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Parole Officer–parolee Relationships and HIV Risk Behaviors during Community Supervision

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Abstract

We tested if good parole officer (PO)–parolee relationships reduce HIV risk behaviors during parole, as they do for risk of rearrest. Analyses used data from 374 parolees enrolled in a randomized clinical trial. Past month HIV risk behaviors were assessed by interview at baseline, 3- and 9-months after parole initiation. The Working Alliance Inventory and the Dual-Role Relationships Inventory measured PO relationship. Gender-stratified multivariate regressions tested associations of PO–parolee relationship with sex with multiple partners, unprotected sex with risky partner(s), and drug injection. Women parolees ($n = 65$) who reported better PO

relationship characteristics were less likely to report having multiple sex partners [adjusted odds ratio: 0.82 (0.69, 0.98) at 3-months, 0.89 (0.80, 0.99) at 9-months], and, among those reporting multiple sex partners, had fewer partners on average [adjusted relative risk 0.98 (0.96, 0.99)]. These effects were not found among men. PO–parolee relationship quality can influence sexual risk behaviors among women parolees.

Keywords

Parole; Community supervision; Working alliance; HIV risk behaviors; Women

Introduction

An unprecedented 7.3 million Americans, or one in every 31 adults, are in prison or on probation or parole [1]. A notable minority (14%) of people who are HIV positive in the United States pass through the criminal justice system each year, many of them unaware of their status, and thus untreated [2]. Studies of HIV in prison populations reveal prevalence in the range of 0.2–7.5%, with an average of 1.9% across prisons, higher than in any other institution in the United States [3].

HIV risk among correctional populations is a public health concern because offenders typically serve short prison sentences [3] and then return to the community and engage in a variety of behaviors that put themselves and others at risk for HIV transmission [2, 4–9]. Most evidence [10] suggests that inmates with HIV infection acquired it outside of jail or prison.

Community Supervision is a Unique Period to Intervene with HIV Risk

The period of time immediately following release from incarceration may be uniquely hazardous. Many studies indicate that the transition from incarceration to the community poses high-risk for relapse to substance use [11–13] and for HIV risk behaviors [14, 15], and that infectious disease risk behaviors that are present prior to incarceration resume or increase after release [16]. In addition, offenders face many challenges during this period of community reentry, including housing instability [17], unemployment [18], poverty [12, 19, 20], stigma [19], family problems and primary sex partner relationship dissolution [20, 21], medical problems [12, 22], multiple requirements for criminal justice supervision [12], and neighborhoods saturated with drug cues [12], which can affect the ability to negotiate condom use [23] and retention in drug treatment [24], factors associated with HIV risk [25]. Qualitative work [26] has also described how romantic scripts and the build-up of sexual tension during incarceration can promote unprotected sexual intercourse and other HIV/sexually transmitted infection (STI) risk behavior following release from prison. In trying to “make up for lost time,” early after release inmates commonly increase sexual and drug-related HIV risk behaviors [27]. Thus, the period immediately following release from prison is an important time to intervene to address HIV risk behavior. Although the logistical opportunity to do so through probation and parole exists (most parolees are required to check in regularly with a paroling agency), probation and parole staff have insufficient training and education about HIV prevention services [14].

Parole Officer Relationship and Parolee Behavior

There are at least three reasons to believe the parole officer (PO) relationship may affect parolee behavior. First, qualitative evidence from the supervision reactance theory literature suggests that tight supervision experienced by parolees, including a threat of having their home or person searched at any time, is a deterrent to engaging in syringe exchange or other

HIV harm reduction practices [28]. This literature suggests that close contact with one's PO that is perceived as threatening discourages behaviors that promote HIV safety. Second, the medical and psychosocial treatment literatures have found that better provider-patient relationships tend to promote better medical [30], psychological [31, 32], and substance use [33] outcomes. This literature would argue that parolees who have better agreement on needed goals and strategies and feel better understood by their POs may have better substance use and criminal justice outcomes. Finally, there is a small but growing body of literature specific to criminal justice settings indicating that the working alliance between criminal justice employees and offenders may affect outcomes [34]. For example, one study found that better alliance with counselors predicted criminal justice program retention [35]. Another found that worse alliances with POs predicted a higher number of violations overall, and more violations for failure to report substance abuse specifically [36]. Although this literature is still in its infancy, studies such as these suggest that the link between alliance and outcomes found in other settings may be present in parole relationships as well.

Gender Differences in PO Relationship on HIV Risk Behavior

Evidence suggests that gender may moderate an association between the PO relationship and HIV risk behavior. First, drug-involved women and men differ in terms of drug history and related psychosocial issues when they enter prison. For example, compared with men in prison substance use treatment, women in prison substance use treatment may use drugs more frequently, use harder drugs, and use them for different reasons (pain alleviation vs. euphoria) than men [37]. Women also confront lower levels of education, poorer vocational skills, higher levels of depression and other cooccurring disorders, more suicidality, and physical problems [38, 39], though their criminal records are often less serious than those of men [38]. Second, men and women in the criminal justice system differ in terms of HIV risk behaviors, with women reporting increased risk compared to men before incarceration, often linked to their involvement in sex work [29, 40], and higher rates of syphilis and chlamydia [41] infection. In addition, cross-sectional data suggest men and women may differ in the way that incarceration affects post-release drug and sex risk behavior, with women reporting less and men more risk behavior during the months following incarceration [40]. Third, qualitative research [42] suggests that women and men use parole differently: men are less open about their needs and place less value on interactions with POs, whereas women often take more time to provide information and voice their needs. Women are also more likely to develop a trusting relationship with a PO [42]. Therefore, men and women in criminal justice settings differ both in terms of HIV and associated risk factors and response to the parole relationship.

Study Aim

Using longitudinal data from 374 drug-involved individuals on parole from 6 sites, this study tested the associations between PO-parolee relationships and HIV risk behaviors and examined gender as a moderator of effects of PO-parolee relationships on HIV risk behaviors.

Methods

Sample

Data came from a completed trial, Step'n Out, that was part of the Criminal Justice Drug Abuse Treatment Studies (CJDATS-1) cooperative agreement. Step'n Out was a six-site randomized clinical trial to evaluate whether implementing an integrated behavioral substance use/parole approach (Collaborative Behavioral Management; CBM) among PO and treatment counselor teams might improve the three- and nine-month outcomes of parolees, compared to standard parole (SP) [11]. POs and treatment counselors volunteered

to participate in the study. All parole offices were affiliated with an outpatient substance abuse treatment program.

Parolees with pre-incarceration substance use disorders at moderate-to-high-risk of recidivism constituted the target population. Inclusion criteria were: (a) at least 18 years of age; (b) English speaking; (c) probable drug dependence immediately prior to incarceration as determined by a score of 3 or higher on the TCU Drug Screen II [43] or mandated drug treatment; (d) substance use treatment as a mandated or recommended condition of parole; (e) moderate-to-high-risk of drug relapse and/or recidivism as determined by a Lifestyle Criminality Screening Form (LCSF) score of 7 or greater [44], or a history of 2 or more prior episodes of drug abuse treatment or drug-related convictions.

Study Procedures and Intervention—In-person assessments at study intake (asking about pre-incarceration behaviors), and at three, and nine months after the initial parole session provided detailed information on socio-demographic characteristics, family and peer relations, health and psychological status, criminal involvement, drug use history, and HIV/AIDS risk behaviors [45]. Participants received \$20, \$40, and \$60 of grocery certificates for each completed follow-up. Follow-up rates were 92% at three months and 88% at nine months.

Collaborative Behavioral Management is described in detail elsewhere [11, 46]. The 12-week CBM intervention involved an initial session between the PO, counselor, and offender, followed by weekly contacts between the PO and offender; the treatment counselor joined these sessions at least once every other week.

Variables

The timeframes for repeated assessments used in this analysis referred to behavior reported during the month prior to incarceration (time 1), the month prior to 3 month follow-up (time 2) and the month prior to the 9 month follow-up (time 3).

Outcomes—Three self-reported measures of HIV risk in the past 30 days were collected at each time point by interview using a modified version of the NIDA risk behavior assessment [45]: (1) sex with multiple partners (any gender), defined as reporting two or more to the following question: “In the past 30 days, how many different people have you had sex (vaginal, anal, or oral) with?”, where people who reported one or no sex partners in the past 30 days were the reference group. Among those reporting multiple sex partners, the number of sex partners in the past 30 days was also analyzed; (2) unprotected sex (vaginal, anal, or oral) with a risky partner, operationalized as someone who is not their primary/main sex partner, someone who injects drugs, someone who smokes crack/cocaine or methamphetamine, or someone who exchanges sex for money, gifts, or drugs; and (3) any injection of drugs. These outcomes were chosen based on their demonstrated associations with greater risk of incident HIV infection.

Exposure—Two assessments of therapeutic alliance and parolee perception of the PO relationship were administered at three-month follow-up: the Working Alliance Inventory-Short Form (WAI) [47] and the Dual-Role Relationships Inventory (DRI-R) [36]. The WAI and the DRI-R capture different but related (correlation $\rho = 0.80$) aspects of the PO–parolee relationship so analyses were conducted with both measures separately. However, to reduce the probability of type I error and because of the high DRI-R subscale intercorrelations ($r = 0.87\text{--}0.96$), only one DRI-R subscale, Trust, was considered in the regression analyses (correlation $r = 0.78$). Trust was chosen because it reflects a fundamental aspect of relationship quality and is related to willingness to discuss HIV risk

behaviors [48, 49]. Cronbach's alphas reflected high internal consistency for both the WAI (men: = 0.95, women: = 0.98) and Trust subscale (men: = 0.89, women: = 0.90).

Covariates—Baseline socio-demographics considered as potential covariates included race and ethnicity (race: White, Black, and other; ethnicity: Hispanic/Latino or non-Hispanic/Latino, which was dichotomized when indicated by sparse data to minority status, defined as non-Hispanic/Latino White (reference) and all other race/ethnic minorities); age; marital status (married/living as married with partner = 1, else 0); educational status (high school education or equivalent achieved, yes/no); intervention status (control = 0, intervention = 1); primary problem drug (heroin/other opiate, cocaine/stimulant, marijuana, other drug); LCSF score, which reflects moderate-to-high-risk of recidivism; and self-reported past month drug-related criminal involvement (i.e., past month reported committing one or more crimes involving: possession with intent to distribute, possession of drug paraphernalia, drug manufacture, or drug sale). All models controlled for pre-incarceration HIV risk behavior. Time-varying covariates included frequency of alcohol use to intoxication; living situation (lives on one's own, lives with others, institutionalized, no stable living situation); financial support (legal activity: self/job vs. all other sources); depressive symptoms, self-efficacy, and social support as measured by subscales of the Client Evaluation of Self and Treatment intake form (TCU-CEST-Psychological functioning) [50]; and whether or not the parolee cohabited with their spouse/partner.

Analysis

Analyses were stratified by gender. Bivariate analyses were used to assess associations between PO-offender relationship factors, gender, and the primary outcomes. We employed generalized estimating equations (GEEs) with logit and log links, as appropriate for the dichotomous and count variable outcomes. Multivariate longitudinal regression analyses included candidate covariates in both a stepwise and a backwards elimination modeling approach, so they could be included throughout the analysis. To maintain parsimony, only variables that remained statistically significant ($P < 0.05$) or exhibited confounding effects were retained in the final models. Finally, we conducted post-hoc analysis of potential mediators of PO relationship-risk behavior, specifically, financial support, living situation, and depressive symptoms, based on literature suggesting mediating roles [51–54]. Potential mediators were tested in a stepwise fashion according to the regression methods discuss by Baron and Kenny [55] and Holmbeck [56]. Analyses were performed in SAS version 9.2. This study was approved by the Lifespan/Rhode Island Hospital Institutional Review Board.

Results

There were 569 participants randomized to the study, 475 of whom were eligible for post-randomization participation (i.e., reached their initial parole period), and, of these, 449 (95%) provided time 2 and/or time 3 follow-up for this analysis. 374 (83% of 449) participants provided responses to at least one of the PO relationship quality scales, forming the analytic dataset (see Table 1). 309 (83% of 374) participants provided responses for all three time points; 359 (96% of 374) participants provided responses for at least two time points.

Gender Differences in HIV Risk Behavior and PO Relationship

At baseline, men were more likely than women to report having more than one sex partner in the past 30 days, but, among those with multiple partners, women had more sex partners than men (Table 1). No other HIV risk factors varied by gender. There were no statistically significant differences by gender on any of the PO relationship quality measure scores.

PO Relationship and Baseline HIV Risk Behavior

Baseline HIV risk behaviors were associated with perceived quality of the PO–parolee relationship at the 3-month assessment. Men reporting more than one sex partner in the month prior to incarceration had lower mean scores at 3-month follow-up than men who reported one or no sex partners on the DRI-R subscales of Fairness [67.4 (16.8 SD) vs. 71.3 (15.7 SD), $P < 0.05$], Trust [28.3 (9.4 SD) vs. 30.3 (9.7 SD), $P < 0.10$], procedural/distributive justice [51.7 (12.6 SD) vs. 54.6 (10.8 SD), $P < 0.05$] and the total DRI-R score [233.2 (56.1 SD) vs. 246.4 (51.5 SD), $P < 0.05$]. In contrast, women reporting more than one sex partner in the month prior to incarceration had slightly higher WAI scores at the 3-month follow-up than women who had one or no sex partners prior to incarceration [30.1 (6.4 SD) vs. 25.1 (10.2 SD), $P < 0.10$].

Lower PO relationship quality scores were also observed in men who reported engaging in unprotected sex with risky partners at baseline compared to men who reported not engaging in unprotected sex with a risky partner or who did not have sex partners at baseline. Scores were lower on the Trust subscale [27.7 (9.5 SD) vs. 30.6 (9.4 SD), $P < 0.05$] and the total DRI-R [232.5 (52.8 SD) vs. 244.6 (53.3 SD), $P < 0.10$] at the 3-month follow-up for these men. There was no association between PO–parolee relationship scores and baseline involvement in unprotected sex with risky partners for women. No association was detected between the PO relationship scores and baseline IDU for either gender.

Regression Results

Results from the GEE analyses are reported in Table 2. Intervention status was not associated with exposure or outcome, thus it was not included in regression analyses.

Women

Women parolees ($n = 65$) who reported better PO working alliance were less likely to report having more than one sex partner at 3-month [adjusted odds ratio (AOR) 0.82 (0.69, 0.98)] and at 9-month follow-up [AOR: 0.89 (0.80, 0.99)]. Among women who reported having more than one sex partner in the past 30 days, a higher PO WAI score was associated with having fewer sex partners at 3-month follow-up [adjusted relative risk (ARR) 0.85 (0.74, 0.99)] but this effect diminished by the 9-month follow-up [ARR 0.94 (0.81, 1.10)]. Also in this subgroup of women reporting more than one sex partner in the past 30 days, greater PO trust was associated with having had fewer sex partners in the past 30 days during the 9-month follow-up period [ARR 0.98 (0.96, 0.99)]. For all women, a trend was detected between better PO working alliance and a lower odds of engaging in unprotected sex with a risky partner [AOR 0.90 (0.80, 1.02)] at the 3-month follow-up, but not at 9-month follow-up [AOR 0.97 (0.86, 1.10)]. PO relationship quality was not associated with the IDU outcome.

Men

Neither better PO working alliance nor greater PO trust was associated with any of the sexual risk behavior outcomes (Table 2).

Post-hoc Mediation Analysis

Of the three candidate mediators of the effects of PO relationship on women's risk behavior, only financial support status suggested a possible mediating role. However, the role of financial support status was complex: it acted as a mediator of the association between PO relationship and one outcome (multiple partners yes/no), but acted as a confounder of the association between PO relationship and another outcome (unprotected sex with risk partner).

Financial Status as Mediator of PO Relationship-Multiple Partners Association

PO relationship was associated with financial support at 3-month follow-up (AOR 0.92, $P=0.03$). The financial support variable was associated with having sex with more than 1 partner in the past 30 days, controlling for WAI score. The association between WAI and the outcome was weakened and rendered not significant at the 9-month follow-up (AOR 0.89, $P=0.03$ to AOR 0.91, $P=0.15$) by including financial support in the model, with little change in the WAI effect at the 3-month follow-up (AOR 0.82, $P=0.028$ to AOR 0.77, $P=0.007$, less than 10% change). Such a pattern suggests mediation of the PO relationship-multiple partner outcome by financial support status. Mediation by financial support was not detected between PO relationship quality and the number of multiple sex partners.

Financial Status as Confounder of PO Relationship-Unprotected Sex with a Risky Partner Association

Having stable financial support exerted an independent effect on the odds of unprotected sex with a risky partner [AOR 0.21 (0.08, 0.54)] over the parole period, controlling for PO relationship. However, inclusion of financial support in the model predicting unprotected sex with a risky partner from PO relationship did not reduce the effect of PO relationship, it increased it. Specifically, inclusion of a time-varying indicator for financial support status improved model fit (QIC 129.88 vs. 138.99) and altered the parameter estimates for the WAI variable by $>10\%$ for the outcome of unprotected sex with a risky partner such that the WAI score became statistically significant at 3-month follow-up [AOR 0.90 (0.80, 1.02) to AOR 0.88 (0.78, 0.997)]. Such a pattern suggests confounding rather than mediation by financial support status for the outcome of having unprotected sex with a risky partner.

Discussion

Good PO-parolee relationship was associated with lower sexual risk behavior among women parolees, but not among men. The PO relationship variables showed both direct and possible indirect associations with the women's subsequent sexual risk behavior that could not be explained by associations between PO relationship and baseline risk behavior.

While the exact mechanism of action is not entirely clear and could not be tested with the available data, it is possible that a strong working alliance and high level of trust with one's PO may increase women's self-efficacy to negotiate or insist on protected intercourse; to select less risky sex partners; to seek out or rekindle a monogamous relationship or to opt not to have any sex partners; or, as the post-hoc analysis suggests, to secure a job that facilitates financial stability which for this population of women may mean not engaging in sex work.

Relationships with authority figures can strongly influence successful advancement [57], and in criminal justice settings, the transition back into the community. Anecdotal evidence suggests that drug-involved women leaving prison often rate the relationship with their PO higher in importance than their relationship with their treatment counselor. It is unclear whether this strong PO-parolee bond is due to the perceived power that the PO has over the woman's experience during parole, or if the high stakes for women on parole (especially when issues of one's children are involved) elevate the importance of this relationship, or if, as Bloom and colleagues found [42], women generally view and experience POs as having more potential to be helpful than do men. Women parolees' comparative willingness to reach out for help to professional staff may be related to having less severe criminal histories [38]; lower levels of psychopathy [58]; more substance use, mental health, physical, and life problems; and less support for sobriety in their close networks on average than do male parolees [37, 38], or to other gender-based contributors to help-seeking. For example, a

study of drug court participants found that females, especially those with mental health problems, had higher levels of problem recognition and desire for help than did males [59]. Determination not to return to pre-incarceration behaviors (e.g., sex work) or to prison may be strongest among women whose baseline behaviors reflected the highest risk; such was the profile of female parolees who reported the greatest PO working alliance in our study. Also, in the absence of family and social support, the relationship with their PO may serve a particularly important role for female parolees.

These findings are subject to several limitations. First, the female sample was small, and the stratified analyses were underpowered to detect many associations. Small sample sizes run the risk of returning association estimates with less precision and the possibility of false positive findings. However, the relatively tight confidence intervals around associations across several outcomes, which were detected employing two related but different PO relationship quality measures, suggest that sample sizes were adequate for our analyses. To preserve power to detect true associations should they exist, we employed parsimonious model building and a repeated measures approach to the multivariate analyses. Nevertheless, it would be important to replicate our findings in other samples. Second, it is possible that potentially confounding variables were not collected or were not sufficiently controlled in the regression analyses. Involvement in sex work, for instance, could not be derived from the study assessments. Third, testing mediation pathways in the PO-parolee relationship and outcome association may have been more thoroughly accomplished using structural equation modeling. However, these data lack adequate sample size and detail for such an approach. Fourth, it is notable that there may have been racial differences in HIV sexual risk behavior and/or in PO relationship that could not be fully accounted for by controlling for minority status in our regressions. Lacking statistical power to stratify by both gender and race in the current analysis, future studies of PO relationship and HIV sexual risk behavior should consider such approaches. Finally, all data were self-reported and are subject to reporting biases which may have contributed to non-differential measurement error of the exposure and outcome variables.

Our findings suggest that POs can positively influence the HIV risk behaviors of the large (more than 1 million [60]) and high-risk population of women on correctional supervision with little to no specialized HIV prevention training. By employing effective supervision that establishes a relationship of trust and a good working alliance with their parolees, POs can simultaneously influence female parolee's sexual risk behavior, financial stability, risk of recidivism [34, 36], and possibly substance abuse outcomes during parole [61]. While effect sizes are modest (between a 11–18% reduction in the odds of having more than one sex partner and between a 2–18% reduction in the number of multiple partners) and wane with time, it is notable that the agents of these protective effects already exist within the correctional setting. Expanding low-cost efforts such as educational training of POs to improve working alliance may not only reduce HIV risk behavior for women, but may improve economic stability and reduce recidivism, which are fundamental factors influencing vulnerability to HIV transmission [62, 63].

This analysis raises many new questions too, such as: would focused HIV interventions for parolees aimed at POs have comparable, additive, or multiplicative effects on women's sexual risk behavior; if not through better PO relationships, how can we influence male parolee's sexual risk behavior; and, could an intervention focused only on fostering better quality PO-parolee relationships and working alliances in parolees, regardless of substance use background, achieve the same or better sexual risk outcomes? Our findings support calls for more research in behavioral and structural HIV prevention interventions, including gender-specific approaches, for criminal justice populations.

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Table 1

Demographic characteristics and pre-incarceration HIV risk behaviors of the analytic sample, by gender

	Women N = 65	Men N = 309
Mean age (SD)	34.9 (7.9)	33.5 (8.8)
Ethnicity		
Hispanic/Latino	9%	15%
Race		
White	28%	30%
African American	54%	47%
Other	18%	23%
Married	14%	13%
Mean (SD) number of children	2.3 (1.8)	1.7 (1.8)
Mean (SD) LCSF risk score	7.95 (3.2)	9.53 (3.2)
Median (IQR) lifetime arrests	4 (3, 7.5)	9 (5, 15)
Primary drug of abuse: heroin	37%	21%
Primary drug of abuse: stimulants	37%	28%
Baseline HIV risk, past 30 days	22.9	37.1 *
Multiple sex partners		
Median (IQR) multiple sex partners	10 (3, 30) **	3 (2, 4)
Unprotected sex with risky partner	37.5	39.2
Any IDU	20.8	14.2

LCSF lifetime criminality screening form, *SD* standard deviation, *IQR* interquartile range, *IDU* injection drug use, Stimulants include cocaine/crack and methamphetamine, Baseline refers to pre-incarceration behavior

* $P = 0.06$,

** $P = 0.0003$

Table 2

Association of parole officer–parolee relationship quality with past 30 day HIV sexual risk behaviors during 9 months of community supervision, by gender

	Sex with more than 1 partner ^a	Number of sex partners, among people reporting sex with more than 1 partner ^b	Unprotected sex with risky partner ^a
	Adjusted odds ratio (95% confidence interval)	Adjusted relative risk (95% confidence interval)	Adjusted odds ratio (95% confidence interval)
Women (<i>n</i> = 65)			
WAI 3 months	0.82 (0.69, 0.98)	0.85 (0.74, 0.99)	0.90 (0.80, 1.02) ^c
9 months	0.89 (0.80, 0.99)	0.94 (0.81, 1.10)	0.97 (0.86, 1.10)
DRI-R: Trust	–	0.98 (0.96, 0.99)	–
Men (<i>n</i> = 309)			
WAI 3 months	0.97 (0.92, 1.03)	1.01 (0.98, 1.05)	1.01 (0.95, 1.08)
9 months	1.01 (0.95, 1.08)	1.04 (0.99, 1.09)	1.04 (0.95, 1.13)
DRI-R: Trust	–	1.01 (0.99, 1.02)	–

Bold values represent statistically significant findings at $P < 0.05$

WAI working alliance inventory; DRI-R dual role inventory, revised

^aAdjusted for time, age, minority status, LCSF score, lives with spouse/partner

^bAdjusted for time, age, minority status, LCSF score, lives with spouse/partner, drug-related criminal involvement

^c $P < 0.10$, but when also controlling for financial support, association reduced to $P < 0.05$