

Long-Term Outcomes of a RCT Intervention Study for Women with Violent Crimes

Sheryl Kubiak *Michigan State University*

Gina Fedock *University of Chicago*

Woo Jong Kim *University of Toledo*

Deborah Bybee *Michigan State University*

ABSTRACT *Objective:* There is scant research on interventions to address the often coexisting factors of trauma-related anger, violent behaviors, and substance misuse among criminal-justice-involved women. Through a multiphase study that included a randomized control trial (RCT), Beyond Violence—a 20-session curriculum-based intervention for women—has shown efficacy in terms of feasibility and short-term outcomes (i.e., mental health and anger symptoms). This study focuses on long-term outcomes, assessing whether the Beyond Violence experimental condition (BV) is more effective than the treatment-as-usual condition (TAU) in reducing recidivism and relapse and enhancing treatment admission one year after prison release. *Method:* Using a sample of 35 women involved in the RCT, 12 months of follow-up data were extracted from parole officer case notes and state-level administrative databases. *Results:* Women who received BV were less likely to recidivate than those who received TAU. The odds of women in the BV condition recidivating decreased by 79% compared to the rate for women in the TAU condition. Although women in BV were less likely to relapse (26% vs. 50%), the difference was not statistically significant. Women in BV were less likely to be referred to treatment, but there were no differences in treatment admission. *Conclusions:* Beyond Violence is a gender-responsive and trauma-informed intervention that has demonstrated stronger short- and long-term outcomes than the TAU condition, with fewer treatment sessions (20 weeks vs. 44). Given consistent findings of efficiency and efficacy for Beyond Violence, replications of these results, with larger samples, are needed.

KEYWORDS: intervention, women, RCT, criminal justice, violence

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Although most women admitted annually to state prisons are imprisoned for nonviolent property and drug offenses, those who commit violent offenses comprise more than a third (36%) of those in U.S. state prisons (Guerino, Harrison, & Sabol, 2011). There is only one empirically derived intervention with a specific goal of violence prevention that has been intentionally designed for women.

This intervention, *Beyond Violence*, is both gender-specific and trauma-informed, and it is focused on improving women's mental health and anger expression while decreasing substance use, engagement in violent behaviors, and involvement in the criminal justice system. Although positive short-term outcomes have been found for women after completion of *Beyond Violence* during incarceration, there has been no previous study of the long-term outcomes once women leave prison. This paper compares differences in substance use, treatment admission, and recidivism outcomes during the first 12 months after prison release for women who participated in *Beyond Violence* and women who participated in a control-group intervention.

Of all adults within the criminal justice system, women comprise 5% of those who were convicted and sentenced for violent crimes (West, Sabol, & Greenman, 2010). Violent crimes are defined as those that involve force, or the threat of force, including homicide, robbery, assault, and sexual assault. Sentences for violent crimes range from community supervision (i.e., probation), short-term incarceration in local jails, or long-term incarceration in state prisons, depending on the seriousness of the offense and degree of harm caused. Although the proportion of women sentenced for a violent crime is low, those convicted of violent crimes represent the largest population of women (36%) within women's prisons, due to their longer sentences (Guerino, Harrison, & Sabol, 2011).

Recidivism is a factor for consideration when assessing services for women involved in the criminal justice system, including women convicted of violent offenses. Analyses of national data indicate that more than one third (34.4%) of all women leaving prison are rearrested within one year, and 59% will be rearrested within 3 years (Durose, Synder, & Cooper, 2015). However, some evidence suggests that women with a history of violent offenses may have a lower recidivism rate for nonviolent offenses. In a 2007 national study, Deschenes, Owen, and Crow found that among women initially sentenced for a violent offense, 49% were rearrested within 3 years; only 16% of the rearrests were for a violent offense. Therefore, recidivism for women convicted of violent offenses should be considered in terms of arrest related to a violent offense and/or nonviolent offense.

Women's recidivism is significantly impacted by substance use, which influences their relationships, employment status, housing opportunities, engagement in criminal behaviors, and overall stability and well-being (Huebner, DeJong, & Cobbina, 2010; Visher & Bakken, 2014). Substance-abuse treatment for women in prison and during community reentry shows some efficacy for reducing recidivism (Mosher & Phillips, 2006; Messina, Grella, Cartier, & Torres, 2010; Tripodi, Bledsoe, Kim, & Bender, 2011). However, substance misuse often is a symptom of more serious concerns related to past trauma, mental health, or material/social deprivation, and abstinence alone may not solve the underlying issues (Covington, 2008). Although there are clear recommendations for post incarceration services, particularly for substance-abuse treatment and aftercare (Sacks, 2004; Matheson,

Doherty, & Grant, 2011), only about one-third of adults exiting jails or prisons will receive mental health or substance-abuse treatment within the community (Kubiak, Zeoli, Essenmacher, & Hannah, 2011; Grella & Greenwell, 2007). Therefore, interventions during incarceration—particularly for women convicted of violent crimes—need to address the multiple and complex underlying issues in an effort to prevent subsequent substance misuse, violent or aggressive behaviors, and recidivism.

Despite repeated calls for gender-specific interventions for women in the criminal justice system (Bloom, Owen, & Covington, 2003; Fournier, Hughes, Hurford, & Sainio, 2011; Laux et al., 2008), models of treatment and rehabilitation traditionally are male-focused or considered gender neutral (e.g., Ware, Cieplucha, & Matsuo, 2011). Gender-specific or gender-informed treatment acknowledges gender differences in the pathways to crime, the different treatment needs for men and women involved in the criminal justice system, and the subsequent need for treatment models focused on factors common for women. Gender-specific treatment approaches attend to the greater likelihood that women will have mental health and/or substance-use disorder (SUD) problems, previous experiences of interpersonal trauma, and issues related to pregnancy, childbirth, and parenting. Gender-specific treatment approaches also have been found to be more effective than gender-neutral approaches (Day, Zahn, & Tichavsky, 2014; Gobeil, Blanchette, & Stewart, 2016; Saxena, Messina, & Grella, 2014). Although there are several empirically tested interventions specifically designed for incarcerated women (Messina, Grella, Cartier, & Torres, 2010), a systematic review (Tripodi, Bledsoe, Kim, & Bender, 2011) found that none of the interventions were intended for violence reduction and/or prevention, with the majority focused on treatment of SUDs.

Current Study

In response to this gap, *Beyond Violence* was developed as a gender-specific and trauma-informed intervention for women within criminal justice/legal settings who had violent offenses (Covington, 2013). *Beyond Violence* has a core goal of preventing recidivism and further violent behavior by women who have already engaged in violence; it also aims to improve women's mental health and anger expression and reduce substance use. This 20-session group intervention, designed to be delivered by a trained mental health or substance-abuse treatment professional, incorporates attention to women's victimization history, gender socialization, and the likelihood of co-occurring substance use and mental health disorders.

Using a multiphase intervention research paradigm provides a framework for problem identification, program design, pilot testing, and assessing efficacy (Fraser, Richman, Galinsky, & Day, 2009). This paradigm was used to guide the development and testing of *Beyond Violence*, and there have been positive indications of fidelity to the intervention curriculum, feasibility of implementation within a prison setting, and positive short-term outcomes (Kubiak, Fedock, Tillander, Kim, & Bybee,

2013; Kubiak, Kim, Fedock, & Bybee, 2012). The program also has been tested using a randomized control trial (RCT) to examine the outcomes of the Beyond Violence experimental condition (BV) in comparison to the outcomes of the treatment as usual condition (TAU) within a women's prison (Kubiak, Kim, Fedock, & Bybee, 2015). Assaultive Offender Programming (AOP), a 44-session intervention designed for men but required of both men and women convicted of a violent offense, was the TAU condition in the RCT. Significant changes were found for women participating in both interventions. However, women in BV demonstrated greater satisfaction levels and superior mental health outcomes. Significantly higher scores were found for women in BV for measures of the intervention's helpfulness, perceived benefit, and women's satisfaction, as well as for women's improvements in anxiety symptoms and anger expression.

Based on the intervention research paradigm, the efficacy of an intervention is measured by short-, intermediate-, and long-term outcomes (Fraser et al., 2009). As a follow-up to the previous RCT study illuminating positive short-term outcomes, this study focuses on recidivism and substance-abuse relapse outcomes during the 12-month postincarceration period for women in the BV and TAU groups. Moreover, because substance-abuse treatment engagement postincarceration has been associated with decreased recidivism (Tripodi et al., 2011), we examine treatment referral and treatment admission during the same time period. The research questions posed are:

- Is BV more effective than the TAU in reducing recidivism and relapse?
- Is BV more effective than the TAU in increasing involvement in community-based treatment after prison release?

Method

This study follows a sample of women, who received either TAU or BV during their incarceration, for 12 months following their release from prison. All women were initially selected for inclusion in the study from a female-only prison in a midwestern state. Two administrative data sets, as well as parole officer case notes, were used to track the women's outcomes related to recidivism, relapse, and treatment admission during the follow-up period. In the following sections, we provide information on the initial treatment groups, as well as the women who were followed for one year. All research procedures were reviewed and approved by a full Institutional Review Board review (including with a prisoner representative) at the principal investigator's university.

Participants and Procedures

At the point of prison treatment, a randomized control trial was designed, assigning women to receive one of two treatments in 1:1 ratio. Randomization selection

criteria for the intervention study included conviction of a violent offense, substance-abuse dependency or positive drug screen during incarceration, no serious mental health issue that specifically involved housing on the mental health unit, and eligibility for release on parole within 18 to 24 months. Due to their violent offense, all women were required to participate in some type of violence-prevention programming. A computer generated a list of 52 names of women meeting all criteria. Names then were sorted by earliest release date, with the first of two cohorts selected based upon who would be likely to be released from prison soonest. After sorting the list by earliest release date, the study principal investigator and prison deputy warden selected women alternatively for either group (i.e., woman No. 1 was assigned to BV, woman No. 2 to TAU, woman No. 3 to BV, etc.). Although group assignments in each condition were equal at the beginning of this process, scheduling conflicts and errors within the prison database (e.g., women may have already completed the required treatment) resulted in a smaller sample (see Kubiak et al., 2015, for more details on participant selection).

Prior to the start of the study, a research team member conducted a one-hour session with each potential treatment group. Informed consent, provided in writing and verbally reviewed, stressed the voluntary and confidential nature of the study, as well as the short- and long-term data collection strategies that would be used to assess the intervention outcomes. Women were not compensated for participation in either condition. All procedures and forms were approved by the Institutional Review Board and by the department of corrections' research department (see Kubiak et al., 2015, for more details).

Ultimately, 42 women were involved in the RCT and agreed to be in the research study: 24 in BV and 18 in the TAU condition. Women were admitted to prison-based treatment between July and November 2011, with some women completing treatment in 2011 and others completing treatment in the first quarter of 2012. Based on release date eligibility, we anticipated that women would be in the community prior to January 2014, allowing for one year of data collection prior to the end of December 2014 (the end date for data collection agreed to by the researchers and department of corrections). However, as of January 2014, 4 women from BV and one woman from TAU remained in prison; these women had not been released from prison at all since the end of treatment, and as a result they are not included in the study. Among the 37 released women, 2 women were transferred out of state during the first month of their parole, resulting in an absence of subsequent state-level data and their removal from the study. As a result, 35 women were included in the analysis, with the independent variable being treatment condition (TAU $n = 16$; BV $n = 19$). Of the women involved in this study, there were no differences in measures of mental health (i.e., depression, anxiety, PTSD) at pretest. All of the women in the BV condition completed the treatment intervention (defined as 75% or more of the sessions), but 5 of the women in the TAU condition did not complete

treatment. However, women in the TAU condition attended a significantly greater number of sessions, irrespective of their completion status (TAU 33.75 vs. BV 18.47; $t = 4.57, p < .001$).

Due to variation in release dates, we use an equivalent time period for the post-incarceration release time (12 months) to assess outcomes. Because all women had assaultive offenses and histories of SUD, women's parole conditions uniformly ordered them to: 1) report to their parole officers immediately upon release and then monthly thereafter; 2) submit to random drug testing at least twice per month; and 3) pay supervision costs, per department statutory requirements.

Measures

Data were extracted from parole officer case notes and a state-level department of corrections database. Case notes were extracted every 6 months, when a department of corrections administrator queried the target women's names within the statewide database and sent researchers the electronic case notes with entries from the supervising parole agent, parole supervisor, and drug-testing lab. These notes document dates of supervision visits, referrals to any treatment, drug testing, any arrest or other interaction with law enforcement, and miscellaneous data not considered as outcomes (e.g., payment of parole supervision fees, employment, etc.). In addition, we verified recidivism data via the publicly accessible Offender Tracking and Information System, which allows the public to assess whether someone is incarcerated and view that person's offense. This data system allows users to see all convictions that have occurred within the past 3 years. Finally, to verify treatment admission for each woman in our sample, we retrieved data from the department of corrections community provider billing database, which contained records of substance-abuse treatment admissions paid for by the department during the parole period.

We established a taxonomic system to interpret and code information from the narrative provided in the parole case note (Bradley, Curry, & Devers, 2007). Parole officer case notes were reviewed and coded dichotomously, as either *present* or *absent* for specific categories of activities and behaviors common during the parole period (i.e., drug test administered, drug test positive, treatment referral, or arrest). The information was then entered into a grid organized by month and designed to capture any occurrence of the behavior/activity for 12 consecutive months. Although some argue that one person is sufficient to code such qualitative data (Morse, 1999; Morse & Richards, 2002), the parole notes were reviewed by five members of the research team to establish preliminary working knowledge of specific information provided by the parole officers and the details embedded in the notes. In addition, three team members coded the same five cases to ensure reliability in data interpretation. Once reliability over 90% was reached, the remaining cases were coded independently by one of the researchers. If questions arose due to some new event

or circumstance, the research team made collective decisions during a weekly team meeting.

Dependent variables included recidivism, relapse, and involvement in community-based treatment. *Recidivism* was defined in three ways: a) return to prison for a parole violation, b) new arrest related to any offense, and c) jail confinement. Because of the overlap between arrest and jail confinement, the two variables were collapsed into *presence of an arrest or jail confinement*. *Time to recidivism* was defined as the number of months to the first recidivism event. *Relapse* was defined as the presence of a positive drug screen, as well as the proportion of positive drug-screen results in relation to the number of drug screens administered. (We found that the number of drug screening tests varies per individual woman). *Time to first positive drug screen* was captured in the number of months to the first positive screen. *Involvement in community-based treatment* was defined as the presence of a referral to treatment by the parole officer, admission into treatment, and time to first treatment admission.

Analyses

Independent sample *t*-tests and chi-squares were conducted to examine differences in the number of events/months or the presence/absence of an event. Bivariate logistic regression was used to analyze group differences in the probability of an event occurring. With the small sample of 35, power was .6 to find a large effect (i.e., $OR \leq .25$ or, equivalently, $= > 4.00$ [Chen, Cohen, & Chen, 2010], for recidivism and relapse, for which base rates were near .5. Power for *t*-test comparisons on continuous dependent variables was .8 to detect differences of at least 1 *SD* [$d = 1$]).

Results

As Table 1 illustrates, we found no differences between the treatment groups on demographic characteristics of age at offense ($M = 30.26$, $SD = 9.17$), age at time of treatment ($M = 33.66$, $SD = 8.91$) or race (46% White, 54% African American). Although all women had a current or previous offense categorized as an assaultive felony, there was a greater period of time between prison treatment admission and release onto parole status for women in the BV condition as compared to the TAU (562 days vs. 378 days; $t(33) = 2.88$, $p = .007$). Although this difference exists, it was not related to any of the outcome variables and therefore was not used as a covariate in the analysis.

In terms of recidivism, no woman from either condition returned to prison during the 12-month study period, which suggests that none of the women in the sample committed any serious offense or parole violation. When using arrest as an outcome, 11% ($n = 2$) of BV women and 38% ($n = 6$) of TAU women had evidence of a new arrest ($\chi^2(1) = 3.58$; $p = .06$). However, there was substantial overlap between

Table 1
Comparison Between Groups: Demographics and Recidivism, Relapse, and Treatment

Variables	Total N = 35	TAU (AOP) n = 16	Experimental (BV) n = 19	Test Statistic (t-test or χ^2)	p value
Demographic					
Age at offense M (SD)	30.26 (9.17)	30.13 (9.37)	30.37 (9.25)	t = 0.77	p = .94
% African American # (%)	19 (54.3%)	9 (56.3%)	10 (52.6%)	$\chi^2 = 0.46$	p = .83
Age at Tx M (SD)	33.66 (8.91)	33.50 (9.88)	33.79 (8.28)	t = 0.94	p = .93
Year between offense and Tx M (SD)	3.41 (3.60)	3.37 (3.34)	3.42 (3.88)	t = 0.37	p = .97
Time between Tx and Parole (days) M (SD)	478.05 (207.97)	378 (180.23)	562.32 (195.54)	t = 2.88	p = .007
Recidivism					
Return to prison	0	0	0		
Any Arrest # (%)	8 (22.9%)	6 (37.5%)	2 (10.5%)	$\chi^2 = 3.58$	p = .06
Any Jail # (%)	11 (31.4%)	8 (50.0%)	3 (15.8%)	$\chi^2 = 4.72$	p = .03
Relapse					
Any indication of drug use # (%)	13 (37.1%)	8 (50.0%)	5 (26.3%)	$\chi^2 = 2.09$	p = .15
Total # of tests obtained M (SD)	14.77 (11.05)	12.63 (9.26)	16.58 (12.32)	t = 1.06	p = .30
Total # positive tests M (SD)	1.54 (3.33)	1.81 (2.76)	1.32 (3.82)	t = 0.43	p = .67
Proportion of positives to # tests M (SD)	0.13 (0.26)	0.20 (0.30)	0.09 (0.23)	t = 1.28	p = .23
Treatment					
% Referred by Parole to Any Community Tx # (%)	14 (40.0%)	11 (68.8%)	3 (15.8%)	$\chi^2 = 10.15$	p = .001
% Admitted to ANY Community Tx # (%)	25 (71.4%)	12 (75.0%)	13 (68.4%)	$\chi^2 = 0.18$	p = .67

Note. BV = Beyond Violence experimental condition. TAU = treatment as usual. AOP = Assaultive Offender Program. Tx = treatment. M = mean. SD = standard deviation.

arrest and jail interface; all of the women with an arrest ended up in jail, but some women did not have an arrest yet still ended up in jail. When examining the number of women with evidence of a jail stay, we found that 16% ($n = 3$) of women in the BV condition had a jail stay, versus 50% ($n = 8$) of women in the TAU condition with a jail stay ($\chi^2(1) = 4.72; p = .03$). Because we suspect that there may have been a law enforcement choice to “hold” each of these women in jail for the parole officer rather than to formally arrest them, and that the two outcome variables lack independence, we collapsed the jail/arrest variable into a single outcome variable that represents formal contact with law enforcement (i.e., recidivism). Results of the bivariate logistic regression (illustrated in Table 2) showed that women who received BV were less likely to recidivate than those who received TAU ($OR = 0.19; CI = .04, .91, p = .04$). Among those who recidivated, women in BV averaged 2.0 months to first contact with law enforcement (jail or arrest) compared to 1.5 months for those in TAU. Neither completion of prison-based treatment nor the number of treatment sessions attended was related to recidivism outcomes.

Although women in BV had few instances of relapse, there were no significant differences between groups on any of the variables associated with relapse. Of the 34 women, 13 had at least one positive drug screen during the 12-month postincarceration period; 5 (26%) were from the BV condition, and 8 (50%) were from the TAU group ($\chi^2 = 2.09; p = .15$). Additional outcome variables associated with relapse were calculated in multiple ways to allow for variation in parole officer testing behavior. For example, even though drug tests were statutorily mandated for collection twice per month, the number of months in which women were tested averaged 7.91 ($SD 4.8$) of the 12 full months of review and did not significantly differ by group. Therefore, in addition to the number of months tested, we compared the number of tests obtained ($M = 14.77; SD = 11.05$), total number of positive drug tests ($M = 1.54, SD = 3.33$), and the proportion of positive drug screens to the total number of tests ($M = 0.13; SD = 0.26$). There were no significant differences

Table 2
Logistic Regression to Examine Event: Recidivism, Drug Use, and Treatment Admission Between Experimental (Beyond Violence) and TAU (Assaultive Offender Program) Conditions

Dependent Variables	β	SE	OR	CI	Model LR χ^2	p value
Recidivism	-1.67	0.80	0.19	0.04, 0.91	4.82	0.03
Positive Drug Test	-1.03	0.72	0.38	0.09, 1.47	2.10	0.15
Community Treatment Admission	-0.33	0.78	0.72	0.16, 3.20	0.19	0.67

Note. SE = standard error. OR = odds ratio. CI = confidence interval. LR = logistic regression.

between groups on any of these variables (see Table 1). A subsequent analysis of the relationship between recidivism and relapse revealed no significant associations within this small sample; 24% of those without a positive drug screen recidivated, compared to 46% of those with a positive drug screen ($\chi^2(1) = 1.8, p = 0.18$). In addition, the number of positive drug screens was not related to recidivism ($t = 1.64; p = .87$).

Finally, in terms of treatment referral and treatment admission, the parole officers referred 40% ($n = 14$) of women within the study to treatment (primarily treatment for SUD) during the parole period: 69% ($n = 16$) of the TAU group and 16% ($n = 3$) of BV participants ($\chi^2(1) = 10.15, p = .001$). Because parole officers were unaware of which experimental condition the women were in (TAU vs. BV)—or even that the women were involved in a follow-up study—we are confident that study condition was not a factor in the differences in referrals to treatment.

To assess evidence of treatment admission, we used both parole officer case notes and billing records for substance-abuse treatment agencies that contract with the state's department of corrections. We found that 71% ($n = 25$) of the women were admitted into treatment at some point during their first year after prison release. Interestingly, treatment admission rates did not statistically differ by condition (75% or 12 of TAU women, and 68% or 13 of women in BV; [$\chi^2(1) = 0.183, p = .67$]). However, there were differences between TAU and BV in the relationship between referral and admission to treatment, as can be seen in Table 3. In TAU, as expected, treatment admission was more likely for women who had been referred, while in BV, treatment admission was not related to referral. More women in BV engaged in treatment without referral by their parole officer; 53% (10 of 19) of the

Table 3

The Relationship Between Treatment Referral and Treatment Admission by Group

Group x Referral	Admission to Treatment — n (row %)			Test Statistic
	Not admitted	Admitted	Total	
TAU/AOP — no referral	3 (60%)	2 (40%)	5 (100%)	
TAU/AOP — referral	1 (9%)	10 (91%)	11 (100%)	$\chi^2(1) = 4.75^*$
BV — no referral	6 (38%)	10 (63%)	16 (100%)	
BV — referral	0 (0%)	3 (100%)	3 (100%)	$\chi^2(1) = 1.64$
Total	10	25	35	Cochran's $\chi^2(1) = 6.11^*$

Note. TAU = treatment as usual. AOP = Assaultive Offender Program. BV = Beyond Violence experimental condition.

* $p < .05$.

women in BV self-initiated treatment, compared to 13% (2 of 16) of women in the TAU group.

Discussion

The purpose of this study was to assess and compare the long-term outcomes (recidivism, relapse, treatment referral, and admission) of two violence prevention interventions that were delivered within a women's prison. The experimental treatment, Beyond Violence, a gender-responsive and trauma-informed intervention, was compared to the TAU condition (AOP). This comparison was designed to further test the efficacy of Beyond Violence, using the steps of an intervention research paradigm, after previous studies of short-term outcomes demonstrated more positive mental health and anger-related outcomes for women in Beyond Violence.

Although neither group had any members who returned to prison during the 12-month postincarceration follow-up time period, this study found that compared to TAU, BV had a significantly positive impact on recidivism for women. In fact, the arrest rate for women in the BV condition (11%) was far lower than the 34% the national data indicates (Durose, Synder, & Cooper, 2015), and the arrest rates for women in the TAU condition were slightly higher (38%). With the broader measure of recidivism (i.e., any interface with jail or arrest), the findings hold and are statistically significant, as only 16% of women in the BV condition had contact with law enforcement, compared to 50% of women in the TAU condition. The odds of women in the BV condition being involved with law enforcement decreased by 79% compared to those in the TAU condition. Although definitive data are not available on the new offense associated with the arrest variable, the absence of a return to prison suggests that none of the women committed a serious or violent act during the 12-month study period. This is particularly true of women on active parole status; any violation of parole conditions, including new criminal behavior, can be cause for termination of parole and an immediate return to prison.

Substance-abuse relapse showed similar patterns, with rates of relapse nearly double for the women in TAU (50%) versus BV (26%). The lack of a statistical significance on relapse is likely due to small sample size. Nonetheless, the trend is promising for long-term prevention given the relationship between substance use/misuse and the perpetration of violence by women (Lynch, Dehart, Belknap, & Greene, 2012; White & Widom, 2003). Previous research has found that recidivism among women with violent offenses is primarily for drug-related crimes (Deschenes, Owen, & Crow, 2007), so lower rates of substance-use relapse may reduce involvement in drug-related crimes. Moreover, research demonstrates that substance use is related to victimization, as well as subsequent criminal justice involvement. (DeHart, Lynch, Belknap, Dass-Brailsford, & Green, 2014; Salisbury & vanVoorhis, 2009). Although we found no associations between relapse and recidivism in this study, our earlier research on the Beyond Violence RCT indicates that many incarcerated women have high rates

of victimization, as well as symptoms of depression, anxiety, and PTSD (Kubiak et al., 2015); perhaps without treatment there might be a greater relationship between recidivism and relapse.

It is possible that the treatment interface during the parole period was supportive for women and prevented higher levels of recidivism (i.e., return to prison) and substance use. In total, 71% of participants in this study were admitted to some type of treatment during their first year on parole. It is perplexing that 16 of the 19 women in BV did not receive referrals to treatment by parole officers, particularly since in both groups all but one of the women who were referred to treatment were admitted to treatment. Parole officers can provide external motivation and support to those reentering the community. Such motivation and support can enhance outcomes (Morash, Kashy, Smith, & Cobbina, 2015), and it is possible that consistency in the referral process could have increased the continuity of care for the 21 women who were not referred (16 in BV, 5 in TAU). Nonetheless, 10 women in the BV condition who were not referred still engaged in treatment. It is difficult to say if this motivation to continue treatment was a product of the Beyond Violence intervention or some other variable. Grella and Rodriguez (2011) found that reentering women's motivation for aftercare treatment increased if they were involved in child welfare or used "harder" drugs. An alternative hypothesis may be that women who participated in Beyond Violence were more aware of risk factors and thus more motivated to engage in treatment; they thereby self-initiated treatment admission prior to the parole officer referral. We are unable to test these variables in our sample to determine if there were motivations beyond recovery or prevention of aggressive behavior. Moreover, in our collection of data related to treatment admission, we are unable to say with any specificity if the treatment is intended for substance abuse, mental health disorders, or both (i.e., co-occurring disorders). We know from parole officer notes and billing data the name of the agency the woman was referred or admitted to, but the name of the agency does not reveal the specific intervention received (i.e., mental health, substance abuse, or co-occurring disorders). In fact, providers working with reentering women in both mental health and substance-abuse intervention programs report the overwhelming need for support with necessities such as transportation and employment (Johnson et al., 2015).

Although it is difficult to compare the Beyond Violence intervention with other violence-prevention treatment interventions for women involved in the criminal/legal system, it is important to remember that all women participating in this study had demonstrated significant problems with alcohol or drug use—either assessed with a dependency at their admission into prison, or demonstrating a problem during incarceration (i.e., positive drug screen). Because substance-abuse treatment programs are the most common intervention for women involved in the criminal justice system (Tripoldi et al., 2011), it is perhaps most relevant to compare the long-term outcomes of Beyond Violence with substance-abuse interventions. Ear-

lier studies examining recidivism outcomes compared women involved in prison-based Therapeutic Communities to those receiving no treatment and found no differences in recidivism at 6 or 12 months (Messina, Burdon, & Pendergrast, 2006; Wexler, Falkin, Lipton, & Rosenblum, 1990). In a study of a specialized program for 1,182 women released from California women's prisons, Grella and Rodriguez (2011) found that 37% of women returned to prison within 12 months; however, there was no comparison group. More recently, the use of interventions that address co-occurring mental health and substance-use disorders, as well as gender-responsive treatment (GRT), have been delivered in women's prisons. Seeking Safety, an integrated approach that addresses PTSD and substance use disorders, has been tested in comparison to TAU (Zlotnik, Johnson, & Najavits, 2009) and waitlist conditions (Lynch, Heath, Matthews, & Cepeda, 2012). Although the outcomes associated with these studies did not measure recidivism and focused primarily on symptoms, Zlotnik and colleagues (2009) found that those in the Seeking Safety condition were less likely than the TAU to enter substance-abuse treatment in the 6 months post incarceration; however, there were no differences in engagement in psycho-social treatment. Messina and colleagues (2010) used a randomized controlled trial to compare TAU with a GRT approach in a California women's prison using Helping Women Recover (2008) and Beyond Trauma (2003), also developed by Covington. They found that the odds of women in the GRT condition being returned to prison decreased by 67% compared to women in the TAU condition.

This reduction in recidivism for GRT is similar to what was found for Beyond Violence, another GRT. However, the recidivism rates measured in Messina and colleagues' RCT (2010) operationalize recidivism as return to prison, and in this current study no one, in either condition, returned to prison. Although recidivism exists in this study, as measured by jail/arrest involvement, return to prison represents a potentially higher threshold. The absence of return to prison in this study may be attributable to involvement in violent offenses rather than other offense types such as property offenses, which have demonstrated higher return rates (Grella & Rodriguez, 2011). Nonetheless, the statistically significant decreases in recidivism exhibited by those in the BV condition are impressive as compared to TAU but require replication with larger samples.

Implications for Practice

Based on multiple examinations of both short- and long-term outcomes, Beyond Violence displays efficacy as a viable intervention for women convicted of violent offenses. In particular, women who participated in Beyond Violence displayed various desired outcomes: improved mental health functioning inside prison, engagement in post-prison release treatment, low rates of positive drug screens after release, and low recidivism rates during the first 12 months after release from prison. Beyond Violence is designed as a multimodal intervention to target different factors, such as

violent behavior and substance use, and these outcomes suggest that it is successful in influencing these factors. This intervention may be valuable for departments of correction that seek to reduce recidivism by addressing the interconnected and multiple factors pertinent to women's mental health, anger, and behaviors.

Many behavioral health organizations are moving toward trauma-informed practices and trauma-specific interventions throughout their organizations (Substance Abuse and Mental Health Service Administration [SAMHSA], 2014), but correctional facilities may be reluctant to do so. Often, correctional staff members see individuals serving sentences only as perpetrators and not as victims of violence. For many justice-involved women, victimization histories begin at an early age and continue into adulthood (DeHart et al., 2014; Messina & Grella, 2006), and practices such as strip-searches and pat-downs may exacerbate trauma symptoms (Miller & Najavits, 2012; SAMHSA, 2013). Women's prisons that have implemented trauma-informed services have experienced substantial decreases in institutional violence (i.e., assaults on officers/other inmates) and mental health problems (e.g., decrease in suicide attempts; Benedict, 2014). Social workers working within the criminal/legal system should encourage trauma-informed services and trauma-specific treatment for both men and women involved in this system (Kubiak & Covington, in press).

Limitations

Conducting a randomized control study within a closed organizational setting (Hearn & Parkin, 2001) such as a prison has limitations that researchers cannot control. For example, although our samples were selected and randomized based on their similar circumstances, we have no control of parole decisions. The choice of whether or when to parole is made by the state's parole board—a group of individuals appointed by the governor. Although most women in our sample were paroled within the study time frame, others were not. Moreover, time to parole differed greatly among women in our study. Hannah-Moffat & Yule's 2011 study of parole board decisions involving women with violent offenses found that these decisions often were based upon the programming the women received within the institution, as well as their ability to "take responsibility" for their actions. We do not know if these same factors were operating in our research setting or if the unique perceptions of differing, rotating parole board members (only three members vote on each case) created the variability. Nonetheless, this variability is a limitation that cannot be changed or controlled by research members.

Utilizing parole officer case reports to follow women in the community has several limitations, and administrative databases are prone to input errors or missing data. However, oversight by supervisors and the nature of a parole officer's responsibility to public safety may provide greater confidence in record keeping. Nonetheless, variability in the interpretation of statutes and performance of parole officer roles is a limitation. As indicated earlier, all women in our study had similar con-

ditions of parole-mandated substance-abuse treatment in the community, as well as drug testing twice monthly. Although there was considerable variability in the implementation of these conditions, we can find no evidence that the variability in implementation of these standards differed by group. Perhaps most problematic was the information on drug testing. For example, one woman in the TAU group had no tests at all. Although there were no differences by group in the number of tests administered, 5 participants (3 in BV, 2 in TAU) were tested in only one month instead of the expected 12 months. The variability in measurement is problematic and argues for a more objective measure of relapse. Nonetheless, there is no indication that these idiosyncratic behaviors by parole officers are differently applied to women in either condition. Yet, further outcome studies of Beyond Violence should implement more objective measures of relapse.

Finally, the sample size for this study is small and inhibits our statistical power to .6 for most analyses. Due to low power estimates (less than .1) for these analyses, we were unable to use Cox regression as initially intended to assess time to recidivism or relapse. Replication in larger samples would remedy this power issue and add to the evidence on the intervention's efficacy.

Conclusions

As the goals of Beyond Violence specify reducing violent and aggressive actions within and outside of prison, the recidivism outcomes suggest a possible alignment with the intended goals of the Beyond Violence intervention. Women in the BV condition interfaced significantly less with the criminal/legal system than their counterparts in the TAU condition. Although the specific underlying mechanisms for this long-term treatment success have yet to be tested, we hypothesize that there may be a relationship to the short-term outcomes that found a significant decrease in anger scores and mental health symptoms for women in BV compared to women in the TAU group (Kubiak et al., 2015). Because other studies have linked anger with post-traumatic stress disorder and various forms of aggression (Maneta, Cohen, Schulz, & Waldinger, 2012; Shorey, Brasfield, Febres, & Stuart, 2011; Swan, Gambone, Fields, Sullivan, & Snow, 2005), the data suggest that this reduction in anger and other psychological symptoms may have long-term benefits.

Moreover, results indicate that the gender-specific and trauma-informed Beyond Violence intervention can provide better results for women than the higher dosage TAU intervention that was initially designed for men (20 vs. 44 sessions). This finding is particularly potent when the average actual program length for TAU is more than twice as long as that for BV. The savings in costs and resources attributable to the more efficient delivery of the Beyond Violence curriculum renders Beyond Violence superior to AOP in the delivery of both short- and long-term outcomes. Further research with larger samples and multiple prison sites will be necessary to further test these outcomes.

Author Notes

Sheryl Kubiak, PhD, is a professor in the School of Social Work at Michigan State University.

Gina Fedock, PhD, is an assistant professor in the School of Social Service Administration at University of Chicago.

Woo Jong Kim, PhD, is visiting assistant professor in the School of Social Work at University of Toledo.

Deborah Bybee, PhD, is a professor of psychology at Michigan State University.

Correspondence regarding this article should be directed to Sheryl Kubiak, 655 Auditorium Drive, 110 Baker Hall, East Lansing, MI 48824 or via e-mail to spk@msu.edu

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