modelled using logistic regression without and with adjustment for potential covariates.

- **Re-offending seriousness**: was modelled using logistic regression without and with adjustment for potential covariates.
- **Time to first re-offence**: was modelled using Cox proportional hazards regression without and with adjustment for potential covariates.
- **Number of re-appearances within 24 months of the index date**: was modelled using negative binomial regression without and with adjustment for potential covariates.

For the analyses adjusting for potential covariates, all explanatory variables presented in the 'Explanatory variables' section were considered for inclusion in the re-offending models and those that were significant at the 0.05 level were included in the final models. The treatment variable (whether the young person had an index conference or a court finalisation) was included in all final models, even if it was not significant, so as to obtain the adjusted treatment effect estimates.

For the analyses utilising propensity score matching, only young persons who were matched were included in the re-offending models. To obtain robust treatment effect estimates that accounted for the matched nature of the data, the *vce(cluster)* option in Stata/IC was used. For the analyses utilising IPTW, all study eligible young persons (not only those who were matched) were included in the re-offending model. To obtain the robust weighted treatment effect estimates, the *pweight* option in Stata/IC was used.

RESULTS

DEMOGRAPHIC, INDEX OFFENCE AND PRIOR OFFENCE CHARACTERISTICS

Table 1 describes the demographic, index offence and prior offence characteristics of the conference and court groups. Table 1 shows that compared to the court group, young persons in the conference group were *more* likely to have an index property damage offence.

Table 1 also shows that, compared to the court group, young persons in the conference group were *less* likely to:

- be Indigenous or have unknown Indigenous status;
- be aged 18 years;
- have an index offence for non-serious violence, public order, justice procedures or other offence types;
- have three or more prior court finalisations;
- have had a prior conference; or
- have had a prior offence that was related to serious violence, non-serious violence, break and enter, theft, property damage, public order, traffic, justice procedures or other offence types.

Table 1. Demographic, index offence and prior offence characteristics of the conference and court groups (n = 3,201)

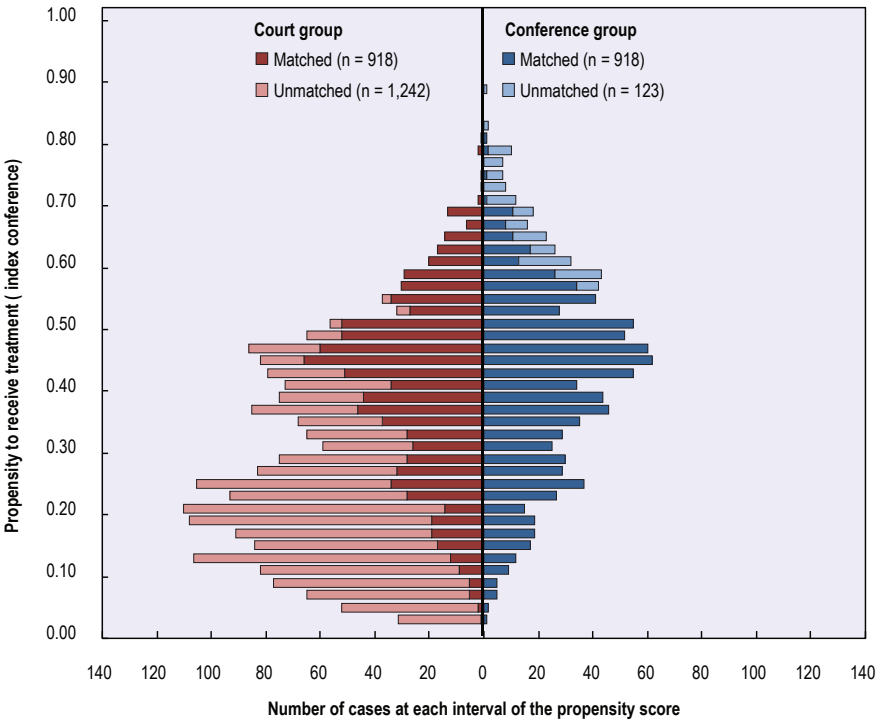
	Per cent within conference group (n = 1,041)	Per cent within court group (n = 2,160)
Demographic characteristics		
Gender (male)	79.9	77.4
Indigenous (unknown)*	3.8	7.5
Indigenous (yes)*	32.3	36.0
Age (10-13 years)	9.7	7.7
Age (14)	12.6	10.6
Age (15)	20.9	20.9
Age (16)	24.4	20.7
Age (17)	23.7	27.2
Age (18)*	8.7	13.0
Index offence characteristics		
Concurrent offences(0)	53.2	50.0
Concurrent offences (1)	24.0	23.4
Concurrent offences (2)	10.3	12.6
Concurrent offences (3+)	12.5	14.0
Serious violence	13.3	12.5
Non-serious violence*	20.2	27.8
Break and enter	18.4	17.2
Theft	28.7	28.0
Property damage*	28.4	20.2
Public order*	19.5	25.8
Justice procedures*	6.6	20.9
Other*	5.7	10.4
Prior offence characteristics		
Prior court finalisations (0)	75.8	55.8
Prior court finalisations (1)	16.4	21.9
Prior court finalisations (2)	5.2	10.7
Prior court finalisations (3+)*	2.6	11.6
Prior conference*	12.1	19.9
Prior cautions (0)	37.5	38.0
Prior cautions (1)	23.5	26.2
Prior cautions (2)	20.9	21.3
Prior cautions (3+)	18.1	14.6
Serious violence*	4.8	12.2
Non-serious violence*	8.6	19.9
Break and enter*	6.2	14.1
Theft*	13.5	25.6
Property damage*	8.2	17.9
Public order*	8.1	19.7
Traffic*	5.6	10.8
Justice procedures*	3.9	13.8
Other*	3.4	6.2

* Chi-square test of association *p*-value was less than .05, indicating a difference between groups.

Among the 1,041 people in the conference group who met the study eligibility criteria, 142 (13.6%) did not complete a conference outcome plan. Of these 142 young people, 93 (65.5%) agreed to an outcome plan but failed to complete the various components of the plan; 25 (17.6%) young people did not attend the arranged conference thus no outcome plan was negotiated; for 15 (10.6%) young people, the conference was discontinued either by the young person or by the court; and the remainder did not complete for some other reason (*n* = 9). Of the 1,041 people in the conference group who met the study eligibility criteria, 541 (52.0%) were referred to a conference by court and 500 (48.0%) were referred to a conference by police.

The analysis of re-offending outcomes is presented in two sections. The first section compares re-offending outcomes for those referred to a conference and those referred to court on the basis of intention-to-treat. The second analyses, the as-treated analyses, compare young offenders who completed their conference outcome plans with those referred to court.

Figure 2. Distribution of propensity scores predicting an index conference versus court finalisation, by group before and after matching (n = 3,201)



INTENTION-TO-TREAT ANALYSIS

Propensity score matching

Propensity scores predicting having an index conference rather than an index court finalisation were derived from the logistic regression model presented in Appendix Table A1. The model using the unmatched samples (*n* = 3,201) significantly predicted conference group membership (Pseudo R^2 = .116, Likelihood ratio chi-square $p < .001$). However, as required, the model using the matched samples (*n* = 1,836) did not predict conference group membership (Pseudo R^2 = .002, Likelihood ratio chi-square $p > .999$), indicating the matched samples were balanced.

Standardised bias (SB) values for the matched and unmatched samples are presented in Appendix Table A2. Before matching, only seven of the 25 variables examined had an SB absolute value of less than 10 and were deemed balanced. After matching, all of the 25 variables examined had an SB absolute value of less than 10 (< |4.6|), indicating they were balanced.

Figure 3. Differences in proportions of demographic, index offence and prior offence characteristics between conference and court groups, before and after matching (n = 3,201)

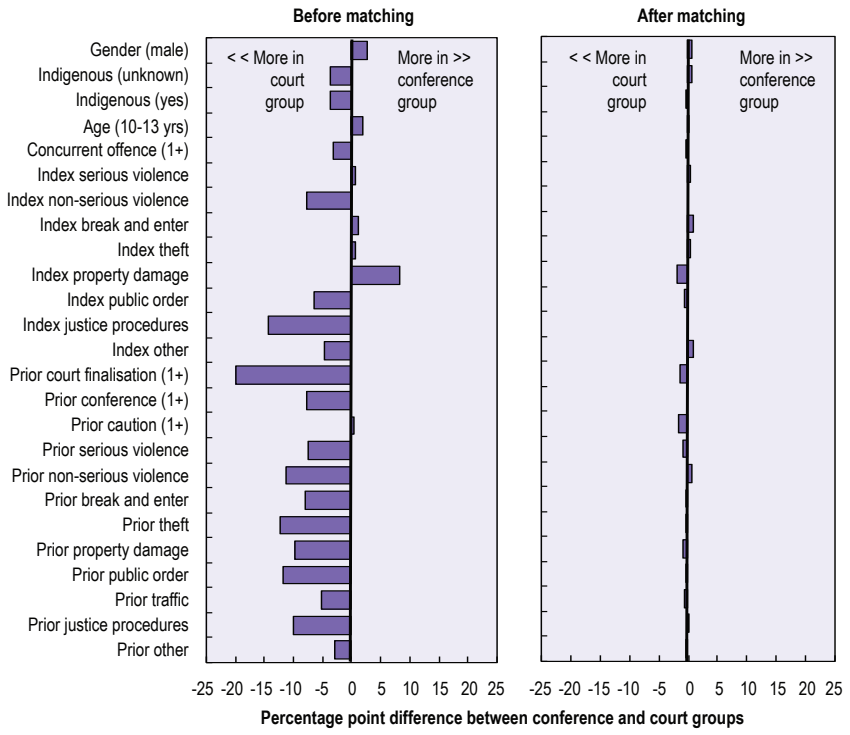


Figure 2 presents the distributions of the propensity scores across young persons in the conference and court groups and indicates whether the young person was matched or unmatched. The distributions of propensity scores for the matched conference (*n* = 918) and court (*n* = 918) groups were very similar. Among the 1,041 young persons in the conference group, 123 young persons (11.8%) were not matched and had propensity scores at the upper end of the distribution, that is, they had a high predicted probability of having an index conference (all propensity scores greater than .54). Conversely, among the 2,160 young persons in the court group, 1,242 young persons (57.5%) were not matched and had propensity scores at the lower end of the distribution, that is, they had a low predicted probability of having an index conference (all propensity scores less than .53).

Finally, balance between the conference and court groups before and after matching was examined by comparing the percentage point difference in each explanatory variable between the groups (Figure 3). The percentage point difference for each explanatory variable between the conference and court groups was greatly reduced after matching. Taken together, the statistics in this subsection strongly suggest that the matched conference and court groups are similar in terms of the 25 variables that were expected to influence allocation to a conference and/or re-offending.

Re-offending outcomes

Table 2 presents descriptive statistics (percentages and means) of the re-offending outcomes for the conference and court groups for the matched samples and for the weighted samples.

Table 2. Re-offending outcomes for the conference and court groups, matched (n = 1,836) and weighted samples (n = 3,201)

	Matched sample (*n* = 1,836)		Weighted sample (*n* = 3,201)[a]	
Re-offending outcome	Conference group	Court group	Conference group	Court group
Re-offended within 24 months of index date				
Per cent	64.4	64.8	67.0	66.5
95% confidence interval	(61.2, 67.5)	(61.6, 67.9)	(63.2, 70.9)	(64.4, 68.6)
Most serious re-offence more serious than the most serious index offence				
Per cent	47.7	50.2	51.1	51.0
95% confidence interval	(44.4, 51.0)	(46.9, 53.5)	(46.8, 55.4)	(48.8, 53.2)
Number of days to first re-offence for persons who re-offended				
Mean	294.9	288.9	277.5	275.1
95% confidence interval	(274.3, 315.5)	(267.6, 310.3)	(256.0, 298.9)	(261.1, 289.1)
Number of re-appearances within 24 months of the index date				
Mean	1.56	1.60	1.67	1.67
95% confidence interval	(1.46, 1.67)	(1.49, 1.71)	(1.49, 1.85)	(1.60, 1.74)

[a] Percentages and means are weighted.

Table 3. Unadjusted and adjusted differences in re-offending outcomes for the conference group versus the court group, matched (n = 1,836) and weighted analyses (n = 3,201)

	Matched sample (n = 1,836)[a]		Weighted sample (n = 3,201)[b]	
Re-offending outcome	Unadjusted	Adjusted[c]	Unadjusted	Adjusted[c]
Re-offended within 24 months of index date				
Odds ratio (95% confidence interval)	0.98 (0.82, 1.18)	1.00 (0.81, 1.23)	1.02 (0.84, 1.25)	1.07 (0.88, 1.30)
p-value	*.838*	*.986*	*.822*	*.486*
Most serious re-offence more serious than the most serious index offence				
Odds ratio (95% confidence interval)	0.90 (0.75, 1.09)	0.90 (0.73, 1.12)	1.00 (0.83, 1.22)	1.02 (0.82, 1.27)
p-value	*.293*	*.357*	*.979*	*.850*
Number of days to first re-offence				
Hazard ratio (95% confidence interval)	0.93 (0.84, 1.03)	0.96 (0.86, 1.07)	0.95 (0.85, 1.06)	1.00 (0.91, 1.11)
p-value	*.186*	*.490*	*.319*	*.951*
Number of re-appearances within 24 months of the index date				
Incident rate ratio (95% confidence interval)	0.98 (0.89, 1.07)	0.97 (0.89, 1.07)	1.00 (0.89, 1.12)	1.00 (0.91, 1.09)
p-value	*.632*	*.575*	*.985*	*.965*

[a] Estimates account for the matched nature of the data.
[b] Estimates are weighted.
[c] Adjusted for the offenders' demographic, index offence and prior offence characteristics.

Table 3 shows the treatment effect estimates (that is, the effect of conferencing) on re-offending outcomes for the matched and weighted analyses. The following sub-sections present the descriptive statistics and treatment effect estimates for each re-offending outcome in turn.

Re-offending within 24 months

As shown in Tables 2 and 3, there was no significant difference in the unadjusted rate of re-offending within 24 months of the index appearance between the matched conference group (64.4%) and the matched court group (64.8%, p =.838). This lack of an effect remained after covariate adjustment (p =.986). Similarly, there was no difference between the weighted conference and court samples in the rate of re-offending before (p =.822) and after (p =.486) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses (Appendix Table A3).

Re-offending seriousness

As shown in Tables 2 and 3, there was no significant difference in the unadjusted proportion of young people who had a new offence that was more serious than their most serious index offence between the matched conference group (47.7%) and the matched court group (50.2%, p =.293). This lack of an effect remained after covariate adjustment (p =.357). Similarly, there was no difference between the weighted conference and court samples in the proportion of young people who had a new offence that was more serious than their most serious index offence before (p =.822) and after (p =.486) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses (Appendix Table A3).

Time to first re-offence

As shown in Tables 2 and 3, there was no significant difference in the unadjusted mean number of days from the index date to the first proven re-offence between the matched conference group (mean = 294.9, 95% confidence interval 274.3 to 315.5) and the matched court group (mean = 288.9, 95% confidence interval 267.6 to 310.3, p =.186). This lack of an effect remained after covariate adjustment (p =.490). Similarly, there was no difference between the weighted conference and court samples in the number of days from the index date to the first proven re-offence before (p =.319) and after (p =.951) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses (Appendix Table A3).

Number of re-appearances within 24 months

As shown in Tables 2 and 3, there was no significant difference in the unadjusted mean number of re-appearances within 24 months of the index date between the matched conference group (mean = 1.56, 95% confidence interval 1.46 to 1.67) and the matched court group (mean = 1.60, 95% confidence interval 1.49 to 1.71, p =.632). This lack of an effect remained after covariate adjustment (p =.575). Similarly, there was no difference between the weighted conference and court samples in the number of re-appearances within 24 months of the index date before (p =.985) and after (p =.965) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses (Appendix Table A3).

AS-TREATED ANALYSIS

This section compares young people who completed their index conference outcome plan with those who had an index court finalisation. This allows us to see whether the removal from the conference group of those who failed to complete their outcome plan makes any difference to re-offending outcomes. It is important to remember that the results of the 'as-treated' analysis should not be regarded as an alternative or a 'fairer' comparison than those involving 'intention-to-treat'. These results simply provide some idea of the maximum possible effect of conferencing on re-offending if there was no bias in comparing those who went to court and those who completed their outcome plan.

Propensity score matching

Young offenders who *completed* their outcome plan for their index conference (n = 899, 86.4% of the 1,041 young persons in the conference group; hereafter referred to as the *completed plan group*) were matched to young persons who had a court finalisation (n = 2,160; hereafter referred to as the *court group*). Propensity scores that predict an index conference with a completed plan rather than an index court finalisation were derived from the logistic regression model presented in Appendix Table A4. The model using the unmatched samples (n = 3,059) significantly predicted membership in the completed plan group (Pseudo R^2 = .122, Likelihood ratio chi-square p < .001). However, as expected, the model using the matched samples (n = 1,618) did not predict completed plan group membership (Pseudo R^2 = .004, Likelihood ratio chi-square p = .999), indicating the matched samples were balanced.

Standardised bias (SB) values for the matched and unmatched samples are presented Appendix Table A5. Before matching, only six of the 25 variables examined had an SB absolute value of less than 10 and were deemed balanced. After matching, all of the 25 variables examined had an SB absolute value of less than 10 (< |4.6|), indicating they were balanced.

Appendix Figure A1 presents the distribution of the propensity scores across young persons in the completed plan and court groups and indicates whether the young person was matched or unmatched. The distributions of the propensity scores for the matched samples for the completed plan (n = 809) and court

(n = 809) groups were very similar. The 90 young persons in the completed plan group who were not matched had propensity scores at the upper end of the distribution, that is, they had a high predicted probability of being in the completed plan group (all propensity scores greater than .53). Conversely, the 1,351 young persons in the court group who were not matched had propensity scores at the lower end of the distribution, that is, they had a low predicted probability of being in the completed plan group (all propensity scores less than .50).

Finally, balance between the two groups was examined by comparing the percentage point difference in each explanatory variable between the groups (Appendix Figure A2). The percentage point difference for each explanatory variable between the completed plan and court groups was greatly reduced after matching. Taken together, the statistics in this subsection strongly suggest that the matched young persons who completed their index conference outcome plan and young persons with an index court finalisation are similar in terms of the 25 variables explored that were expected to influence allocation to a conference with a completed outcome plan and/or re-offending.

Re-offending outcomes

Re-offending within 24 months

As shown in Appendix Tables A6 and A7, there was no significant difference in the unadjusted rate of re-offending within 24 months of the index appearance between the matched conference completed plan group (62.2%) and the matched court group (64.5%, p =.324). This lack of an effect remained after covariate adjustment (p =.367). Similarly, there was no difference between the weighted conference completed plan and court samples in the rate of re-offending within 24 months of the index appearance before (p =.729) and after (p =.997) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses Appendix Table A8).

Re-offending seriousness

As shown in Appendix Tables A6 and A7, there was no significant difference in the unadjusted proportion of young people who had a new offence that was more serious than their most serious index offence between the matched conference completed plan group (47.2%) and the matched court group (48.7%, p =.548). This lack of an effect remained after covariate adjustment (p =.539). Similarly, there was no difference between the weighted conference completed plan and court samples in the proportion of young people who had a new offence that was more serious than their index offence before (p =.675) and after (p =.821) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses (Appendix Table A8).

Time to first re-offence

As shown in Appendix Tables A6 and A7, the unadjusted mean number of days from the index date to the first proven re-offence was greater for the matched conference completed plan group (mean = 321.7, 95% confidence interval 299.0 to 344.5) than the matched court group (mean = 290.0, 95% confidence interval 267.0 to 313.0, p =.029). This difference remained after covariate adjustment (p =.024). Longer time to first re-offence was also found when justice procedures were excluded from the definition of re-offending for the matched analyses (unadjusted p = .047, covariate adjusted p = .050; Appendix Table A8). In contrast, there was no difference between the weighted conference completed plan and court samples in the number of days from the index date to the first proven re-offence before (p =.098) and after (p =.419) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for the weighted analyses (Appendix Table A8).

Number of re-appearances within 24 months

As shown in Appendix Tables A6 and A7, there was no significant difference in the unadjusted number of re-appearances within 24 months of the index date between the matched conference completed plan group (mean = 1.47, 95% confidence interval 1.36 to 1.58) and the matched court group (mean = 1.58, 95% confidence interval 1.47 to 1.69, p =.159). This lack of an effect remained after covariate adjustment (p =.093). Similarly, there was no difference between the weighted conference completed plan and court samples in the number of re-appearances within 24 months of the index date before (p =.760) and after (p =.654) covariate adjustment. The lack of a difference between groups remained when justice procedures offences were excluded from the definition of re-offending for both the matched and weighted analyses (Appendix Table A8).

DISCUSSION

The aim of the current study was to determine whether conferences held under the *NSW Young Offenders Act 1997* are more effective than court in reducing the risk and seriousness of further offending among juvenile offenders. Two sets of analyses were carried out to address this question. In the first set of analyses, the intention-to-treat analyses, offenders referred either to conference or court were compared to determine whether they differed in the likelihood of re-offending, the seriousness of re-offending, the time to re-offend or the frequency of re-offending. These comparisons were carried out with a definition of re-offending that encompassed any new proven offence as well as with a definition of re-offending that excluded justice procedures offences. In the second set of analyses, the as-treated analyses, the same pattern was followed except that those who *completed* their conference outcome plan were compared to those whose cases were dealt with in the NSW Children's Court.

After adjusting for other factors in the intention-to-treat analyses, no significant differences were found between conference and court participants in the proportion re-offending, the seriousness of their re-offending, the time to the first proven re-offence or the number of proven re-offences for both the matched and weighted analyses. The same pattern of non-significant results was obtained regardless of whether justice procedures offences were included or excluded from the definition of re-offending. The results were much the same in the 'as-treated' analyses, but with one exception. In this analysis, there was no difference between the completed conference outcome plan and court matched groups in the proportion re-offending, the seriousness of their re-offending or the number of proven re-offences, regardless of whether justice procedures offences were included or excluded from the definition of re-offending. However, in the propensity score matched analyses, the time to the first proven re-offence was found to be significantly longer for the conference group than for the court group. This effect was not confirmed in the weighted analyses. However, given the inevitable risk of bias in the 'as-treated' analysis and the absence of any effect in the weighted analysis, the results suggest that conferencing is no more effective than the Children's Court in delaying the time to the next offence.

Overall, the results suggest that there is no difference in re-offending outcomes after conferencing compared to court for conference eligible young people. However, as in all research, these conclusions are subject to a number of caveats. The first caveat is that it is possible that young persons allocated a conference were at higher risk of re-offending (prior to attending the conference) than those referred to court and that the effect of conferencing was to lower the risk of re-offending in the conference group leaving the two groups equally likely to re-offend. The difficulty with the suggestion that young persons allocated to a conference were more at risk of re-offending than those referred to a court is that, under the *NSW Young Offenders Act 1997,* higher risk juvenile offenders would be expected to be referred to court rather than to a conference. The second caveat is that there may have been an effect of conferencing that could not be detected with the sample sizes in the current study. The sample employed in the current study was not large enough to detect very small effects (e.g. reductions in re-offending of 5% or less) but it was large enough to detect effects of any substantial note.

The current findings obviously conflict with those obtained by Luke and Lind (2002) in their earlier evaluation of youth justice conferencing in NSW. There are two possible reasons for this. The first is that, as has already been noted, the lower re-offending rates among juveniles dealt with via a conference in their study might have been a selection artefact—with juveniles who would have received a caution prior to the introduction of the *NSW Young Offenders Act 1997* being referred to a conference after the legislation. Luke and Lind (2002) acknowledged this possibility in their report but considered that the strength and consistency of the difference in re-offending between their conference and court groups, coupled with the extensive controls employed, countered against a selection bias interpretation of their results. The alternative explanation is that conferencing in NSW is now (for some unknown reason) less effective than it was at the time Luke and Lind (2002) carried out their evaluation. This may be because conferences are less effectively administered than they were at the time of the Luke and Lind (2002) evaluation or because the profile of juvenile offenders attending conferences has changed in ways that make conferencing less effective. Neither explanation should be dismissed.

The question arises as to whether it would be possible to alter conferencing procedures in a way that would make conferencing more effective in reducing juvenile re-offending. If the evidence from other evaluations clearly suggested that conferencing overall was effective or that some forms of conferencing are more effective than others in reducing re-offending, these would be avenues worth pursuing. However, as noted in the Introduction, at this stage there is little credible evidence that any form of conferencing reduces the risk or seriousness of juvenile re-offending. There is some evidence that re-offending is less likely among juveniles attending a conference who feel remorse and/or who participate in a conference where the parties feel the outcome is the result of a genuine consensus (Hayes & Daly, 2003). There is also some evidence that juveniles who find the court experience stigmatizing are more likely to re-offend than juveniles who do not (McGrath, 2009). Yet it is far from clear that conferencing is required to engender these feelings or that they play any causal role in reducing re-offending. They may do little more than signal a pre-existing disposition not to engage in further offending.

There are three other points to note. The first point is that the current study only examined the effectiveness of conferencing, not its cost-effectiveness. If the Children's Court and conferencing produce similar outcomes in terms of re-offending and conferencing is found to be cheaper than the Children's Court, it could still be argued that conferencing is a more cost-effective way of dealing with certain classes of juvenile offending than referral to the Children's Court. Work is currently underway to assess the relative cost of a conference and a Children's Court appearance.

The second point to note is that reducing re-offending is only one of the aims of the criminal justice system. Another important aim is to do justice to victims and offenders. There is strong evidence that victims and offenders find the conference process satisfying and rewarding (e.g. People & Trimboli, 2007; Trimboli, 2000). There is also considerable public support for measures that allow the victim a say in how offenders are dealt with and that provide the offender with an opportunity to apologise and offer restitution (Prison Reform Trust, 2011). If conferencing gives victims of crime some measure of closure and relief while at the same

time restraining the public appetite for expensive but ineffective punishments, then it serves a valuable purpose. The challenge for policy makers is to devise a legal and administrative framework that allows police and/or courts to refer juvenile offenders to conferencing—while at the same time ensuring that those who need effective intervention and support to reduce the risk of further offending receive it.

Finally, the current findings raise challenges for researchers. Although the available evidence provides little support for the specific proposition that conferences reduce re-offending, the general proposition that stigmatizing juveniles increases the risk of re-offending may still be correct for some subsets of offenders. Instead of assuming (as most seem to) that courts are more stigmatizing than conference proceedings and that higher levels of stigmatization increase the risk of re-offending, these conjectures should be subjected to empirical test. McGrath (2009) is the only study to date that appears to have pursued this line of enquiry. He found that while some young offenders regard the court process as stigmatising, many do not. He also found that those who find it stigmatizing are at greater risk of re-offending. It is possible that some of those who attend conferences also find the experience stigmatizing and, as a result, are more likely to re-offend. If conference and court are both stigmatizing experiences for some groups of offenders we would not necessarily expect to find differences between them in rates of re-offending. Further research is clearly needed into the psychological reaction of young offenders to adjudicatory hearings and how their reactions influence the risk of further offending.

CONCLUSION

Taken as a whole, this study strongly suggests that the conference regime established under the *NSW Young Offenders Act 1997* is no more effective than the NSW Children's Court in reducing the risk of juvenile re-offending, reducing the seriousness of juvenile re-offending, delaying the time to the next offence or reducing the number of new offences committed by juveniles.

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NOTES

1. They also examined the effect of conferencing on drink-driving but that is not relevant here.
2. For the purposes of analysis, offenders were included in the groups to which they were assigned rather than the groups where they finished.
3. The terms 'conviction' and 'reconviction' refer to all proven offences including those that resulted in a caution or a conference, not just those that resulted in a finalised court appearance.
4. The Young Offenders Act 1997 does not explicitly exclude young persons being aged over 18 years at the time of the conference or court finalisation, only that the young person is aged less than 18 years at the time of the offence. However, only one person out of 1,391 persons was aged over 18 years at the time of their conference compared with 128 out of 3,986 persons who were aged over 18 years at the time of their court finalisation. Hence, to make the conference and court groups as similar as possible, records for persons aged over 18 years at the time of their conference or court finalisation were excluded.
5. Among the 208 records where a conference was set and the outcome plan was not completed (including those who did not meet the eligibility criteria) there were two main reasons. First, an outcome plan was agreed to but the plan was never completed (n = 139). Second, an outcome plan was never defined for reasons such as failure of the young person to attend the conference (n = 37), the conference being discontinued by the court (n = 17) or young person (n = 4) or failure of the young person to agree to an outcome plan (n = 3).
6. Previous research comparing re-offending after a conference or a finalised court matter has sometimes used the date the outcome plan was completed as the index date from which to monitor re-offending (e.g. Smith, 2010). However, in the current study, the conference date was considered more appropriate because it is more similar to the court finalisation date. Further, those who do not complete their conference outcome plan do not have a conference completion date.
7. At the time the data was extracted for the current study, data were available for court finalisations, conference completions, and police cautions up until 31 December 2010. Only re-offences that were committed after the index date up until 30 June 2010 were counted to ensure there was at least six months of time from the re-offence date for the re-offence to result in either a court finalisation, a conference completion or a police caution.

8. Only 39 of the 3,201 persons in the conference and court cohorts had any days in custody in the follow-up period. The same substantive results were obtained for both the models adjusting for the number of days in custody in the follow-up period and the models not adjusting for days in custody. Hence, the results presented here are not adjusted for the number days in custody.
9. Justice procedures offences were defined as Australian and New Zealand Standard Offence Classification (ANZSOC) Division 15 offences (Australian Bureau of Statistics, 2011).
10. Indicator/dummy variables for Indigenous status were created because variables cannot be nominal in STATA's psmatch2.
11. If balance on all the explanatory variables within matched pairs was not achieved, the propensity score model was refined by the inclusion of interaction terms and balance on all the explanatory variables within matched pairs was re-assessed (Austin, 2007). This procedure was repeated until balance was achieved on all the explanatory variables within matched pairs.

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APPENDIX

Table A1. Logistic regression model predicting an index conference versus court finalisation (n = 3,201)

Variable	Odds ratio (95% confidence interval)	Coefficient *p*-value
Demographic characteristics		
Gender (female vs male)	1.06 (0.87, 1.30)	.554
Indigenous (unknown vs other)	0.41 (0.28, 0.60)	<.001
Indigenous (yes vs other)	0.89 (0.75, 1.07)	.225
Age	0.94 (0.88, 1.00)	.035
Index offence characteristics		
Number of concurrent offences	1.44 (1.27, 1.62)	<.001
Serious violence (yes vs no)	0.68 (0.51, 0.89)	.006
Non-serious violence (yes vs no)	0.47 (0.37, 0.60)	<.001
Break and enter (yes vs no)	0.56 (0.42, 0.73)	<.001
Theft (yes vs no)	0.61 (0.48, 0.78)	<.001
Property damage (yes vs no)	0.94 (0.74, 1.19)	.596
Public order (yes vs no)	0.48 (0.38, 0.61)	<.001
Justice procedures (yes vs no)	0.20 (0.15, 0.28)	<.001
Other (yes vs no)	0.25 (0.17, 0.37)	<.001
Prior offence characteristics		
Number of prior court finalisations	0.74 (0.61, 0.89)	.002
Prior conference	0.87 (0.65, 1.18)	.378
Number of prior cautions	1.23 (1.14, 1.34)	<.001
Serious violence (yes vs no)	0.62 (0.43, 0.88)	.008
Non-serious violence (yes vs no)	0.81 (0.59, 1.09)	.166
Break and enter (yes vs no)	0.73 (0.51, 1.03)	.071
Theft (yes vs no)	0.78 (0.58, 1.05)	.097
Property damage (yes vs no)	0.82 (0.60, 1.12)	.210
Public order (yes vs no)	0.72 (0.53, 0.99)	.043
Traffic (yes vs no)	1.05 (0.73, 1.51)	.774
Justice procedures (yes vs no)	0.66 (0.45, 0.98)	.037
Other (yes vs no)	1.23 (0.79, 1.92)	.361

Table A2. Standardised bias before (n = 3,201) and after (n = 1,836) matching the conference group to the court group

	Unmatched (n = 3,201)	Matched (n = 1,836)
	Standardised bias	Standardised bias
Demographic characteristics		
Gender (male)	6.3	1.6
Indigenous (unknown)	-16.3	3.3
Indigenous (yes)	-7.8	-0.9
Age	-15.3	-2.3
Index offence characteristics		
Number of concurrent offences	-8.1	-0.2
Serious violence	2.3	1.0
Non-serious violence	-18.0	0.0
Break and enter	3.1	2.6
Theft	1.7	1.0
Property damage	19.2	-4.6
Public order	-15.2	-1.6
Justice procedures	-42.4	0.0
Other	-17.4	3.6
Prior offence characteristics		
Number of prior court finalisations	-49.0	-2.7
Prior conference	-21.3	0.0
Number of prior cautions	6.4	1.1
Serious violence	-26.7	-2.8
Non-serious violence	-32.9	2.2
Break and enter	-26.6	-0.7
Theft	-31.0	-0.8
Property damage	-29.1	-2.3
Public order	-34.2	-0.6
Traffic	-19.3	-2.0
Justice procedures	-35.3	0.4
Other	-13.2	-1.0

Table A3. Unadjusted and adjusted differences in re-offending outcomes (excluding justice procedures offences) for the conference group versus the court group, matched (n = 1,836) and weighted analyses (n = 3,201)

	Matched sample (n = 1,836)[a]		Weighted sample (n = 3,201)[b]	
Re-offending outcome	Unadjusted	Covariate adjusted[c]	Unadjusted	Covariate adjusted[c]
Re-offended within 24 months of index date (excluding justice procedures offences)				
Odds ratio (95% confidence interval)	1.01 (0.84, 1.21)	1.03 (0.84, 1.27)	1.03 (0.84, 1.26)	1.08 (0.89, 1.32)
p-value	*.918*	*.742*	*.757*	*.422*
Most serious re-offence more serious than the most serious index offence (excluding justice procedures offences)				
Odds ratio (95% confidence interval)	0.90 (0.74, 1.09)	0.90 (0.72, 1.12)	0.94 (0.77, 1.14)	0.92 (0.75, 1.13)
p-value	*.271*	*.344*	*.513*	*.408*
Number of days to first re-offence (excluding justice procedures offences)				
Hazard ratio (95% confidence interval)	0.94 (0.85, 1.05)	0.98 (0.88, 1.09)	0.95 (0.85, 1.06)	1.01 (0.92, 1.12)
p-value	*.284*	*.709*	*.378*	*.830*
Number of re-appearances within 24 months of the index date (excluding justice procedures offences)				
Incident rate ratio (95% confidence interval)	0.98 (0.89, 1.08)	0.98 (0.90, 1.07)	1.00 (0.89, 1.13)	1.00 (0.91, 1.10)
p-value	*.737*	*.695*	*.963*	*.970*

[a] Estimates control for the matched nature of the data.
[b] Estimates are weighted.
[c] Adjusted for the offenders' demographic, index offence and prior offence characteristics.

Table A4. Logistic regression model predicting an index conference with a completed outcome plan versus an index court finalisation (n = 3,059)

Variable	Odds ratio (95% confidence interval)	Coefficient *p*-value
Demographic characteristics		
Gender (female vs male)	1.09 (0.88, 1.35)	.434
Indigenous (unknown vs other)	0.38 (0.25, 0.57)	<.001
Indigenous (yes vs other)	0.83 (0.69, 1.01)	.066
Age	0.96 (0.90, 1.02)	.175
Index offence characteristics		
Number of concurrent offences	1.47 (1.29, 1.67)	<.001
Serious violence (yes vs no)	0.64 (0.48, 0.87)	.004
Non-serious violence (yes vs no)	0.47 (0.37, 0.61)	<.001
Break and enter (yes vs no)	0.53 (0.40, 0.71)	<.001
Theft (yes vs no)	0.57 (0.44, 0.73)	<.001
Property damage (yes vs no)	0.90 (0.70, 1.15)	.389
Public order (yes vs no)	0.46 (0.36, 0.59)	<.001
Justice procedures (yes vs no)	0.19 (0.14, 0.27)	<.001
Other (yes vs no)	0.23 (0.15, 0.35)	<.001
Prior offence characteristics		
Number of prior court finalisations	0.70 (0.57, 0.87)	.001
Prior conference	0.84 (0.61, 1.16)	.292
Number of prior cautions	1.25 (1.14, 1.36)	<.001
Serious violence (yes vs no)	0.60 (0.41, 0.89)	.010
Non-serious violence (yes vs no)	0.79 (0.57, 1.10)	.166
Break and enter (yes vs no)	0.78 (0.54, 1.13)	.192
Theft (yes vs no)	0.73 (0.53, 1.01)	.058
Property damage (yes vs no)	0.88 (0.63, 1.24)	.473
Public order (yes vs no)	0.77 (0.54, 1.08)	.125
Traffic (yes vs no)	1.00 (0.68, 1.49)	.983
Justice procedures (yes vs no)	0.61 (0.40, 0.95)	.027
Other (yes vs no)	1.21 (0.74, 1.96)	.450

Table A5. Standardised bias before (n = 3,059) and after (n = 1,618) matching the conference completed plan group to the court group

	Unmatched (n = 3,059)	Matched (n = 1,618)
	Standardised bias	Standardised bias
Demographic characteristics		
Gender (male)	7.5	-2.4
Indigenous (unknown)	-17.3	2.2
Indigenous (yes)	-11.9	-1.3
Age	-12.3	-0.1
Index offence characteristics		
Number of concurrent offences	-8.6	1.3
Serious violence	2.9	3.7
Non-serious violence	-16.1	-4.3
Break and enter	2.5	-1.3
Theft	-0.1	3.9
Property damage	18.5	-0.6
Public order	-15.5	2.4
Justice procedures	-43.1	-2.2
Other	-17.8	0.5
Prior offence characteristics		
Number of prior court finalisations	-52.3	1.4
Prior conference	-22.6	3.4
Number of prior cautions	5.9	1.7
Serious violence	-28.3	0.9
Non-serious violence	-34.8	-2.9
Break and enter	-27.2	4.6
Theft	-34.3	4.2
Property damage	-29.3	1.9
Public order	-35.2	3.6
Traffic	-21.2	0.5
Justice procedures	-37.6	-2.2
Other	-14.5	-2.9

Table A6. Re-offending outcomes for the conference completed plan and court groups, matched (n = 1,618) and weighted samples (n = 3,059)

Re-offending outcome	Matched sample (*n* = 1,836)		Weighted sample (*n* = 3,201)[a]	
	Completed plan group	Court group	Completed plan group	Court group
Re-offended within 24 months of index date				
Per cent	62.2	64.5	65.5	66.4
95% confidence interval	(58.7, 65.5)	(61.1, 67.8)	(60.9, 70.1)	(64.3, 68.5)
Most serious re-offence more serious than the most serious index offence				
Per cent	47.2	48.7	49.7	50.9
95% confidence interval	(43.7, 50.7)	(45.2, 52.2)	(44.5, 55.0)	(48.7, 53.1)
Number of days to first re-offence for persons who re-offended				
Mean	321.7	290.0	294.3	275.3
95% confidence interval	(299.0, 344.5)	(267.0, 313.0)	(268.0, 320.5)	(261.3, 289.4)
Number of re-appearances within 24 months of the index date				
Mean	1.47	1.58	1.63	1.67
95% confidence interval	(1.36, 1.58)	(1.47,1.69)	(1.39, 1.86)	(1.59, 1.74)

[a] Percentages and means are weighted.

Table A7. Unadjusted and adjusted differences in re-offending outcomes for the conference completed plan group versus the court group, matched (n = 1,618) and weighted analyses (n = 3,059)

	Matched sample (n = 1,618)[a]		Weighted sample (n = 3,059)[b]	
Re-offending outcome	Unadjusted	Covariate adjusted[c]	Unadjusted	Covariate adjusted[c]
Re-offended within 24 months of index date				
Odds ratio (95% confidence interval)	0.90 (0.74, 1.11)	0.90 (0.72, 1.13)	0.96 (0.77, 1.20)	1.00 (0.81, 1.23)
p-value	*.324*	*.367*	*.729*	*.997*
Most serious re-offence more serious than the most serious index offence				
Odds ratio (95% confidence interval)	0.94 (0.78, 1.14)	0.93 (0.75, 1.16)	0.95 (0.76, 1.20)	0.97 (0.75, 1.25)
p-value	*.548*	*.539*	*.675*	*.821*
Number of days to first re-offence				
Hazard ratio (95% confidence interval)	0.88 (0.79, 0.99)	0.87 (0.78, 0.98)	0.90 (0.79, 1.02)	0.96 (0.86, 1.08)
p-value	*.029*	*.024*	*.098*	*.419*
Number of re-appearances within 24 months of the index date				
Incident rate ratio (95% confidence interval)	0.93 (0.84, 1.03)	0.92 (0.83, 1.01)	0.98 (0.84, 1.14)	0.98 (0.65, 1.08)
p-value	*.159*	*.093*	*.760*	*.654*

[a] Estimates control for the matched nature of the data.
[b] Estimates are weighted.
[c] Adjusted for the offenders' demographic, index offence and prior offence characteristics

Table A8. Unadjusted and adjusted differences in re-offending outcomes (excluding justice procedures offences) for the conference completed plan group versus the court group, matched (n = 1,618) and weighted analyses (n = 3,059)

	Matched sample (n = 1,618)[a]		Weighted sample (n = 3,059)[b]	
Re-offending outcome	Unadjusted	Covariate adjusted[c]	Unadjusted	Covariate adjusted[c]
Re-offended within 24 months of index date (excluding justice procedures)				
Odds ratio (95% confidence interval)	0.93 (0.76, 1.13)	0.93 (0.75, 1.16)	0.97 (0.78, 1.21)	1.01 (0.82, 1.25)
p-value	*.466*	*.526*	*.809*	*.889*
Most serious re-offence more serious than the most serious index offence (excluding justice procedures)				
Odds ratio (95% confidence interval)	0.95 (0.78, 1.15)	0.93 (0.74, 1.16)	0.85 (0.68, 1.05)	0.82 (0.66, 1.02)
p-value	*.580*	*.500*	*.139*	*.075*
Number of days to first re-offence (excluding justice procedures)				
Hazard ratio (95% confidence interval)	0.89 (0.79, 1.00)	0.89 (0.79, 1.00)	0.90 (0.80, 1.03)	0.96 (0.86, 1.07)
p-value	*.047*	*.050*	*.124*	*.514*
Number of re-appearances within 24 months of the index date (excluding justice procedures)				
Incident rate ratio (95% confidence interval)	0.93 (0.84, 1.04)	0.92 (0.84, 1.02)	0.98 (0.83, 1.15)	0.96 (0.88, 1.06)
p-value	*.195*	*.108*	*.777*	*.445*

[a] Estimates control for the matched nature of the data.
[b] Estimates are weighted.
[c] Adjusted for the offenders' demographic, index offence and prior offence characteristics

Figure A1. Distribution of propensity scores predicting an index conference with a completed outcome plan versus an index court finalisation, by group before and after matching (n = 3,059)

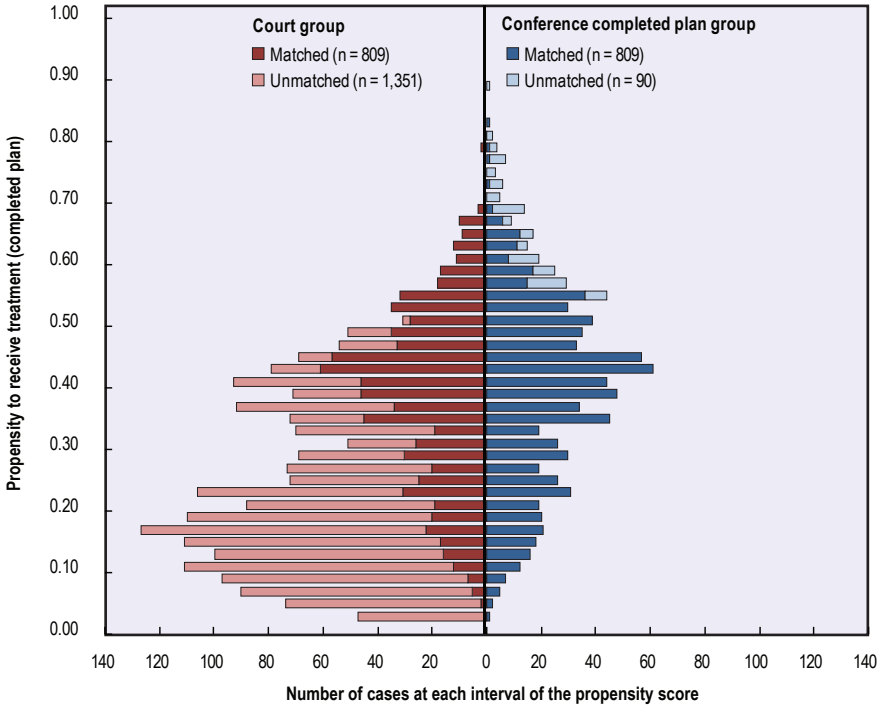
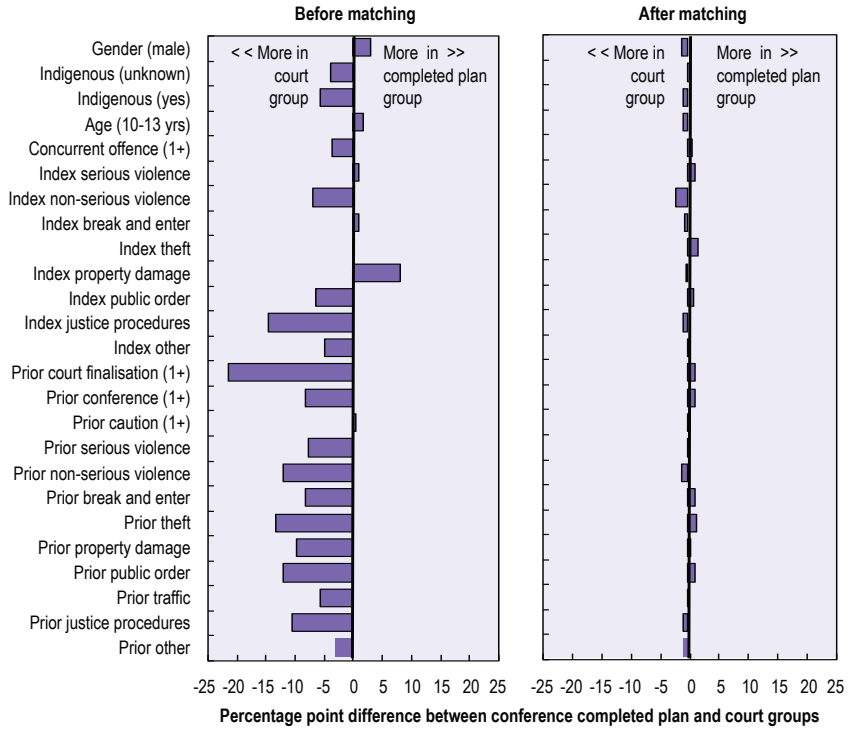


Figure A2. Differences in proportions of demographic, index offence and prior offence characteristics between conference completed plan and court groups, before and after matching (n = 3,059)



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