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6	Restorative Justice for Domestic Violence Offenders:
7	A Randomized Controlled Trial
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1	Abstract
2	Over 2,500 Batterer Intervention Programs (BIPs) now serve millions of domestic violence
3	(DV) offenders each year. While BIPs aim to reduce DV, empirical studies show weak
4	outcomes and high attrition rates. Restorative justice (RJ) provides promising results in other
5	areas of crime prevention and reduction. A Utah-based study employed a randomized
6	controlled design to assess both recidivism and harm reduction over a 24-month period,
7	comparing a BIP-only intervention (standard treatment) and a BIP plus RJ program (hybrid
8	treatment). The findings show that the hybrid treatment program results
9	in significant reductions in new arrests (53%) and severity (52%). We conclude that a hybrid
10	BIP plus RJ program is more effective than a BIP-only approach. At the very least, we show
11	that RJ is a viable alternative treatment option for DV crimes, challenging the assumption
12	that RJ and more specifically, victim participation in treatment, should be forbidden.
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14	Key terms: Batterer Intervention Programs; Circles of Peace, domestic violence;
15	offender treatment; randomized controlled trial; restorative justice

Restorative Justice for Domestic Violence Offenders:

2	A Randomized Controlled Trial
3	Domestic violence (DV), defined broadly as violence perpetrated by an intimate
4	partner or family member against another, is a global phenomenon affecting millions of
5	individuals, families, and communities worldwide. In the United States (US), the Bureau of
6	Justice Statistics reports that from 2003-2012, DV accounted for 21% of all violent crime
7	(15% intimate partner violence (IPV), 4% violence committed by immediate family
8	members, and 2% other relatives), with 76% of DV being committed against females and
9	24% against males (Turman & Morgan, 2014). Additionally, the Centers on Disease Control
10	and Prevention reports that more than half (55%) of all homicides are IPV related (Petrosky,
11	et al., 2017). In Utah, the site of this study, the latest available statistics report 264 DV-
12	related homicides between 2000-2013, for an average of 19 deaths per year (Utah Governor's
13	Office on Domestic and Sexual Violence, 2014). These homicides comprised 42.9% of the
14	murders committed in the state from 2000-2013 (Utah Governor's Office on Domestic and
15	Sexual Violence, 2014). In addition, between 2005 and 2008, there were 165 DV-related
16	suicides (Utah Department of Health, 2010). Although there are few precise statistics on non-
17	fatal injuries in Utah, it has been reported that 14.2% women have experienced IPV in their
18	lifetimes and 18.9% of women have experienced IPV in the past 12 months (Utah Governor's
19	Office on Domestic and Sexual Violence, 2014).
20	Every state in the US currently criminalizes DV. Arrest, prosecution, jail time
21	(depending on the severity of the violence), no contact orders, and court mandated treatment
22	are now considered the appropriate response to a DV incident. Most courts rely on Batterer
23	Intervention Programs (BIPs) to provide DV treatment in an effort to minimize future
24	incidents of violence among intimate partners and/or family members (Barner & Carney,
25	2011; Crockett et al., 2015). BIPs use a psychoeducational approach to treatment that aims to

hold offenders accountable for their crimes, drawing on the Duluth model of treatment (Pence 1 2 & Paymar, 1983). Duluth was developed in the early 1980s, specifically for intimate partner violence (IPV) with a male offender and female victim. As part of the Duluth approach, 3 offenders are taught to identify maladaptive behaviors and find non-violent alternatives, as 4 5 well as to change attitudes regarding power and control in intimate relationships (Cannon, 6 Hamel, Buttell, & Ferreira, 2016; Herman, Rotunda, Williamson, & Vodanovich, 2014). BIPs require an offender's participation over a period of weeks based on state standards, in which 7 several designated topics are addressed by a BIP or Duluth-trained "facilitator," including 8 9 nonviolence, non-threating behavior, respect, support and trust, accountability and honesty, sexual respect, partnership, and negotiation and fairness. Victims do not participate in BIP 10 treatment and are most often referred to separate individual therapy or support groups. Over 11 2,500 unique BIPs exist in the US; millions of offenders have been placed in these 12 interventions (Boal & Mankowski, 2014). 13 14 Research on BIPs reveals significant limitations in addressing the underlying problem of DV. BIPs have high rates of attrition (Babcock, Green, & Robie, 2004; Jewell & 15 Wormith, 2010; Price & Rosenbaum, 2009), ranging between 30 to 50 percent (Labriola et. 16 17 Al., 2007; Goldolf, 2009). Indeed, non-compliance in BIPs, in terms of attendance, remains the single strongest predictor for re-assault (Heckert & Gondolf, 2005). There is also limited 18 evidence that attitudinal and behavioral change occurs, once someone has participated in BIP 19 20 (Gondolf, 2000; Jackson et al., 2003). BIPs use shame to encourage offenders to take responsibility for their abusive actions. However, research suggests that shame can actually 21 22 elicit defensive and more violent reactions from offenders, which in turn prevents them from improving their overall attitudes and behaviors (Cheon & Regehr, 2006). Gondolf (2009) has 23 also shown that BIPs have little effect when compared to a probation-only intervention. BIP 24 remains the standard treatment for DV crimes, despite the fact that "numerous empirical 25

1 studies, literature reviews and meta-analyses of these prevailing programs have found little evidence that violence is reduced" (Corvo, Dutton & Chen, 2008, p. 112-113). 2 Other issues, in terms of BIP's effectiveness, relate directly to its underlying 3 philosophy. For example, BIPs fail to reflect the broader legal definition of DV used by all 4 5 US jurisdictions that includes intimate partner violence along with family violence and both 6 male and female offenders (Barocas, et. al., 2016). In addition, victim voices and/or participation are not an inherent feature of BIP, often preventing offenders from fully 7 understanding the consequences of their actions (Price & Rosenbaum, 2009; Mills, 8 9 Grauwiler, & Pezold, 2006). In an attempt to address the shortcomings of BIP programs, a number of states now 10 allow alternative treatment approaches for misdemeanor DV crimes (Barocas, Emery & 11 Mills, 2016). These alternatives include restorative justice and conjoint or couples treatments, 12 among others. Some states require that these alternative programs be offered following a 13 14 period of BIP treatment (e.g., Utah); other states allow these alternative options to be offered instead of BIP treatment (e.g., Arizona; see Mills, Barocas, & Ariel, 2013). From a 15 theoretical perspective, these alternatives are promising because they seek to reintegrate the 16 17 DV offender back into the community rather than push him or her away from society (Braithwaite, 1990) which can result in isolation and an increased risk for other dysfunctional 18 behaviors. Restorative and collaborative treatment models also provide options for voluntary 19 20 victim participation in their offender's treatment. The RJ process is a dialogue-based practice that seeks to address the social harms 21 22 caused by crime. RJ aims to 'restore' those affected, including victim, family, and community (Braithwaite, 2006). In a DV context, this is accomplished by connecting the 23 offender, a willing victim, and community members, in a safe and productive restorative 24

process (Cheon & Regehr, 2006). While RJ can include various methods, including victim-

1 offender mediation, family group conferencing, peacemaking, and sentencing circles, (see Ptacek, 2017), the key aspects are "the developments of corrective and rehabilitative action 2 for the offender through the cultivation of dialogue between victim and offender and between 3 4 the victim and professionals associated with the criminal justice system...Restorative justice 5 practices also aim at striking a necessary balance between serving the state's interest in 6 controlling harmful behavior and the victim's interest in preserving individual dignity, 7 personal integrity and the development of a healthy family life" (Elias 2015, p. 68). 8 Circles of Peace (CP), the RJ approach used in this study, is administered by a 'Circle 9 Keeper' (a RJ trained facilitator) for a designated number of sessions, depending on state standards, and includes the offender, with one or more of the following: a trained volunteer 10 community member, the offender's support person, the victim if s/he chooses to participate, 11 12 the victim's support person, and other family members as the Circle Keeper and the victim and offender see fit. By design, the victim can choose to participate in one or more or all 13 14 sessions (and can have a support person present in the circle with him or her) to avoid any suggestion of coercion; or can choose not to participate at all. Circles develop a sustainable 15 16 plan for change for the offender and focus on restoring the victim, the family, and the 17 community (see Prochaska et al., 1994). CP focuses specifically on DV-related topics including: a family history of abuse, typical triggers of violence, and the relevance of 18 socioeconomic status, cultural norms, racial oppression, and religious beliefs affecting the 19 20 dynamic of abuse (Mills, et al., 2013). In sharp contrast to BIPs, the CP model uses decisionmaking by consensus and a social compact that guides the weekly sessions. The social 21 22 compact, as opposed to a court order, provides the expectations for change and ensures behavioral monitoring, but also keeps the circle focused on restoring what has been lost due 23 to the crime. The social compact, agreed to by all parties to the Circle, is both a safety-24 25 monitoring mechanism and a collaborative agreement between the offender, victim, support

people, and community members that models honesty, transparency, and accountability in support of core RJ principles.

To our knowledge, there has been only one randomized controlled trial (RCT) on RJ-based interventions designed specifically for DV. Mills, Barocas, and Ariel (2013) tested a CP application of RJ in Nogales, Arizona, with 152 domestic violence cases randomly assigned to either BIP or CP. The experiment showed that CP participants experienced less recidivism than BIP during follow-up of up to 24 months, but the study did not produce statistically significant results at the .05 level due to the limited number of cases under investigation. At the very least, the Arizona experiment did not produce worse conditions than the standard court-mandated BIP, suggesting that RJ could be a safe alternative to conventional approaches to treatment.

There is ample evidence that RJ – compared to typical criminal justice processes – improves efficacy and cost-effectiveness (Sherman et al., 2015; Strang & Braithwaite, 2017; see also Latimer, Dowden, & Muise, 2005). Studies more often than not find that recidivism is reduced and victims are more satisfied when using an RJ intervention. There is also reason to believe that the RJ process is less expensive to implement when compared to traditional criminal justice processing (Shapland et al., 2008).

For some time, critics have argued that RJ is not applicable to the DV context for a variety of reasons, including: victim safety (Smith, 2010), a lack of attention to gender and racial inequalities (Stubbs, 2010), and difficulties in obtaining the willingness of the parties to engage in RJ in the first place (Latimer et al., 2005). Even though these concerns have been addressed (e.g., Pennell & Burford, 1994, Mills, Barocas & Ariel, 2013), there remains a degree of resistance among victim advocates and policy-makers to rely on RJ for DV crimes, despite consistent evidence that BIPs are ineffective and victims are seeking alternative forms of treatment, including conjoint options. More recently, however, there is a push for RJ in

1 DV cases, in several jurisdictions, including: New Zealand, Canada, Florida, Arizona, Utah

2 (Barocas et al., 2016), Austria (Van Ness, 2012), and South Africa (Dissel & Ngubeni, 2003),

to name a few. There are several types of RJ for DV, but collectively, their features are that

they "seek to hold offenders accountable; empower those who are victimized; allow for the

expression of feelings; clarify facts about the crime; provide an opportunity to address the

impact of the crime on the survivors and those around them; and come to an agreement about

how the offender can make amends" (Ptacek, 2017, p. 160).

8 Results

The study took place in Salt Lake City, Utah, where we compared a typical court-mandated BIP with the hybrid BIP plus restorative justice approach, CP. All eligible offenders (n=222) were randomly assigned to either the BIP only ("standard treatment") or the BIP plus CP ("hybrid treatment") during the 24-month study period with a 24-month follow-up period. Unlike previous tests of DV interventions, we also measured harm reduction rather than just counts of new crimes post-treatment.

Table 1 shows the key characteristics of the 222 participants, broken down into the two treatment groups. The sample was comprised of predominantly Caucasian males around the age of 33-34 who were employed during the time of intake assessment and who had a relatively short criminal record in the 24 months prior to the random assignment. Only a small percentage of the participants were legally married to their victims, and most of them did not have any children. A small percentage of the cases were 'dual arrests', meaning that both parties were arrested for domestic violence. None of the baseline comparisons yielded a statistically significant difference at the .05 threshold. In addition, a similar proportion of participants in the two treatment groups reported having suicidal tendencies—a key predictor of domestic homicide (see Button, Angel, & Sherman, 2017).

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2 3	Insert Table 1 here
4 5	Our study was comprised of 96 BIP only participants and 126 BIP plus CP (hybrid)
6	participants. At baseline (Table 1), the mean number of DV crimes committed by the
7	standard treatment group prior to random assignment ranged between one to nine, with a
8	mean number of crimes of 1.00 (SD=1.759), whereas the hybrid group ranged between one to
9	20, with a mean of 1.437 (SD=2.398). While the hybrid group appears more criminogenic at
10	baseline than the standard treatment group (thus making it more difficult to show an
11	improvement over the BIP only group), these differences are not statistically significant at the
12	.05 level, which suggests that the random assignment procedure, on average, created balanced
13	groups (see Table 2). In contrast, at post random assignment, the mean number of DV crimes
14	committed by the BIP group ranged between one and 14 (M=.604, SD=1.827), whereas the
15	BIP plus CP treatment group ranged at post random assignment between one and eight
16	(M=.373, SD=1.26).
17 18 19 20	Insert Table 2 here
21	Table 2 presents the parameter estimates for the regression models. It includes the
22	constant, the treatment effect of BIP plus CP, and the dependent variable at baseline as a
23	covariate. The table shows the unstandardized estimates and their respective standard errors,
24	the exponent for the covariate (Exp(b)), and its corresponding 95% Wald confidence
25	intervals. Our test produced a statistically significant reduction in reoffending within 24
26	months in the hybrid group compared to the standard treatment group, in the magnitude of
27	approximately 53% (Exp(B)=.470, 95% CI312, .707, p≤.001). Once we take into account
28	the baseline values of the dependent variable, the estimated marginal means show a

significant treatment effect as well (Figure 1), with .276 re-arrests (SE=.0462) in the hybrid

2 group compared to .587 re-arrests (SE=.0774) in the BIP-only group.

6 Table 2 also presents our findings on differences in severity of crime committed (a 7 harm reduction variable calculated based on Utah Adult Sentencing Guidelines) between the 8 two treatment groups (see explanation of the weighting of the crime categories in the 9 "Statistical Procedures" section). The results are similar to the count-based model for new 10 arrests. Severity was reduced by approximately 52% (Exp(B)=.480, 95% CI .385, .600). Figure 2 shows the estimated marginal means when taking into consideration the baseline 11 covariate: 1.776 (SE=.0793) and .853 (SE=.1323), respectively. In other words, the harm 12 13 caused to victims was halved in the hybrid treatment program compared to the standard treatment. 14

15 Discussion

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BIPs remain the primary treatment offered to perpetrators of DV nationwide, despite widespread evidence that BIPs are ineffective. Aaron and Beaulaurier (2017) recently reported that BIPs "have not been particularly effective at preventing recidivism, are prone to attrition, and increasingly lack the support and confidence of the courts" (p. 425). Non-US studies based on BIP treatment approaches have reached similar conclusions. Haggård et al. (2017) reported findings in Sweden and concluded, "the empirical support remains weak for the effectiveness of recidivism-reducing interventions for IPV perpetrators" (p. 1027). Scholars and practitioners have therefore been searching for alternatives—or at the very least complementary programs (von Hirsch et al., 2003)—to Duluth and other punitive-oriented interventions. Restorative justice provides a promising alternative because it not only reduces recidivism, as revealed in this study, but also has the propensity to increase procedural justice

- and satisfaction of victims (Sherman, 2017; Strang et al., 2014; Tyler 2006). Additionally, an
- 2 RJ approach has the ability to address the range of cases that come into contact with the
- 3 criminal justice system for DV crimes including IPV involving both men and women as
- 4 offenders, and also, more broadly, family violence cases.
- 5 Circles of Peace are now part and parcel of the RJ movement (Ptacek, 2017). While
- 6 CP have received less attention than the face-to-face RJ conferences promulgated in the
- 7 Campbell Collaboration and other reviews (Sherman et al., 2013; Shapland et al., 2008), it
- 8 nevertheless includes the key components of RJ, namely the assumption that the offender can
- 9 make good after a crime when given the appropriate mechanism or pathway for facilitating
- 10 personal transformation. This personal growth occurs through a process of dialogue as well as
- a focus on behavioral change that reinforces how it might be avoided in the future (Mills et
- al., 2013). In CP, unlike BIP, offenders are confronted with the idea that they owe an
- obligation to victim, family, and community following the commission of a DV crime, thus
- creating the conditions for the possibility of altering their behavior in the future.

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As previously mentioned, we are aware of only one study that tested the CP approach under rigorous conditions (Mills et al., 2013). This study is more promising. We have detected significant and meaningful reductions of more than 50% in post-treatment follow-up of up to two years. Compared to the usual BIP treatment, BIP plus CP appears to reduce the likelihood of DV reoffending. Moreover, we found that this hybrid approach also reduces harm—again, by more than 50%. This suggests that not only can BIP plus CP reduce the incidence of new crimes, but it also reduces harm when new crimes do occur, in that the crimes committed are less severe. At this point, we would not expect any intervention program to eradicate DV altogether, given the intergenerational transmission of violence and the longstanding social, psychological, cultural, and potentially biological dimensions of this

enduring problem (Figueredo & McCloskey, 1993; McKenry, Julian, & Gavazzi, 1995;

- 1 Perilla, Bakeman, & Norris, 1994; Riggs, Caulfield, & Street 2000). However, an
- 2 intervention that not only reduces the prevalence of abuse by half but also leads to harm
- 3 reduction at similar levels, is indeed a very promising and hopeful development.
- 4 Although testing the effectiveness of BIP only versus CP only may have clarified
- 5 further whether RJ only programs hold greater promise, Utah state law prohibits offenders
- 6 from participating in any form of conjoint treatment before completing 12 weeks of offender
- 7 only group treatment. We therefore believed that a study of a hybrid program (BIP plus CP),
- 8 in comparison to BIP-only, provided a unique opportunity to develop the next generation of
- 9 treatment programs for DV, in a way that incorporated the standard treatment but also
- included an additional component. While our study cannot conclude that an RJ-only approach
- is 'better' than BIP only, it does provide evidence that the hybrid of the two can in fact
- improve the outcomes of a BIP-only treatment. Future research (with a larger sample size
- than the Arizona study) should focus on jurisdictions where conjoint treatment is permitted
- from the outset to answer definitively the question: Is RJ-only the optimal approach for
- reducing recidivism and reducing harm in DV cases?
- With these results, we can assert quite definitively that a hybrid approach that
- 17 combines BIP with RJ may reduce the likelihood of another DV offense and/or its severity,
- 18 should a new DV offense occur. This is particularly helpful to jurisdictions that are seeking to
- 19 complement BIP with other approaches in order to address the BIP-only shortcomings,
- 20 including its inappropriate application to family violence cases and IPV cases involving
- 21 female offenders or same sex couples. And while the addition of an RJ component is not cost
- 22 neutral, to reduce the odds of future victimization and the harm associated with DV by half,
- 23 the additional administrative cost of a hybrid approach which includes CP seems justified.
- Future research should include a cost-benefit analysis of the hybrid approach.

There are two noteworthy limitations to this study which future research should address. First, gathering data directly from offenders and victims over time is challenging. Instead, we used official records of criminal activity and severity, which represent a consistent outcome measure across treatment groups. However, clearly not all incidents of DV are officially documented and the granularity of data that can be achieved from these official sources is limited. Future research should consider a mixed-methods approach by incorporating surveys of all stakeholders, particularly victims of crime.

Second, we have only captured recidivism data on 24 months post random assignment. There is a need to understand what happens longitudinally beyond a 24-month period. There is the possibility of decay over time (see Sutherland et al., 2017), but it can equally be the case that over time, the treatment effect increases rather than diminishes.

Assuming a linear treatment effect is likely tenuous, we need more evidence over a longer

14 Methods

Population and Sampling

period of time.

According to the US Census Bureau (2010), Salt Lake City has approximately 200,000 residents and is the capital of the Utah. Seventy-five percent of the population is white, and 22% are of Hispanic or Latino origin. Eighty-three percent graduated high school. The median household income is \$36,944, with 15% of families in Salt Lake City living below the poverty level, and 32% are not in the labor force. Utah has the highest birth rate in the country (Utah Department of Health, 2015), attributable to a religious belief in large families; more than half of the population (59.3%) in Salt Lake County (which includes Salt Lake City) belongs to the Church of Jesus Christ of Latter-day Saints (LDS) (Association of Religion Data Archives, 2010).

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2 alternative to BIP, we collaborated with the judiciary in Salt Lake City to randomly assign eligible cases to a hybrid RJ-based model – BIP plus CP. In practice, sentenced offenders had 3 to contact the DV treatment provider to schedule an appointment for an initial assessment, 4 5 post-adjudication. This assessment was used to determine whether the offender was fit for treatment. If deemed fit for either treatment option, the cases were then randomly assigned to 6 7 treatment following the assessment. The offender subsequently started treatment and was mandated to complete all treatment sessions. Failure to comply with treatment requirements 8 9 results in contempt of court orders and further sentencing. Our sample consisted of all eligible DV offenders who were sentenced to treatment 10 for a misdemeanor DV crime from the Salt Lake City Justice Court, between February 8, 11 12 2012 to December 31, 2013, and who appeared for the treatment assessment, were assessed by the treatment provider and deemed appropriate for either treatment option. Random 13 14 assignment of cases to treatment began on March 6, 2012, and the last case was randomly assigned on March 10, 2014. Cases qualifying for the study followed the mandate of Utah 15 DV law¹, which included both intimate partners and family members who violated the 16 17 relevant criminal code. Those offenders over the age of 18 who lived locally were included in the sample. To reflect typical court practices, gender and criminal history or delinquent 18

Ordinarily, the primary treatment available to DV offenders in Utah is BIP. To test an

Cases were excluded if the defendant did not speak English proficiently enough to participate in an English-speaking group treatment; was actively psychotic or in need of acute

background were not used as exclusion criteria.

¹ Domestic violence" or "domestic violence offense" means any criminal offense involving violence or physical harm or threat of violence or physical harm, or any attempt, conspiracy, or solicitation to commit a criminal offense involving violence or physical harm, when committed by one cohabitant against another. Cohabitant identified as a person 16 years or older who: is or was a spouse of the other party; is or was living as if a spouse of the other party; is related by blood or marriage to the other party; has one or more children in common with the other party; is the biological parent of the other party's unborn child; or resides or has resided in the same residence as the other party (Utah Code § 77-36-1).

- detoxification or hospitalization; was currently engaged in DV treatment (had attended DV
- 2 treatment session within the last 30 days) with another treatment provider; or was subject to
- 3 the jurisdiction of another court and was receiving DV, drug court, or mental health court
- 4 treatment services through that court. Two university institutional review boards approved the
- 5 study protocol.

Random Assignment

All six judges from the Salt Lake City Justice Court agreed to refer eligible DV cases to the treatment provider we were partnered with for this study. At sentencing, the judge handed the offender a referral sheet with the information about the treatment provider. Offenders would then contact the treatment provider to schedule an assessment. Following the assessment, if an offender was deemed fit for either treatment option, the case was randomly assigned to one of two treatments: BIP plus RJ or BIP only. We used a pure random assignment sequence. Assignment of cases was conducted remotely to avoid any contamination biases. In all, 222 eligible cases were randomly assigned to two experimental arms of the study, as depicted in the study flowchart from the point of random assignment until completion of treatment (Figure 3).

20 Treatments

Based on the literature and specifically on the Arizona RCT on CP for DV (Mills et al., 2013), an evidence-based hypothesis is that DV offenders assigned to the hybrid treatment (BIP plus CP) would recidivate less compared to offenders assigned to BIP only, as measured by re-arrest counts. A second hypothesis posited that the hybrid treatment would lead to a reduction in harm, meaning a reduction in the severity of the crime committed (see explanation of the weighting of the crime categories in the "Statistical Procedures" section), compared to the standard treatment for similar offenders. To test these hypotheses, we

- 1 collaborated with the Salt Lake City, Utah, judicial system and a local treatment provider. In
- 2 Utah, first time offenders are mandated to a minimum of 16 weeks for treatment. The local
- 3 treatment provider that we were partnered with for the study required 18 weeks of treatment.
- 4 Additionally, Utah state standards call for male and female offenders to be in treatment
- 5 together.

hours.

BIP Only.

Utah law requires offenders to receive treatment following conviction of a misdemeanor DV crime. The "business-as-usual" arm of the experiment was BIP, an offender-only group treatment approach. As is common with similar Duluth model BIP treatments (e.g., Morrison et al., 2016), it was facilitated by one group leader and included a wide range of DV offenders, including a mixture of male and female offenders and intimate partner violence and family violence cases. The group is 'open,' with offenders joining at different points in time and leaving as they satisfy their legal mandates for treatment.

Offenders were assigned to an 18-week program of BIP, with each weekly session lasting 1.5

BIP plus CP.

The alternative approach to the "business-as-usual" treatment offered through our study was a hybrid of BIP plus CP: a 12-week offender-only BIP treatment, followed by six weeks of individual Circles of Peace sessions (both the BIP sessions and the individual Circle sessions were 1.5 hours). The 12 weeks of offender-only group treatment component was required because it was part and parcel of Utah's state law; offenders must complete 12 weeks of offender-only group treatment before they can participate in conjoint treatment with their victim. The CP component was supplemental after the BIP component was satisfied.

Ideally, CP sessions always include a 'Circle Keeper,' the offender, a trained community volunteer, support people, and an invitation to the victim to participate. Not all

- 1 victims chose to participate either because the relationship had terminated (in cases of
- 2 intimate partner violence) or because the victim makes a conscious decision not to participate
- 3 in treatment. Notwithstanding the participation of the victim, the six-week CP component
- 4 was meant to help offenders design a plan for change that is monitored during the weekly
- 5 circle sessions through a social compact.

Data and Variables

Multiple sources of data were used in this experiment. First, data were gathered from the clinical assessments conducted by the treatment provider prior to the beginning of treatment, which also included the police report from the domestic violence incident that led the offender to be mandated to treatment. These clinical assessments also included access to socio-demographic and family histories of violence and related factors. (A Health Insurance Portability and Accountability Act (HIPAA) waiver was obtained to gain access to the case records of those offenders who are randomly assigned to treatment for the study.) These variables were used to measure baseline balance between the treatment groups (Table 1). Across all comparisons, no statistically significant differences emerged at the .05 level. Based on these records, we conducted the random assignment of cases into the two experimental arms.

Next, we gained access to pretest and posttest arrest data on DV violations on each offender from the Utah Bureau of Criminal Identification (BCI) and the Utah court docket records. We used these records as dependent variables, with a 24-month follow-up period from the moment of random assignment. As noted, we used two sets of outcome data: new arrests and severity of new arrests. Both data points are important; while reduction in crime counts (new arrests) is a key indicator of treatment outcomes—as measured in most RJ experiments—reduction in severity is an important public health policy goal.

- 1 The rationale for measuring severity requires clarification (see Block & Block, 1984;
- 2 Brady, 1996; Brennan & Dauvergne, 2011; Levitt, 1998; Hindelang, Hirschi, & Weis, 1981;
- 3 Gove, Hughes, & Geerken, 1985). Most criminologists continue to count crimes (new arrests) in
- 4 their studies without the necessary attention to harm. For instance, a robust overall 15%
- 5 reduction in crime counts may sound impressive, but a more precise approach should distinguish
- 6 between serious harm and less severe events (Sherman, Neyroud, & Neyroud, 2016). As
- 7 Sherman, Neyroud, and Neyroud (2016) argued, a 'one size fits all' crime measurement
- 8 methodology lacks the necessary degree of maturity by which results should be measured,
- 9 especially when conducting cost benefit analyses. For this reason, weighting of crime categories
- is required (e.g., Andresen, 2014; Burton et al., 2004; Francis et al., 2001; Ramchand et al.,
- 11 2009).

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Statistical Procedures

For both outcome measures, we applied an intention-to-treat (ITT) method. Thus, the analyses are based on treatment assignment, not treatment received, which is customary in health studies when comparing the efficacy of two interventions with high expected attrition rates. We then employed two analytical approaches to analyze the outcomes. First, we used a Poisson-based model to assess differences between two experimental groups in terms of crime counts. Given the risk of over-dispersion, we used a Pearson chi-square parameter estimation because it obtains more conservative variance estimates and significance levels (McCullagh & Nelder, 1989). The dependent variable was the post-random assignment DV crime counts (new arrests) during the 24-month follow-up period. Group assignment ('experimental' [0]/'control' [1]) was used as the factor, and the pre-random assignment data were our control variables. Given our randomized design, we measured the effect globally (across all offenders over time). From this model, we then extracted the exponential parameter estimates and the 95% confidence intervals associated with the estimate because the exponential

parameter estimate is a measure of the factor change in the odds of the outcome produced by a 1 2 one-unit increase in the value of the independent variable—an improvement over using variations in the raw coefficients that are not intuitively interpretable (see Long, 1997 and a 3 similar application in Henstock & Ariel, 2017). We also computed the estimated marginal 4 5 means (for more on marginal means, see McCulloch, Searle, & Neuhaus, 2008) to report the mean interaction responses and adjusted for the baseline covariate (i.e., the dependent variable at 6 7 pre-test value) in each model. Second, we repeated this approach for crime severity figures based on Utah Adult 8 9 Sentencing Guidelines (2016). We used the official grading system with the offense grading (i.e., first to third degree felonies, Class A-C misdemeanors), which breaks down all crime 10 categories in Utah into severity categories. Within each of these six categories, a further 11 nuanced breakdown of the offense grading takes place, with a numerical score assigned for 12 each crime type. For example, a first degree felony aggravated burglary received a score of 7, 13 14 while a third degree aggravated assault received a score of 5. We then multiplied each value by the number of crime incidents that occurred per category (see Supplementary Materials). 15 This allowed us to measure variations of severity of DV crimes between the two treatment 16 17 conditions of the study. We used these scores as the outcome variable, the pretreatment values as a baseline controlling variable, and the group assignment as an exploratory variable. 18 **Statistical Power** 19 20 Cohen (1988) defined statistical power as the probability of detecting a statistically

Cohen (1988) defined statistical power as the probability of detecting a statistically significant effect, given the true difference between the treatment group and the control group. By using Optimal Design (Spybrook et al., 2013) and focusing on the minimum detectable effect size, we estimate that our sample size (n=222) was large enough to detect small to medium effects of d = 0.34, in which the alpha significance level is .05, using the

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- 1 hypotheses as assumed to be a two-tailed test, with the count-based outcome as a covariate,
- 2 and with the estimated power of 0.80.

- 4 Data availability. The data that support the findings of this study are available from the
- 5 corresponding author upon reasonable request.

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Tables and Figures

2

1

Table 1: Sample Characteristics—BIP only vs. BIP plus CP

<u>Factor</u>	BIP Only	BIP Plus CP	Statistic
n	96	126	
Mean n of arrests prior to random assignment	1.00 (1.759)^	1.437 (2.398)	t=-1.564
Dual arrest	13.70%	9.60%	$\chi^2 = 1.084$
Caucasian	52.60%	53.20%	$\chi^2 = 3.031$
Employed during intake assessment	60.00%	71.0%	$\chi^2 = 6.950$
Participants with suicidal tendencies	3.20%	4.00%	$\chi^2 = 0.132$
Married with victim	12.60%	24.00%	$\chi^2 = 18.562$
Male participant	64.20%	70.40%	$\chi^2 = 2.069$
IPV same sex couple	2.10%	2.40%	$\chi^2 = 1.526$
Participants with no children	57.90%	59.20%	$\chi^2 = 8.652$
Mean age of offender during intake assessment	32.85 (12.01)	34.83 (13.16)	t=-1.018

^{*} p<.05; ** p<.01; ***p<.001; ^ standard deviation

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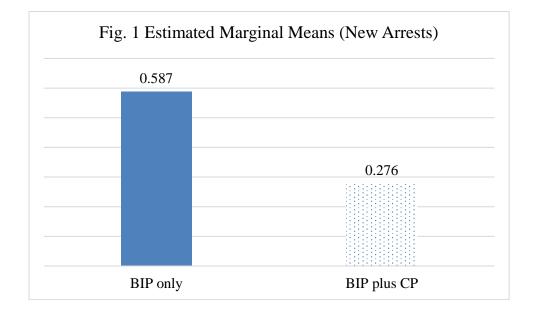
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Table 2: Parameter Estimates and Exponential Parameter Estimates

				95% CI f	95% CI for Exp(B)		
		<u>B</u>	<u>SE</u>	Exp(B)	Lower	<u>Upper</u>	
Crime Counts	Treatment [^]	755***	.2083	.470	.312	.707	
(New Arrests)	Baseline	.192***	.0179	1.211	1.169	1.254	
`	Intercept	771***	.1357	.463	.354	.603	
C ' M	Treatment [^]	733***	.1133	.480	.385	.600	
Severity Measure (Severity of New Arrests)	Baseline	.073***	.0036	1.076	1.069	1.084	
(Beveilty of New Affests)	Intercept	.310***	.0783	1.364	1.170	1.590	

^{*} p<.05; ** p<.01; ***p<.001; ^ BIP plus CP

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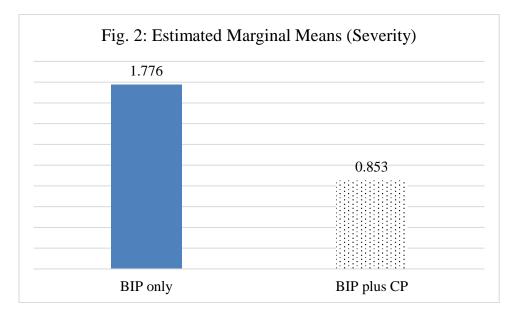
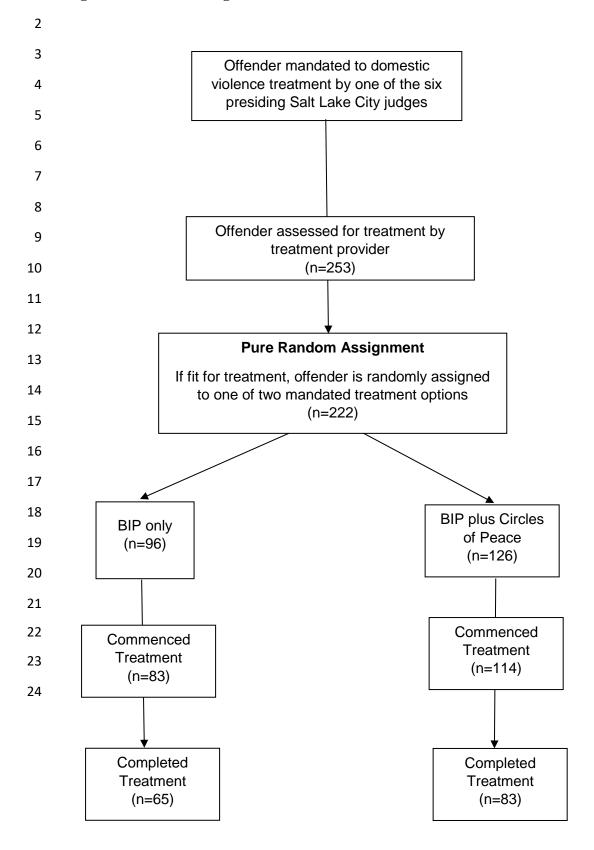


Figure 3. Random Assignment Flowchart



Supplementary Materials

Crime Counts and severity of domestic violence arrests – pre-treatment and post-treatment (2 years): total scores per offense category*

Offense		Severity	Total Seve	erity Scores	Total Counts		
Grading	Offense Description	Score	Pretreatment	Posttreatment	Pretreatment	Posttreatment	
1st Degree	AGGRAVATED Burglary	7	0	7	0	1	
Felony	TORTURE OF COMPANION ANIMAL	5	0	5	0	1	
	ALCOHOL RESTRICTED DRIVER	3	0	3	0	1	
	CHILD ABUSE INTENTIONAL	6	6	0	1	0	
2nd Degree	FALSE INFO TO POLICE OFFICER	3	3	0	1	0	
Felony	FORGERY	5	0	5	0	1	
	IGNITION INTERLOCK RESTRICTION	2	0	2	0	1	
	PUBLIC INTOXICATION	2	0	4	0	2	
	AGGRAVATED ASSAULT	5	0	5	0	1	
	BURGLARY	5	0	5	0	1	
	CRIMINAL MISCHIEF	5	5	0	1	0	
	DAMAGING JAILS	5	0	5	0	1	
	DISORDERLY CONDUCT	2	0	2	0	1	
2.45	DOMESTIC VIOLENCE IN PRESENCE OF CHILD	3	0	3	0	1	
3rd Degree Felony	DUI	3	0	3	0	1	
relotty	DUI-IGNITION INTERLOCK DEVICE VIOLATION	3	0	3	0	1	
	FALSE INFO TO POLICE OFFICER	4	4	0	1	0	
	FALSE INFORMATION TO A PEACE OFFICER	4	4	0	1	0	
	MINOR IN POSSESSION OF ALCOHOL	3	3	0	1	0	
	NO PROOF OF INSURANCE	2	2	0	1	0	
	OBSTRUCTION OF JUSTICE	5	5	0	1	0	

	POSS DRUG PARAPHERNALIA DRUG PIPE	3	0	3	0	1
	PRESCRIPTION UTTER FORGE OR ALTER	5	0	5	0	1
	PROTECTIVE ORDER VIOLATION	4	0	8	0	2
	PUBLIC INTOXICATION	2	2	2	1	1
	RESISTING AN OFFICER	3	0	3	0	1
	WEAPONS VIOLATION-RESTRICTED PERSON	5	0	5	0	1
	WRITTEN FALSE STATEMENT	3	0	3	0	1
	ASSAULT	4	0	4	0	1
	ASSAULT ON POLICE OFFICER	4	0	4	0	1
	CRIMINAL MISCHIEF	3	0	3	0	1
	DRIVING ON SUSPENDED DRIVERS LICENSE	2	2	0	1	0
	DUI (1ST OR 2ND) WITH PASSENGER UNDER 16 YEARS	4	4	0	1	0
	FAIL TO OPERATE WITHIN 1 LANE	2	0	2	0	1
Class A	INSURANCE-OPERATING MV W/OUT OWNERS/OPERATORS SECURITY	3	3	0	1	0
Misdemeanor	POSSESSION STOLEN PROPERTY	4	4	0	1	0
	PROTECTIVE ORDER VIOLATION	4	12	16	3	4
	PUBLIC INTOXICATION	2	2	4	1	2
	STALKING	5	0	5	0	1
	TELEPHONE HARASSMENT	4	0	4	0	1
	THREATS AGAINST LIFE OR PROPERTY	4	0	4	0	1
	USE OF ROADWAY BY PEDESTRIANS - PROHIBITED ACTIVITIES	2	0	2	0	1
	VIOLATION OF PROTECTIVE ORDER	4	0	4	0	1
	AGGRAVATED ASSAULT	5	0	10	0	2
Class B	AGGRAVATED ASSAULT	6	0	6	0	1
MIsdemeanor	ALCOHOL RESTRICTED DRIVER	3	3	3	1	1
	_ ASSAULT	3	0	3	0	1

ASSAULT	4	4	0	1	0
ASSAULT - DOMESTIC	3	21	6	7	2
ASSAULT - DOMESTIC VIOLENCE	3	42	15	14	5
ASSAULT, SIMPLE	3	3	0	1	0
BATTERY	3	33	6	11	2
COMMUNICATION DEVICE-DAMAGE OR INTERRUPTION	3	36	0	12	0
CONTROLLED SUBSTANCE	5	5	0	1	0
CRIMINAL MISCHIEF	3	21	6	7	2
CRIMINAL MISCHIEF - EXCESS OF \$1,000, BUT LESS THAN \$5,000	5	0	5	0	1
CRIMINAL MISCHIEF - LESS THAN \$300	3	6	3	2	1
CRIMINAL MISCHIEF-DOMESTIC VIOLENCE	3	33	0	11	0
D.L REVOKED,SUSPENDED,DENIED - ALCOHOL RELATED	3	3	0	1	0
DISORDERLY CONDUCT	2	0	2	0	1
DISORDERLY CONDUCT	3	6	0	2	0
DISTRIBUTE CONT/COUNTERFEIT SUBSTANCE	5	0	5	0	1
DISTURBING THE PEACE	2	4	0	2	0
DOMESTIC VIOLENCE IN PRESENCE OF CHILD	3	63	15	21	5
DRIV MV PROHIB WHILE DRIVING PRIV DENIED/SUSP/DISQUAL/REVOK	2	0	2	0	1
DRIVER LICENSE-NEVER OBTAINED	2	2	0	1	0
DRIVING ON DENIED LICENSE	2	0	2	0	1
DRIVING ON DENIED,SUSP,REVOKED LIC(NON-ALCOHOL/DRUG)	2	0	2	0	1
DRIVING ON SUSPENDED DRIVERS LICENSE	2	0	2	0	1
DRUG PARAPHERNALIA MANUFACTURE OF, CULTIVATION EQUIP, ETC	4	0	4	0	1
DRUG PARAPHERNALIA MIS B (PERSONAL USE)	3	3	0	1	0

DUI	3	3	6	1	2
DUI (1ST OR 2ND OFFENSE) MIS B	3	12	0	4	0
DUI (2 OR MORE CONVICTIONS WITHIN 10 YEARS)	5	0	5	0	1
DUI -1ST OR 2ND	3	3	0	1	0
DUI DRIVING UNDER THE INFLUENCE OF ALCOHOL/DRUGS	3	6	0	2	0
DUI OF ALCOHOL/DRUGS OR COMBO W/SPEC UNSAFE BLD ALCO CONCEN	3	0	3	0	1
ESCAPE	5	5	0	1	0
EXPIRED REGISTRATION	2	2	0	1	0
FAILURE TO PROVIDE ID TO OFFICER	2	2	0	1	0
FALSE INFO TO POLICE OFFICER	2	2	0	1	0
IMPROPER LANE MOVEMENT-TURNS-SIGNAL	2	2	2	1	1
INTERFERENCE WITH ARRESTING OFFICER	3	15	3	5	1
INTERFERENCE WITH OFFICERS ARREST	3	3	0	1	0
INTERFERING WITH OFFICER IN DISCHARGE OF DUTY	3	3	0	1	0
LIC TO BE CARRIED W/DRIV MV-PRODUCTION IN COURT-VIOLATION	2	0	2	0	1
MAKING FALSE STATEMENT ON TELEPHONE	3	3	0	1	0
MARIJUANA - POSSESSION OF	3	6	0	2	0
MOVING INTO TRAFFIC-SIGNAL REQUIRED	2	0	2	0	1
OBSTRUCTION OF JUSTICE	3	3	0	1	0
OPEN CONTAINER IN PUBLIC PLACE	2	2	0	1	0
OPEN CONTAINER IN VEHICLE	3	3	0	1	0
PARK CURFEW	2	0	2	0	1
POCS AMPHETAMINE	6	0	6	0	1
POCS SYNTHETIC NARCOTICS	3	0	3	0	1
POSS DRUG PARAPHERNALIA DRUG PIPE	3	3	3	1	1

	POSS DRUG PARAPHERNALIA DRUG PIPE	4	0	4	0	1
	PRESCRIPTION UTTER FORGE OR ALTER	5	0	5	0	1
	PROTECTIVE ORDER VIOLATION	4	4	0	1	0
	PUBLIC INTOXICATION	2	56	16	28	8
	RECKLESS DRIVING	3	0	3	0	1
	RESISTING AN OFFICER	3	9	0	3	0
	SPEEDING	2	0	4	0	2
	SPEEDING - SAFE/APPROPRIATE SPEEDS AT CERTAIN LOCATIONS	2	0	2	0	1
	SUSPENSION OF LICENSE	3	3	0	1	0
	THEFT OF SERVICES	3	3	0	1	0
	TRESPASS	3	0	3	0	1
	UNLAWFUL DETENTION	3	12	0	4	0
	AGGRAVATED ASSAULT	5	0	5	0	1
	AGGRAVATED ASSAULT BY APRISONER	6	6	0	1	0
	AGGRAVATED SEXUAL ASSAULT	7	7	0	1	0
	ASSAULT	4	4	0	1	0
	ASSAULT - DOMESTIC	3	0	3	0	1
	ASSAULT - DOMESTIC VIOLENCE	3	48	0	16	0
	ASSAULT BY A PRISONER	5	5	0	1	0
Class C	ASSAULT, SIMPLE	3	15	0	5	0
Misdemeanor	BATTERY	3	36	6	12	2
	BURGLARY	5	5	0	1	0
	COMMUNICATION DEVICE-DAMAGE OR INTERRUPTION	3	3	0	1	0
	CRIMINAL MISCHIEF	3	21	3	7	1
	CRIMINAL MISCHIEF/OVER\$250	3	3	0	1	0
	CRIMINAL MISCHIEF/UNDER \$250	2	2	0	1	0
	CRIMINAL MISCHIEF-DOMESTIC VIOLENCE	3	12	0	4	0

CRIMINAL TRESPASS	2	2	0	1	0
DISORDERLY CONDUCT	2	0	2	0	1
DOMESTIC VIOLENCE IN PRESENCE OF CHILD	3	9	0	3	0
DRIVING ON SUSPENDED DRIVERS LICENSE	2	2	0	1	0
DRUG PARAPHERNALIA MIS B PERSONAL USE	3	3	0	1	0
IMPROPER LANE MOVEMENT-TURNS-SIGNAL	2	2	0	1	0
INTERFERENCE WITH ARRESTING OFFICER	3	3	0	1	0
KIDNAPPING/ABDUCTION	6	6	0	1	0
LEAVING THE SCENE-ACCIDENT INVOLVING PROPERTY DAMAGE	3	0	3	0	1
LEWDNESS	3	3	0	1	0
OPEN CONTAINER IN PUBLIC PLACE	2	0	2	0	1
POSS CNTLD SUBST/HEROIN	6	6	0	1	0
PUBLIC INTOXICATION	2	52	4	26	2
ROBBERY	6	6	0	1	0
SECURITIES FRAUD	5	5	0	1	0
SPEEDING	2	0	2	0	1
SPEEDING - SAFE/APPROPRIATE SPEEDS AT CERTAIN LOCATIONS	2	2	0	1	0
SPEEDING (POSTED)	2	4	0	2	0
THREATS AGAINST LIFE OR PROPERTY	3	3	0	1	0
TRAFFIC CONTROL SIGNAL-AT INTERSECTIONS- COLOR OF LIGHT SIGN	2	2	0	1	0
TURN/CHNG LANES-SAFETY-SIGNAL-STOP/SUD DECREASE IN SPEED	2	2	0	1	0
UNLAWFUL DETENTION	3	3	0	1	0
URINATE IN PUBLIC	2	2	0	1	0

^{*}To create the severity score, we relied on the Utah Adult Sentencing Guidelines which breaks down all crime categories into severity grades (i.e., first to third degree felonies, Class A to C misdemeanors). First degree felonies are the most serious, Class A misdemeanors, the least serious, etc. Once the crimes were divided by severity, a number could be assigned in order to classify the crime with a "severity score," ranging from 1 to 7. The severity score was then

- 1 multiplied by the number of crime incidents in that category, resulting in total severity scores and total crime counts, both pre-treatment and post-treatment.
- 2 For example, public intoxication is given a severity score of 2; because it occurred 28 times pre-treatment, the total severity score pre-treatment is 56, and so
- 3 on. Thus, some less serious crimes received a higher total score because of the number of times that particular crime occurred. Some more serious crimes
- 4 received a lower total score because of the number of times that particular crime occurred (i.e., the crime occurred only once or only a few times). Severity
- 5 was reduced, post treatment, when the crime committed was less severe or less serious for that offender, according to the guidelines, or involved fewer crime
- 6 counts for that offender, compared to the designations for that offender and his/her crime(s), pre-treatment.