AN OUTCOME EVALUATION OF A PRISON-BASED LIFE SKILLS PROGRAM: THE POWER OF PEOPLE

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Research Summary

The Power of People (PoP) is a personal leadership development course that was originally developed in a non-correctional setting and now serves as a prison-based life skills course. This study examined PoP's effect on four different types of recidivism: rearrest, reconviction, reincarceration, and technical violation revocation. The results of the analyses revealed that PoP does not have a significant effect on any of the four measures of recidivism. Following established principles of effective correctional treatment, we make several recommendations that could improve PoP's effectiveness on recidivism outcomes. Overall, this study provides guidance on how to make programs not originally designed for correctional systems into effective recidivism-reducing tools.

Introduction

The issues that plague imprisoned offenders are well-documented. Nationally, many prisoners lack a high school or GED diploma (Harlow, 2003), and nearly 30 percent of Minnesota state prisoners do not have an education beyond the 11th grade (Minnesota Department of Corrections, 2012). On average, prisoners have unstable employment histories (Visher, La Vigne, & Travis, 2004) and face chronic unemployment when they leave prison (Brees, Ra'el, and Grant, 2000; California Department of Corrections, 1997; Rocque, Bierie, & MacKenzie, 2010; Travis, Solomon, & Waul, 2001). Many prisoners also have chemical dependency and mental health issues that have been left untreated (Lynch and Sabol, 2001; Mumola & Karberg, 2006). Ninety percent of Minnesota state prisoners are diagnosed as chemically dependent or abusive, but there are only 804 treatment beds (Minnesota Department of Corrections, 2011). Moreover, offenders are often surrounded by negative influences (Visher, Yahner, & LaVigne, 2010; Warr, 2002) and often lack good decision making skills (e.g., Gottfredson & Hirschi, 1990; Lynam & Miller, 2004; Ross and Fabiano, 1985; Vazsonyi et al., 2001).

All of these issues contribute to high recidivism rates observed across the nation (Hughes & Wilson 2003; Langan & Levin, 2002). In Minnesota, 37 percent of state prisoners will be convicted of a new felony-level offense within three years of release, and 25 percent will return to prison (Minnesota Department of Corrections, 2010). Given the social and economic deficits that imprisoned offenders face, prison-based programming may be one of the most critical functions of corrections (Cullen & Gendreau, 2000). Prison-based programs that address all of these issues are more widely available than ever. According to the most recent data from the Bureau of Justice Statistics, work readiness programs are available in 88 percent of federal and

state facilities, and educational programs are available in 85 percent of facilities (Stephan, 2008). Counseling programs, including chemical dependency treatment and life skills programming, are available in 92 percent of adult facilities.

Despite their wide availability, prison programs are reaching a shrinking proportion of prisoners (Mears et al., 2002). For example, the proportion of offenders who received secondary educational programming decreased from 43 percent to 35 percent between the beginning and end of the 1990s, while vocational training went from reaching 31 to 27 percent of prisoners during the same time period (Lynch & Sabol, 2001). This decline is likely due to increasing prison populations and under-funded correctional systems (Warren, et al., 2008).

State legislators and prison administrators may be reluctant to increase the capacity of prison-based programs because they are uncertain of the value these programs provide and they do not know which programs are most effective (Mears et al., 2002). A growing body of research has identified effective and ineffective prison-based programming, but more research is needed. This study contributes to the growing body of research with an evaluation of a life skills program that is offered in Minnesota state correctional facilities. In addition to an evaluation of this program, the present study highlights attributes of effective prison programs and provides guidance on how to make existing programs more effective at reducing recidivism. In the following section, prior research on prison-based life skills programs will be outlined, followed by a review of the principles of effective correctional programming, as well as a description of the program that is being evaluated in this study. Later sections will describe the data and methods used in this study, the results of the analyses, and the conclusions of this research.

Life Skills Programming in Prisons

Much of the research on prison-based programming has focused on chemical dependency treatment (e.g., De Leon et al., 2000; Duwe, 2010; Prendergast, Hall, & Wexler, 2003), interventions for severely and persistently mentally ill offenders (e.g., Sullivan et al., 2007), as well as treatment for sexual offenders (e.g., Alexander, 1999; Duwe & Goldman, 2009; Nicholaichuk et al., 2000). Several studies have also examined the effects of prison-based life skills programs. Life skills programming includes any type of training that builds basic personal management skills. This type of programming covers many basic skills, including financial literacy and parenting skills.

A large proportion of the life skills programming research has focused on programs that have a cognitive-behavioral approach (e.g., Clarke, Simmonds, & Wydall, 2004; Robinson, 1995; Losel, 1996). Cognitive-behavioral programs are interventions that address maladaptive behaviors and dysfunctional thought processes. Multiple meta-analyses have found that cognitive-behavioral programs that focus on a wide variety of offender needs significantly decrease recidivism, although the effects sizes are usually modest (e.g., Landenberger & Lipsey, 2005; Lipsey, Chapman, & Landenberger, 2001; Lipsey & Landenberger, 2006; Pearson et al., 2002). For example, Pearson et al.'s (2002) meta-analysis included studies that looked at a diverse set of treatments that all had a behavioral or cognitive-behavioral approach, including social skills development and anger management skills. Overall, these programs significantly reduced recidivism.

Multiple life skills programs used in correctional settings have been found to be effective. One of the most widely available and studied programs is Thinking for a Change (T4C). T4C is a cognitive-behavioral program created by the National Institute of Corrections that develops

interpersonal communication skills, changes thought patterns that can lead to antisocial behaviors, and promotes pro-social decision-making skills (Bush, Glick, & Taymans, 1997). Several studies have found that T4C significantly reduces recidivism among offenders who have received the treatment compared to offenders who have not (Golden, 2002; Golden, Gatchel, & Cahill, 2006; Little, 2003; Lowenkamp et al., 2009). Lowenkamp et al. (2009) compared 121 felony probationers who participated in a T4C class with 96 felony probationers who did not. After six months to two and a half years of follow-up time, 23 percent of the T4C participants were rearrested, compared to 36 percent of the control group offenders.

The Lifestyle Change Program (LCP) is a cognitive-behavioral program that is led by a trained psychologist and runs for over a year. Much like T4C, LCP is designed to develop the offenders' pro-social decision-making skills, and empower the offenders to make positive lifestyle changes (Walters, 1999). Walters (1999) assessed the effects of LCP on institutional discipline by comparing federal inmates who volunteered for, or were scheduled to enter LCP, but never began the course, to federal inmates who participated in at least one phase. The LCP participants were divided into groups depending on how many phases of the program they completed or whether they graduated from the program. The author found that inmates who completed at least one phase had fewer institutional discipline reports than offenders who did not participate in LCP at all. In a later follow-up study using the same sample of offenders, Walters (2005) found that offenders who participated in at least one phase of LCP had lower rates of rearrest and reincarceration. Moreover, only offenders defined as high-risk had significantly lower rates of arrests that led to reincarceration.

The Reasoning and Rehab (R&R) program is one of the longest running life skills programs that has a nationally recognized and standardized curriculum (Ross & Fabiano, 1985).

Much like the other life skills programs described above, R&R is a highly structured program designed to be delivered to a small group of offenders (up to 12) over several weeks. The program teaches offenders how to react to situations appropriately and develops pro-social cognitive skills. A meta-analysis that included 16 evaluations of this program found that R&R participation significantly reduced recidivism by 14 percent compared to untreated control groups (Tong & Farrington, 2006).

Much like all of the effective programs above, PoP is a life skills program that targets antisocial cognition and maladaptive behaviors. However, unlike the prison programs described above, PoP does not have a highly structured cognitive-behavioral approach. In later sections we will examine whether PoP should adopt a structured cognitive-behavioral approach, and how that could be achieved.

Principles of Effective Prison Programming

All of the programs described above were likely successful because they adhered to at least some of the principles of effective treatment (Andrews, Bonta, & Hoge, 1990; Gendreau, 1996; Gendreau & Andrews, 1990). Decades of criminological research have revealed several techniques and program components that are often associated with lower recidivism rates among participants, regardless of the program's main goal (e.g., anger management, social skills, cognitive skills). Programs that have at least some of the following components tend to be the most effective at changing behaviors and reducing recidivism:

Cognitive-behavioral programming: Programs that target and change maladaptive behaviors through reinforcement and modeling produce the best results (for a review, see Lipsey, Landenberger, & Wilson, 2007). Many effective programs teach pro-social decision making skills and they teach offenders how to appropriately react to negative

stimuli. All of the programs listed above (T4C, LCP, and R&R) have a cognitive-behavioral approach.

Programs matched to level of risk: The intensity of programs should be matched to the offenders' risk levels (e.g., Andrews et al., 1990; Lowenkamp, Latessa, & Holsinger, 2006). Generally, programs that occupy 40 to 70 percent of an offender's time over a three to nine month period should be reserved for offenders with the most risk factors (e.g., lengthier prior record, offending at an early age, family criminality, antisocial personality; Matthews, Hubbard, & Latessa, 2001). Less intensive programs wither lower dosage levels should be geared towards medium- and low-risk offenders. Risk levels should be determined by a validated and normed risk assessment tool, such as the Level of Service Inventory Revised (LSI-R), or other similar risk assessment tools. At a minimum, assigning low-risk offenders to high intensity programs is a waste of resources. At worst, placing low-risk offenders in high intensity programs could increase the risk of reoffending, as several studies have demonstrated (Andrews & Dowden, 1999; Bonta, Wallace-Capretta, & Ronney, 2000; Lowenkamp & Latessa, 2002; Lowenkamp et al., 2006).

Programs matched to criminogenic needs: Offenders should be assigned to programs that address specific criminogenic needs (Andrews, Bonta, & Hoge, 1990; Gendreau, 1996; Gendreau & Andrews, 1990). Major criminogenic needs include anti-social attitudes, association with other offenders, disrupted family and personal relationships, chemical dependency, and poor decision making, among others (Andrews & Bonta, 2006). Offenders should be assigned to programming that addresses their specific criminogenic needs, which are revealed through a needs assessment. For example, offenders who are

identified as chemically dependent should be assigned to chemical dependency treatment. Offenders with a history of domestic violence should receive domestic violence prevention training. Issues such as chemical dependency and domestic violence likely contribute to an offender's criminality. Addressing these issues could lead to desistance from crime.

Highly structured programs with knowledgeable and competent staff: Programs should be highly structured and administered by well-trained staff (Matthews et al., 2001). The program should have built-in contingencies that are firm but fair. That is, if offenders do not follow the program protocols, staff should be able to immediately recognize these lapses and there should be firm but fair consequences. Moreover, the program style and design should complement the offenders' learning styles (Matthews et al., 2001). For example, offenders with severe intellectual disabilities may not respond well to many types of cognitive-behavioral training.

Relapse prevention and aftercare services: Effective correctional programs have built-in relapse prevention and aftercare for participants (Matthews et al., 2001). Some of the best and most effective prison programs begin in the facility and offer services once the offenders are in the community. For example, an evaluation of Minnesota's Comprehensive Offender Reentry Plan (MCORP) found that offenders who participated in chemical dependency treatment both inside and outside of the prison after release had the lowest levels of recidivism compared to offenders who did not participate at all or offenders who only enrolled in treatment in the prison (Duwe, 2012)

Present Study

The present study evaluates the effectiveness of a ten-week prison-based self-development life skills program. The Power of People (PoP) is a leadership development program that was originally designed for non-correctional audiences and has been adapted into a life skills program for prisoners. PoP was introduced to the prisons as an African American men's group at the Minnesota state prison in Faribault in late 2005. By early 2006, PoP evolved into a racially and ethnically diverse self-development program. After the Minnesota Department of Corrections (MnDOC) received a federal life skills grant in 2007, the program expanded to three more adult facilities, including the state's only all-female facility. As of 2012, PoP is available in a total of four all-male adult facilities.

The curriculum for this program is derived directly from a book by the same name (Price, 2003). There are currently only two facilitators for this class, and one of them is also the author of the book and designed the entire curriculum. The class is designed to cover all of the lessons in this book, but the daily curriculum is not highly structured and precisely prescribed for each lesson.

The book outlines principles of leadership and self-efficacy. Most of the material describes four different types of people, two of which can have a negative influence on individuals and two that can have a positive influence. The book teaches readers how to identify these different types of people, how to avoid negative influences and how to seek out and adopt the characteristics of positive types of people. Although this book and the curriculum were not designed originally as a prison-based program, the class does address two very important criminogenic needs: (1) antisocial associates, and (2) antisocial cognition.

The class meets for one and half to two hours per week. Each class serves 20 to 60 participants at a time, depending on facility regulations and classroom space availability. Participants are assigned readings from the book each week and must complete a homework assignment (e.g., essays, short answers) based on discussion questions in the book or questions posed by the instructor. In addition to lectures, class sessions may include open discussions or role-playing. Participants who do not regularly complete the readings and homework assignments and miss more than two class meetings are failed from the class. Participants who complete all ten weeks of the course are considered graduates and are able to become tutors in future PoP classes. The PoP administrators have a facility in the city of Minneapolis which can house up to five recently released PoP participants for no longer than 45 days. This facility also hosts weekly group meetings that are open to all PoP participants who have been released into the community.

Every participant is eligible to retake the class regardless of whether they failed or graduated. The only requirements for joining the class are that, (1) prisoners must be at a facility that offers the class, (2) they must have enough time remaining in their confinement period to complete the class, and (3) they must also be available to attend the weekly classes. Unlike most other prison-based programs, entrance into the class is not based on a risk and needs assessment. That is, all offenders of all risk levels and backgrounds are eligible to participate in the class. Certain types of offenses and lengthy sentences do not preclude offenders from joining the class.

The program has been well received by both offenders and prison administrators, as evidenced by the fact that it has expanded to more facilities since its inception and classes typically have waiting lists. However, this program has not been evaluated to find out whether it actually has an effect on recidivism, which is one of PoP's main objectives. The research

presented in this study will determine whether PoP participation has a significant effect on recidivism.

Data and Methodology

The present study uses a retrospective quasi-experimental design to compare offenders who participated in PoP with those who did not. Recidivism outcomes were compared between PoP participants and a matched group of non-participants. Both the treatment and comparison groups were released from Minnesota state facilities between February 2006 and June 2011. This period of time aligns with when the first PoP participants were released from prison, and it allows for at least a one year follow-up for everyone included in the study. Recidivism events were captured up to the end of June, 2012. This study includes offenders released from all nine adult state prison facilities in Minnesota. Because PoP classes were offered in the only female prison in Minnesota for less than one year and because only a small proportion of MnDOC's prisoners are female, most of the sample consists of male offenders.

Between February 2006 and June 2011, 957 PoP participants were released from prison. During that same time period, 22,907 non-participants were released. As we will describe later in more detail, propensity score matching was used to form a comparison group[1]. One of the key matching variables was the offenders' LSI-R scores. The LSI-R is a risk assessment tool used by many correctional agencies, including MnDOC. Unfortunately, not all offenders were assessed using the LSI-R during each term of confinement. Given the importance of this tool in predicting recidivism, this study included only those offenders who were assessed with the LSI-R during the period of confinement included in this research. About seven percent of the PoP group (70

[1] Offenders who wanted to take the PoP class but were unable to due to classes filling to capacity would have made an ideal comparison group for this study. However, records were not kept of wait-listed offenders.

offenders) and 32 percent of the comparison pool (7,338 offenders) did not have a LSI-R score. These offenders were eliminated from the study.

Dependent Variables

Recidivism, the outcome variable in this study, is measured four different ways: 1) rearrest, 2) felony reconviction, 3) reincarceration for a new felony offense, and 4) revocation for a technical violation of supervised release. Rearrest and reconviction data were obtained from the Minnesota Bureau of Criminal Apprehension, while reincarceration data (including supervision revocations) were obtained from MnDOC's Corrections Operations Management System (COMS). Recidivism was tracked through the end of June, 2012. Thus, all of the offenders in this study had at least one year of post-release follow-up time. For all of the offenders in this study, follow-up time ranged from one year to over six years (76 months) and was almost three years long on average (34.9 months).

Recidivism was measured in four ways to capture the least and most restrictive measurements of recidivism. Rearrest and supervision revocation are the least restrictive measurements of recidivism. Offenders may be rearrested, but never charged or convicted of any crime. Offenders who are revoked from supervision may have failed to follow the conditions of their release, but may not have violated any laws. Reincarceration and felony reconviction are the most restrictive forms of recidivism, in that they require formal proceedings and come as a result of the most serious forms of criminal activity. The main limitations with using official data are that a) only those offenses that come to the attention of police or supervision agents are recorded, and b) only offenses that occurred in Minnesota are included. Thus, recidivism rates in this study are likely underestimates of actual recidivism rates.

Table 1. Logistic Regression Model for Power of People Selection

Predictors	*Predictor Description*	*Coeff.*	*Exp(B)*	*Std Error*
Male	Male = 1; Female = 0	-0.18	0.84	0.147
Minority	Minority = 1; White = 0	0.64**	1.90	0.081
Age at Release (years)	Offender age at time of release from prison	-0.01**	0.99	0.004
Prior Supervision Failures	Number of prior revocations while under correctional supervision	0.18**	1.20	0.033
Prior Convictions	Number of prior convictions, excluding index conviction(s)	0.04**	1.04	0.010
LSI-R Score	Most recent Level of Service Inventory-Revised (LSI-R) score prior to release	-0.02**	0.99	0.005
Metro Commit	Committed from Twin Cities metropolitan area = 1; Greater Minnesota = 0	0.32**	1.39	0.079
New Commit	Most recent prison admission was as a new commitment; probation and release violators serve as the reference	0.31**	1.36	0.083
Offense Type	Person offense serves as the reference			
Property	Property offense = 1; non-property offense = 0	-0.01	0.99	0.127
Drugs	Drug offense = 1; non-drug offense = 0	-0.05	0.95	0.117
Criminal Sexual Conduct	Sex offense = 1; non-sex offense = 0	0.66**	1.93	0.137
DWI	Felony DWI offense = 1; non-felony DWI offense = 0	0.15	1.16	0.153
Other	Other offense = 1; non-other offense = 0	0.02	1.03	0.124
Length of Stay (months)	Number of months between prison admission and release date	0.01**	1.01	0.001
Institutional Discipline	Number of discipline convictions received during imprisonment prior to release	-0.02	0.98	0.013
GED/High School Degree	Had at least a GED or high school diploma upon release from prison	0.40**	1.49	0.094
Drug Treatment	Completed chemical dependence treatment during imprisonment prior to release	0.88**	2.41	0.093
Sex Offender Treatment	Completed sex offender treatment during imprisonment prior to release	-0.30	0.74	0.214
Supervision Type	Supervised release serves as the reference			
Work Release	Work release = 1; non-work release = 0	-0.02	0.98	0.107
ISR	Intensive supervised release (ISR) = 1; non-ISR = 0	-0.23*	0.80	0.104
CIP	Challenge incarceration program (CIP) = 1; non-CIP = 0	-1.52**	0.22	0.203
Discharge	Discharged = 1; released to correctional supervision = 0	-0.05	0.95	0.226
Release Year	Year offender was released from prison for index offense	0.46**	1.58	0.024
Constant		-919.75**		48.850
N		16,456		
Log-likelihood		6081.16		
Nagelkerke R^2		0.14		

** $p < .01$

* $p < .05$

Because many offenders who are arrested, reconvicted, and reincarcerated also spend time in confinement for a technical violation, it was necessary to account for this loss of at-risk time in the analyses. To accurately measure the actual amount of time offenders were at risk to reoffend (i.e., "street time"), any time spent in confinement for a technical violation prior to June 30th, 2012 was deducted from the at-risk period for three of the measures of recidivism (rearrest, reconviction, and reincarceration).

Independent Variables

The central purpose of this study is to measure the effectiveness of PoP at reducing recidivism. Thus, participation in PoP is the primary independent variable. Offenders who participated in PoP were assigned a value of "1", while non-participants were given a value of "0".

In addition to PoP participation, we also used several theoretically relevant control variables. Several of these control variables were pulled from COMS, including the offender's sex, race, and age at release. An offender's prior conviction history was derived from data from the BCA. A description of all of these variables is located in Table 1.

Propensity Score Matching

Because PoP participants self-select into the class, this study employs propensity score matching (PSM) to approximate random selection (Rosenbaum & Rubin, 1985). PSM is a method that estimates the probability of selection into the treatment group based on a group of variables that likely impact treatment group selection. This study used logistic regression, in which treatment group participation was the dependent variable (0 = no PoP participation; 1 = PoP participation) and the variables thought to have an impact on involvement in PoP were the independent variables. This analysis produced a propensity score for each individual, which

represents that individual's probability of selection into the treatment group. Treatment and control group members that have similar propensity scores are included in the final sample. This process creates balanced treatment and control groups, whose main difference is that one group received the treatment (i.e., PoP participation) and the other group did not.

Propensity scores were calculated and saved for each of the 887 PoP participants and the 15,569 non-participants in the comparison pool using the logistic regression model displayed in Table 1[2]. The coefficients displayed in Table 1 reveal that a number of variables significantly predicted selection into the PoP group. Minority offenders, offenders with more prior supervision failures and prior felony convictions, offenders committed from the Minneapolis-St. Paul metro area, newly committed offenders, offenders serving time for Criminal Sexual Conduct, offenders with lengthier sentences, offenders who had at least a high school or GED diploma, and offenders who completed chemical dependency treatment all had significantly higher odds of entering into PoP. Conversely, older offenders, offenders with higher LSI-R scores, offenders who were later placed on intensive supervised release upon release, as well as offenders released under the Challenge Incarceration Program (CIP) supervision all were significantly less likely to enroll in PoP. The positive and significant effect of release year on PoP enrollment likely reflects greater enrollment in later years due PoP's expanded availability.

After obtaining propensity scores for all 16,456 offenders, a "greedy" matching procedure that utilized a without replacement method was used to match the PoP participants with the non-participants. PoP participants were matched to non-participants who had the closest propensity score (i.e., "nearest neighbor") within a caliper (i.e., range of propensity scores) of 0.10. Matches were found for all 887 PoP participants. Table 2 presents the means for the

[2] The model used to produce the propensity scores is represented by the following equation: $p(X) = Pr\{D = 1|X\} = E\{D|X\}$, where D (0 or 1) is the indicator of treatment group participation and X is the amalgamation of pre-treatment characteristics (Rosenbaum & Rubin, 1985).

propensity scores and all of the covariates used in the logistic model in Table 1 for both groups (PoP participants and non-participants) prior to matching ("unmatched") and after matching ("matched"). In addition to tests of statistical significance ("t test p value"), Table 2 provides a measure ("Bias") developed by Rosenbaum and Rubin (1985) displayed in the follow equation:

$$\text{Bias} = \frac{100(\overline{X}_t - \overline{X}_c)}{\sqrt{\frac{(S_t^2 + S_c^2)}{2}}}$$

The above equation quantifies the amount of bias between the treatment and comparison groups (i.e., standardized mean difference between samples), where $\overline{X}_t$ and S_t^2 represent the sample mean and variance for the treated offenders and $\overline{X}_c$ and S_c^2 represent the sample mean and variance for the untreated offenders. If the value of this statistic exceeds 20, the covariate is considered to be unbalanced (Rosenbaum and Rubin, 1985). As shown in Table 2, the matching procedure reduced the bias in propensity scores between the PoP participants and non-participants by almost 99 percent. Whereas the p value was 0.00 in the unmatched sample, it was 0.85 in the matched sample. In the unmatched sample, there were six covariates that were significantly imbalanced (i.e., the bias values exceeded 20). But in the matched sample, covariate balance was achieved given that no covariates had bias values greater than 20.

Table 2 reveals that before matching based on propensity scores, PoP participants and non-participants had many significant differences on several key variables. However, there was still substantial overlap in propensity scores. In fact, most of the offenders in both the treatment and control groups (92 percent of PoP participants and 99 percent of non-participants) had propensity scores less than 0.25.

Table 2. Mean Comparisons and Bias Reduction Before and After PSM

Variable	*Sample*	*PoP Mean*	*Non-PoP Mean*	*Bias (%)*	*Bias Reduction*	*t test p Value*
Propensity Score	Unmatched	11.40%	5.05%	65.15		0.00
	Matched	11.40%	11.32%	0.73	-98.88%	0.85
Male	Unmatched	93.00%	91.00%	6.17		0.03
	Matched	93.00%	93.00%	0.00	-100.00%	1.00
Minority	Unmatched	62.00%	47.00%	25.02		0.00
	Matched	62.00%	62.00%	0.00	-100.00%	0.92
Age at Release	Unmatched	35.22	34.84	3.21		0.27
	Matched	35.22	35.17	0.43	-86.69%	0.91
Prior Supervision Failures	Unmatched	0.62	0.45	11.34		0.00
	Matched	0.62	0.66	2.45	-78.38%	0.54
Prior Convictions	Unmatched	5.30	4.68	12.06		0.00
	Matched	5.30	5.46	2.93	-75.68%	0.47
LSI-R Score	Unmatched	25.29	26.55	13.86		0.00
	Matched	25.29	25.36	0.78	-94.38%	0.85
Metro Commit	Unmatched	64.00%	51.00%	21.79		0.00
	Matched	64.00%	62.00%	3.38	-84.47%	0.33
New Commit	Unmatched	69.00%	58.00%	19.03		0.00
	Matched	69.00%	73.00%	7.17	-62.32%	0.10
Property	Unmatched	15.00%	18.00%	6.66		0.01
	Matched	15.00%	15.00%	0.00	-100.00%	0.79
Drugs	Unmatched	22.00%	28.00%	11.54		0.00
	Matched	22.00%	23.00%	1.97	-82.92%	0.69
Criminal Sexual Conduct	Unmatched	15.00%	10.00%	12.09		0.00
	Matched	15.00%	13.00%	4.69	-61.23%	0.49
DWI	Unmatched	11.00%	8.00%	8.24		0.00
	Matched	11.00%	10.00%	2.65	-67.80%	0.59
Other Offense	Unmatched	14.00%	14.00%	0.00		0.59
	Matched	14.00%	16.00%	4.59	0.00%	0.51
Length of Stay (Months)	Unmatched	32.87	22.84	28.22		0.00
	Matched	32.87	34.51	4.02	-85.75%	0.32
Discipline	Unmatched	2.71	2.47	5.87		0.04
	Matched	2.71	2.65	1.45	-75.32%	0.71
GED/High School Degree	Unmatched	81.00%	76.00%	10.13		0.00
	Matched	81.00%	81.00%	0.00	-100.00%	0.76
Drug Treatment	Unmatched	33.00%	21.00%	21.71		0.00
	Matched	33.00%	33.00%	0.00	-100.00%	0.80
SO Treatment	Unmatched	4.00%	2.00%	8.94		0.00
	Matched	4.00%	5.00%	4.05	-54.73%	0.56
ISR	Unmatched	21.00%	22.00%	2.00		0.42
	Matched	21.00%	22.00%	2.00	0.20%	0.64
Work Release	Unmatched	18.00%	13.00%	11.03		0.00
	Matched	18.00%	18.00%	0.00	-100.00%	0.85
CIP	Unmatched	4.00%	8.00%	14.91		0.00
	Matched	4.00%	5.00%	4.13	-72.26%	0.29
Discharge	Unmatched	3.00%	4.00%	4.52		0.04
	Matched	3.00%	2.00%	5.03	11.38%	0.46
Release Year	Unmatched	2009.08	2007.99	63.30		0.00
	Matched	2009.08	2009.09	0.59	-99.06%	0.91

Power of People = 887

Comparison Group = 887

Comparison Group Pool = 15,569

Although PSM is a valuable tool that can approximate true experimental design, this technique does come with limitations. First, PSM can rely only on observed variables. That is, unobserved and unmeasured variables cannot be accounted for. It may be that offenders who are more personally motived to succeed after release are also more likely to join the PoP class. However, personal motivation is unmeasured and cannot be accounted for. Second, to allow for complete and exact matches, the propensity scores for the treatment and control groups must overlap substantially (Shadish, Cook and Campbell, 2002). Lastly, PSM is most effective with large samples (Rubin 1997).

Analysis

Consistent with many other studies of recidivism, Cox regression models are used in this study. As a type of survival analysis, Cox regression is preferable in that it utilizes time-dependent data, which are important in determining not only whether offenders reoffend, but also how soon the recidivism event occurs. In the present study, Cox regression models use both "time" and "status" variables in estimating the impact of PoP participation and other independent variables on recidivism. For the recidivism analyses, the "time" variable measures the amount of time from the date of release until the date of first rearrest, reconviction, new offense reincarceration, technical violation revocation, or June 30th, 2012, for those who did not recidivate. The "status" variable represents whether each offender committed one of the four previously mentioned recidivism events examined in this research.

Results

Most of the offenders in this study who entered the PoP class (887 offenders) also graduated from the class (78 percent, or 694 offenders). A much smaller proportion of students

repeated the class (8 percent, or 73 offenders), and an even smaller proportion went on to become student teachers in subsequent PoP classes (6 percent, or 52 offenders).

Table 3 displays the recidivism rates for all four types of recidivism measured in this study based on PoP participation. Compared to the unmatched comparison pool of offenders, PoP participants have a lower rate of recidivism for all four types of recidivism. For example, the comparison pool of offenders had a 57 percent rearrest rate, while the PoP participants had a 52 percent rate of rearrest. However, when PoP participants are compared to the group of offenders matched through PSM, the differences in recidivism rates are much smaller. In fact, PoP participants show a higher rate of rearrest and reconviction compared to the matched comparison group. PoP participants and the matched comparison group have the same rate of reincarceration (18 percent) and supervision revocation (38 percent).

Table 3. Recidivism Rates by Power of People (PoP) Participation

	Rearrest	Reconviction	Reincarceration	Revocation	N
Comparison Pool	57%	45%	23%	38%	15,569
Comparison Group	48%	35%	18%	38%	887
PoP	52%	37%	18%	38%	887
Graduate	52%	36%	17%	37%	694
Dropout	53%	39%	19%	42%	193
Tutor	46%	37%	13%	37%	52

In addition to overall PoP participation, Table 3 also displays the rate of recidivism based on whether the offenders graduated or dropped out of PoP, in addition to whether they went on to tutor a PoP class after graduation. Recidivism rates of PoP graduates were very similar to the recidivism rates for overall PoP participation. Moreover, rates of recidivism did not vary much between PoP graduates and drop-outs. The largest difference between these two groups was for rates of supervision revocation, for which dropouts had a slightly higher rate (42 percent) than PoP graduates (37 percent). PoP tutors had lower recidivism rates than overall PoP participants as well as the matched comparison group. Although Table 3 suggests few differences between PoP participants and the comparison group, the Cox regression models will provide us with a more thorough analysis.

Cox Regression Models:

The Impact of PoP Participation on Recidivism

The four Cox regression models displayed in Table 4 reveal that PoP participation did not have a statistically significant effect on any of the four measures of recidivism[3]. The PoP hazard ratio in all four models was non-significant and the effect sizes were modest in size compared to the effects of other variables in the models. Thus, based on these results, PoP participation had a null effect on rearrest, reconviction, reincarceration, and technical violations.

PoP did not have a significant effect on recidivism, but several of the other variables included in the analyses did. Being male, a racial or ethnic minority, having more prior supervision failures and felony convictions, a higher LSI-R score, and being committed from the Minneapolis/St. Paul metropolitan area were all significantly associated with a positive increase

[3] To ensure that multicollinearity did not influence our results, we executed several tests to eliminate this possibility. Through tests of the Variance Inflation Factor (VIF), Tolerance, basic bivariate correlations between independent variables, as well as including and excluding variables from the models, we did not find evidence of multicollinearity.

in the hazard for all or most of the four recidivism outcomes. Because criminal offending tends to decrease with age, an increase in age significantly decreased the hazard for all four types of recidivism. Offenders imprisoned for a sex offense experienced a significant decrease in the hazard for all four recidivism measures. The sex offenders included in this study were less likely to be arrested, reconvicted, and reincarcerated for a new felony offense and they lasted longer in the community compared to other types of offenders. However, because they are generally subject to more intensive supervision than other offenders, the sex offenders in this study had a 44 percent increase in the hazard for supervision revocation.

Additional Analyses

In addition to the analyses presented in Table 4, several other models and variables were attempted, including multiple measures of PoP participation. The models presented above included a variable that represented any PoP participation, including offenders who did and did not officially graduate from the course. It is conceivable that only those offenders who actually graduated from the class received the full benefit of the class. That is, PoP graduates may be the only ones who fully adopted the lessons presented in the class. Other studies of prison-based programs have found that only program completers had lower rates of recidivism. For example, Duwe (2010) found that offenders who either completed prison-based chemical dependency treatment or participated in treatment until they were released from prison had lower rates of recidivism. Offenders who either quit treatment or were terminated from the program did not have significantly lower rates of recidivism.

Table 4. Cox Regression Models: Impact of Power of People on Time to Recidivism Event

	Rearrest		Reconviction		Reincarceration		Revocation	
	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE	Hazard Ratio	SE
Power of People	1.072	0.068	1.100	0.081	1.137	0.117	1.021	0.078
Male	1.823**	0.159	1.944**	0.189	3.110**	0.332	1.958**	0.195
Minority	1.398**	0.082	1.336**	0.099	1.239	0.142	1.366**	0.093
Age at Release (years)	0.973**	0.005	0.974**	0.005	0.978**	0.008	0.984**	0.005
Prior Supervision Failures	1.036	0.027	1.071*	0.029	1.087*	0.037	1.162**	0.030
Prior Convictions	1.072**	0.009	1.071**	0.010	1.086**	0.013	1.032**	0.011
LSI-R Score	1.017**	0.005	1.025**	0.006	1.020*	0.009	1.021**	0.006
Metro Commit	1.226**	0.078	1.131	0.092	1.312*	0.138	1.197*	0.088
Admission Type								
Probation Violator	1.008	0.087	0.964	0.105	0.739	0.162	1.162	0.097
Release Violator	1.247	0.162	1.131	0.195	0.821	0.282	1.016	0.181
Offense Type								
Property	1.108	0.117	0.914	0.137	1.167	0.191	0.667**	0.145
Drugs	1.131	0.110	0.872	0.130	1.125	0.191	0.920	0.131
Criminal Sexual Conduct	0.637**	0.157	0.471**	0.205	0.461*	0.345	1.443**	0.145
Felony DWI	0.935	0.154	0.928	0.175	1.228	0.259	1.244	0.167
Other	1.346**	0.109	1.144	0.126	1.215	0.184	1.078	0.128
Length of Stay (months)	0.992**	0.002	0.988**	0.003	0.986**	0.004	0.992**	0.002
Discipline	1.045**	0.013	1.059**	0.015	1.090**	0.021	1.071**	0.014
GED/High School Degree	1.103	0.089	1.038	0.103	1.113	0.147	1.042	0.100
Drug Treatment	1.152	0.090	1.222	0.107	0.999	0.156	0.953	0.104
Sex Offender Treatment	1.233	0.228	1.731*	0.281	1.588	0.508	0.876	0.231
Supervision Type								
ISR	1.018	0.099	0.816	0.122	0.836	0.179	1.850**	0.106
Work Release	0.830	0.104	0.871	0.123	0.787	0.189	1.554**	0.122
CIP	0.857	0.209	0.756	0.276	0.383	0.602	1.583*	0.236
Discharge	1.659*	0.219	1.334	0.255	1.906	0.341	0.182**	0.414
Release Year	1.000	0.026	0.934*	0.031	0.899*	0.046	0.965	0.029
Supervised Release Revocations	0.996	0.054	0.950	0.062	0.947	0.083		
N	1,774		1,774		1,774		1,774	

** $p < .01$

* $p < .05$

Measures of whether PoP participants graduated or dropped out of the program were included in separate analyses. These models also showed no significant effects for PoP participation, regardless of whether they graduated or dropped out of the class. Models that included whether each participant was a PoP student teacher were also attempted. Again, this level of participation (student teaching) did not have a large or significant effect on any of the four recidivism outcomes.

Several interactions between measures were also included in additional analyses. Because PoP is focused on promoting positive interpersonal relationships and pro-social cognition, it was theorized that PoP may be more beneficial for certain types of offenders, such as property, person, and sexual offenders. Interactions between PoP participation and type of offense, as well as between PoP participation and supervision type were included in additional analyses. However, none of these interaction terms were significant. The other variables in the analyses (e.g., sex, race, age) were not affected by the addition of these interaction terms.

Discussion

The findings from this research suggest that PoP participants do not reoffend more or less often than non-participants. The small and non-significant effect of PoP participation on rearrest, reconviction, reincarceration, and supervision revocation reveal that PoP does not have an effect on recidivism. These findings do not suggest that PoP has no value to MnDOC or any other corrections system. PoP may have positive effects on other aspects of offender behavior that were not examined in this study. This study demonstrates only PoP's effect on the four measures of recidivism included in the present study.

Although this research provides credible evidence that PoP does not have a significant effect on recidivism, it does have some limitations. First, as previously stated, this study only

examines PoP's effect on recidivism. PoP may reduce institutional discipline or strengthen pro-social relationships after release, but these outcomes were not examined due to data and measurement limitations. Second, while we may have included several important control variables in this study, we were unable to measure or control for everything. For example, some of the offenders included in this study may have participated in community programs (e.g., chemical dependency treatment, community-based cognitive-behavioral programs). However, we were unable to measure participation in community programs due to limited access to those data.

The third major limitation of this research is that it does not employ the "gold standard" of scientific research in that we did not use random selection with treatment and control groups. This evaluation was initiated well after the program commenced; thus, we attempted to approximate a true experiment by employing PSM after the fact. However, a prospective experiment with random assignment to either the treatment or control groups would have been optimal, and should be used for future evaluations of this program.

PoP does currently follow some of the principles of effective treatment; however, more elements of evidence-based practices could be added to make the program more effective at reducing recidivism. Other correctional programs that were not originally designed based on evidence-based practices have been adjusted to produce better results. For example, the InnerChange Freedom Initiative (IFI), a faith-based prison program, replaced some of its bible study with cognitive-behavioral programming that addresses criminogenic needs (Duwe & King, 2012). While an earlier study, conducted before the programming change, found that IFI did not significantly affect recidivism outcomes (Johnson & Larson, 2003), a later study (conducted after more evidence based practices were added to the program) found that IFI did significantly reduce

recidivism (Duwe & King, 2012). IFI already had several elements of effective prison programming, in that it provided a therapeutic community and provided a continuum of care from the prison into the community. Adding more elements of effective correctional programming may have made the difference in results between the studies.

Much like IFI, PoP already has some elements of evidence-based practices. The most prominent feature of PoP is that it addresses two major criminogenic needs (i.e., antisocial associates and antisocial cognition). However, PoP comes up short in several other areas of effective prison programing. First, offenders should be matched to programming based on their assessed risk levels, and PoP is currently open to all offenders regardless of risk-level. The program runs for eight to ten weeks and for only a few hours per week. This intensity level is best suited for medium and low-risk offenders. The PoP participants in this study had LSI-R scores ranging from 8 to 48, with the average being 25. Should the program shift its focus to higher risk offenders, then the intensity or dosage of the programming delivered would need to increase. By focusing on offenders based on risk level, PoP participation may drop, but it could also become more effective in the process.

Second, program participants must also be matched based on criminogenic needs. PoP focuses on association with antisocial others and poor decision making. Having antisocial associates and the inability to make pro-social decisions are both considered major criminogenic needs (Gendreau, 1996). Because offenders are not referred to PoP based on a needs assessment, the program may be missing the mark for some of its participants. Additionally, the program could expand the scope of criminogenic needs that are addressed.

In addition to assigning offenders to the program based on criminogenic needs, PoP could also alter the way these criminogenic needs are treated. For example, by adopting a cognitive-

behavioral approach, the program could more effectively address antisocial cognition and promote pro-social decision-making skills. Adopting a cognitive-behavioral approach, however, would require the addition of instructors that have prior training or experience in cognitive-behavioral programming.

Many of the effective cognitive-behavioral programs reviewed earlier in this research had smaller class sizes (e.g., T4C, R & R), ranging in size from 8 to 24. By adopting smaller class sizes, PoP participants could receive more direct attention and be required to participate more. The cognitive-behavioral programs reviewed earlier also had highly structured and standardized curriculum, while the PoP is more loosely based off of the book. Structure is a critical element of effective prison programming; thus, PoP should develop a more structured curriculum.

Also, PoP could target the offenders' antisocial associates by expanding its mentoring component. Mentoring is one way of promoting pro-social associations and reducing recidivism (Braga, Piehl, & Hureau, 2009). PoP currently offers some mentoring, but its mentoring capabilities are limited. That is, each participant is not assigned a mentor, and group mentoring is only available to offenders who are released to the Minneapolis-St. Paul metropolitan area. Moreover, mentoring is not presented to participants as a required part of the program. Mentors are often volunteers, so expanding PoP's mentoring capabilities could be a cost-effective way of improving the program.

An enhanced mentoring component would fit in with the final recommendation for improving PoP: an expansion of its aftercare programming. The PoP program currently offers some aftercare to participants at its location in Minneapolis. This location offers residence to a small number of recently released PoP participants, as well as weekly group meetings for participants in the community. All offenders who participated in PoP in the prison are welcome

to attend the weekly group meetings. While released participants are encouraged to participate in PoP's aftercare offerings, post-release programming is not required or even possible for all participants. PoP has only one location in the community and a limited number of staff members. More than half of the offenders in this study were committed from and likely returned to the Minneapolis-St. Paul metropolitan area, but it is a very large metropolitan area and many offenders lack easy access to transportation. If expanding its community presence to the entire state is not an option, PoP could target only those offenders that are planning on returning to the Minneapolis-St. Paul metropolitan area. In doing so, PoP would reach a smaller number of offenders, but it would increase the quality of services that are provided.

Given its expansion into an increased number of Minnesota state prisons and the program's high demand by prisoners, PoP has proven to be a very popular program both among prisoners and administrators. By making some adjustments to the curriculum, this program has the potential to be an effective tool in reducing recidivism. By adding additional components of evidence based practices and aligning the program with the principles of effective treatment, PoP could become a more valuable asset for the MnDOC, as well as other correctional systems.

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