**The Changing Health and Social Circumstances of Women Leaving Jails: A Three-Year Study**

By



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**Abstract**

Ninety-five percent of all inmates are eventually released back into communities. Women, in particular, face complex health and social challenges before incarceration that they must also face upon reentry. Unfortunately, these women represent an "invisible population" whose stories and experiences are often overlooked-- this has had a detrimental effect on reentry programming and their health. In this analysis, we leveraged three years of survey data collected with 254 women annually (49% follow-up rate after three years) to explore the changing health and social circumstances after their release from three Kansas City jails. We used Hirschi's theory of social control to explain the association between women's bonds to society and their health-risks. Trajectory and mixed model analyses showed that in the years after release from jail, women had significant improvements in their employment and transportation and significant reductions in exchange of sex for money, drugs, or necessities, alcohol use, past 30-day hard drug use, and substance dependence. Additionally, employment, transportation, and housing were protective against substance dependence; and employment, transportation, and housing were protective against past 30-day hard drug use. Findings from this study support investment in improving women's social circumstances after release from jail to promote successful reentry and health over the long-term.

**Keywords:** incarcerated women, community reentry, women's health, health risks, social control theory

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# Chapter 1: Introduction

The United States is home to nearly 5% of the world's population yet holds almost 25% of the world's prison population. Before the early 1970s, incarceration rates remained relatively stable at 110 per 100,000 persons (1). Over the last 40 years, US incarceration rates have increased by a staggering 500% (2). The dramatic increase in US incarceration rates is in part due to changes in American Criminal Justice System sentencing practices that imposed "tough on crime" laws that would punish nonviolent offenders and lengthen sentences across all offenses (3). Today, the incarceration rate is 670 per 100,000 persons and the American Criminal Justice System holds over 2.2 million people in jails and prisons (4).

Over the past four decades, there has been a shift in women's involvement in the American criminal justice system. Although women make up a small percentage of the entire criminal justice system, incarceration rates among women have been exceeding that of men since the 1980s (2). Today, women make up the fastest-growing prison population, growing at rates twice that of men—most women convicted for non-violent crimes (2). Unfortunately, many prisons and jails, originally designed for men, are not suited to meet the health needs of women, including mental and reproductive health, or provide the necessary rehabilitation to successfully reintegrate women back into society (5).

# Chapter 2: Literature Review

## 2.1 Challenges to Community Reentry

U.S. jails are often holding centers for some of the most disadvantaged segments of the population. Young individuals, minority, poorly educated, and economically disadvantaged with troubled pasts, mental health illnesses, and drug and alcohol abuse tend to be overrepresented in jails (6-8)**.** Unfortunately, U.S. jails do little to rehabilitate inmates and address the social and health problems that may have led to incarceration. Thus, individuals are being jailed then released to the same conditions that once contributed to their involvement within the justice system.

Women returning home from short-term jail facilities represent a particularly vulnerable population within the U.S. justice system and face significant challenges. In comparison to their male counterparts, women experience higher rates of homelessness, worsening mental illnesses, drug/alcohol abuse and dependence, and physical and sexual abuse in the time after release from jail (9). The lack of institutional support, public policies, social and health systems to support ex-offenders create barriers to successful community reintegration. Secure housing, income, and employment were among the top priorities of women leaving jails (10, 11). Housing is perhaps the most immediate of needs among formerly incarcerated women, however, the limited ability to secure housing poses a challenge for many. Discrimination by landlords and housing authorities leave women with few options for affordable housing. The inability to secure housing has a multitude of downstream effects on finding employment, access to healthcare, and educational opportunities (12, 13). The difficulty in finding employment is further compounded by the reluctance of employers to hire ex-offenders and the lack of marketable skills possessed by this population of women. The inability to secure stable housing and employment further contributes to the disadvantage and marginalization of formerly incarcerated women.

Economic disadvantage underlies much of the health risks for justice involved women. Constrained by unstable housing, unemployment, and financial hardship, some women turn to sex work as a means for survival. Impoverished, poorly educated, ethnic minority women who hold very few marketable skills, and have multiple prior incarcerations are the most likely to turn to sex work as a means for survival (14). Sex work carries with it increased risks for HIV, hepatitis, sexually transmitted infections (STIs), physical and sexual violence, and psychological trauma (15-17). Many female sex workers (FSW) already suffer from mental health and drug and alcohol problems, and the nature of sex work can further exacerbate these existing issues (15, 18). Incarcerated women are among the illest segments of the population, yet the least likely to receive medical services. They have a greater prevalence of chronic medical and psychiatric health problems than non-incarcerated women and incarcerated men. They have a disproportionately higher prevalence of STIs and HIV than incarcerated men and non-jailed women (19, 20). Furthermore, the prevalence of all health problems surpasses that of incarcerated men except for hypertension and diabetes (11). Many formerly incarcerated women suffering from chronic medical and psychiatric illnesses did not have access to healthcare prior to their arrest and although some women were able to receive the care they needed during incarceration, continuity of care was unaccomplished after their release.

Justice involved women face an incredible burden of disadvantage and disease. This study aims to identify how women's social and health circumstances change in the years after release from jail. Furthermore, we use a resilience model perspective to identify protective factors in women's social environments that abate health risks. This paper moves away from a focus on risk factors, as it is not the nature of health risks that we find most important to highlight, but the avenues women have taken to avoid risk and thrive in the face of adversity.

## 2.2 Social Control Theory

Although many criminology theories attempt to explain why individuals engage in crime and delinquent behavior, social control theories take it a step further and try to understand why some individuals do not engage in crime and delinquent behavior (21). Travis Hirschi's social control theory is a framework that allows us to explain women's resiliency after release from jail as it provides an understanding of the effects re-engaging women in mainstream economic and social activities— and ultimately strengthening their social bonds— has on mitigating their health risks. Understanding these social bonds helps to highlight solutions to breaking the cyclic nature of incarceration and poor health among previously incarcerated women.

Hirschi's social control theory posits that all people are capable of engaging in delinquent behaviors, but there are differences in an individual's bonds to society that influences that decision (22). Hirschi argues that delinquent behaviors arise when an individual's bonds to society are weakened, but when bonds to society are strong, the propensity of an individual to engage in delinquent behaviors is diminished. Hirschi describes four elements of a social bond that reduce an individual's involvement in delinquent activity— attachment, commitment, involvement, and belief. In Hirschi's early work, he places great emphasis on attachment, and the strength of attachment, as the most important element of a social bond. Attachment occurs when an individual forms bonds with other people, such as friends and family. In forming attachments, people become concerned about the opinion of others. The fear of losing the affection and respect of others serves as a deterrent against delinquent activities. Secondly, Hirschi posits that commitment to conventional activities reduces delinquent behaviors. This is built upon the idea that if an individual invests their time and energy into an activity (i.e. securing a home, acquiring health insurance, furthering their education, starting a company), they a more likely to consider the impact the consequences of engaging in delinquent acts may have on their investments.

Thirdly, Hirschi argues that involvement in conventional activities reduces an individual's likelihood of engaging in delinquent behaviors. He makes the case that those who spend their time involved with conventional activities will not have time to engage in delinquent behaviors. Finally, Hirschi argues that individuals committed to a value system, in-line with that of the conventional society, are less likely to engage in delinquent behaviors. In *Causes of Delinquency*, Hirschi writes "In general, the more closely a person is tied to conventional society in any of these ways, the more closely he is likely to be tied in the other ways." In other words, all the elements of a social bond are interconnected, and each element works with the other in the lives of an individual to influence their participation in delinquent behaviors.

To our knowledge, there has been little research that presents a longitudinal trajectory of women's social circumstances and health risks in the years following release from jail. In this study, we explore those trajectories and the role women's social circumstances play as protective determinants of change in health risk behaviors. The information gained from this study will inform the life-course of women after release from jail, provide support for the investment in women's social and health circumstances after release, and serve as a framework to guide future interventions.

# Chapter 3: Methods

The present study is a secondary analysis of data collected as part of the Sexual Health Empowerment (SHE) for cervical health literacy and cancer prevention project. The SHE project, informed by social and feminist theory, was a jail-based intervention designed to improve cervical health knowledge, improve self-efficacy for cervical cancer screening and follow-up, and increase women's confidence in navigating interactions with health care providers and systems (23, 24). Participants were continuously recruited from three county jails in the greater Kansas City area between September 2014 and March 2016 for the jail-based cervical health promotion program. Participants were recruited by posting flyers, word-of-mouth, and via direct discussion of the program from the project staff. Eligible participants completed an informed consent process. At baseline, participants completed a survey administered by the project staff that assessed participants' sociodemographic characteristics, reproductive health history, histories of personal trauma, mental health illness, risky sexual and drug behaviors, and criminal justice involvement. The women were followed up after program completion to complete 1-year, 2-year, and 3-year follow-up surveys to assess their long-term health and social circumstances. These women represent a population that is often difficult to follow into the community. Thus, at the time of study enrollment, multiple points of contact were collected for each woman in addition to usual hangout locations, social media account information, and contacts of family/friends. Participants were contacted regularly up until it was time for completion of follow-up surveys – this helped to ensure minimal loss to follow-up (25). A total of the 254 participants were enrolled during the study enrollment period, and 125 completed a three-year follow-up survey.

## 3.1 Methods

Hirschi's Theory of Social Control was used as a theoretical framework to guide this study. This theory holds that those who have strong bonds to society— within the domains of attachment, commitment, involvement, and belief— are less likely to engage in delinquent activities. The present study will use two of the four elements of a social bond described by Hirschi, commitment, and involvement, to analyze how changes in women's social circumstances influence health risks.

### *3.1.1 Independent Variables*

*Commitment* was operationalized by asking participants questions concerning their housing, finances, transportation, and health insurance status. We assessed women's housing stability by asking at baseline "Where were you living at the time of arrest?" and "Where are you currently living?" during follow-up appointments. Participants who answered, "Alone in the house, apartment", "with spouse and/or children", "with other relatives", "with friend or roommate(s)", and "with a significant other", were categorized as having stable housing. Those who responded, "in a shelter", "from place-to-place", "homeless, the streets", "in an institution" were categorized as having unstable housing. To assess health insurance status, participants were asked at baseline "Which of the following best described your health insurance coverage before incarceration?" and "Which of the following best describes your current health insurance coverage?". Responses were coded as any kind of health insurance versus no health insurance. To assess transportation, women were asked at baseline "Before your incarceration, did you have a reliable source of transportation to get to places like the grocery store or doctor appointments (yes/no)?" and "In the past one year, did you have a reliable source of transportation to get to places like the grocery store or doctor appointments (yes/no)?" during follow-ups. Responses

were coded as reliable transportation versus no reliable transportation. Finally, we assessed women's financial status. Women were asked at baseline, "Prior to incarceration. did you receive any of the following benefits?", "In the 12 months prior to your incarceration, were you or your children ever hungry because there wasn't enough money for food?", and "Prior to incarceration, did you feel you had money left over at the end of the month after taking care of basics?". During each follow-up, the women were asked "In the past one year, did you receive any of the following benefits?"; In the past one year, were you or your children ever hungry because there wasn't enough money for food?"; In the past one year, did you feel you had money left over at the end of the month after taking care of basics?". At each timepoint, the participants finance responses were combined into a composite score and participants were coded as having stable finances versus unstable finances.

*Involvement* was operationalized by asking participants questions concerning their employment. Women were asked at baseline, "What was your employment situation before you were incarcerated?" and "What is your current employment situation?" during follow-ups. Patients responses were coded as employed versus unemployed.

### *3.1.2 Dependent Variables*

*Health-risk behaviors* made up the dependent variables of interest. Participants were asked to report on their engagement in risky sex, drug, or alcohol behaviors. Engagement in risky sex behaviors were operationalized as ever engaging in exchange sex and condom usage during last sexual encounter. These were assessed with the questions " Have you ever engaged in sexual acts because you needed money, drugs, or life necessities, such as food or diapers (yes/no)?" and "The last time you had sex, did you use a condom (yes/no)?"; Engagement in risky alcohol behaviors were operationalized using questions that assessed the quantity and frequency of

alcohol consumption. The participants were asked “how many drinks did you have on a typical day when you were drinking in the past year?”; “How often did you have a drink containing alcohol in the past year?”; and “how many times did you have six or more drinks in one occasion in the past year?”. Furthermore, risky drug behaviors were operationalized using questions that assessed past 30-day hard drug use (i.e. Methamphetamines, PCP, heroin crack, coke), drug tolerance, dependence, and addiction. The DSM-5 criteria for substance use disorders was used as the basis for the drug behavior questions prompting the women to reflect on their drug use prior to incarceration and in the year leading up to each follow-up, asking themselves “Did you use more drugs to get the same “high” as when you first started using (yes/no)?”; “Did you need to use more drugs than you wanted to (yes/no)?”; “Did you try to cut down drug use, but weren’t able to (yes/no)?”; Did drugs play a bigger role in your life than you wanted them to (yes/no)?”; “Did drug use cause you to give up or spend less time in school, work, with family or friends, or in recreational activities (yes/no)?”; and “Did you ever keep using drugs even though it made you feel bad physically and emotionally (yes/no)?”. Substance dependence and alcohol dependence scales were created and used in the analysis.

### 3.2 Analytic Strategy

Descriptive statistics were utilized to summarize participants’ social circumstances (employment, transportation, housing, finances, health insurance), risky sexual behaviors (unprotected sex, exchanging sex), risky drug and alcohol behaviors (alcohol use problem, substance dependence, hard drug use in the past 30 days), and recidivism behaviors (number of rearrests in the past year, reincarceration in the past year) at four time points—baseline and 1-year, 2-year, and 3-years after release from jail. Bivariate and multivariate tests (chi-square test,

repeated-measures analysis of variance [RM ANOVA]) were performed to examine the change in each of those variables over a 3-year period.

Further, mixed modeling analysis was conducted to investigate the effects of social circumstances (predictors) on risky sexual, risky drug and alcohol, and recidivism behaviors (outcomes) while properly handling non-independence in the longitudinal data—i.e., participants (level-2; person) were repeatedly measured over time (level-1). More specifically, *logistic* mixed models were fitted for binary (*yes*/*no*) outcomes; and the models included fixed-effect parameters representing the impacts of employment, transportation, housing, finances, and health insurances and a random-effect parameter representing residual variance at the person level ( $u_i \sim N\left(0, \sigma_u^2\right)$ ). The *linear* mixed model for the number of rearrests included the same fixed-effect parameters and two random-effect parameters representing level-1 and level-2 residual variances— $e_{ij} \sim N\left(0, \sigma_e^2\right)$ and $u_{i1} \sim N\left(0, \sigma_u^2\right)$, respectively—that are assumed to be independent of each other. A first-order autoregressive structure was chosen for level-2 residuals as it yielded better fit than other structures. All analyses were conducted using SAS 9.4 (SAS Institute, 2002–2012).

## Chapter 4: Results

### 4.1 Sample Demographics

At baseline, participants ($N$ = 254) were 33.56 ± 9.98 years old. About half of the participants were White ($n$ = 126, 49.4%), 31.4% ($n$ = 80) were Black, and 15.3% ($n$ = 39) were other ethnic minorities; and most of them were non-Hispanic ($n$ = 224, 87.8%). Two-thirds of participants completed high school or higher education ($n$ = 160, 62.7%).

### 4.2 Descriptive Statistics and Changes after Release from Jail

Table 1 presents descriptive statistics about the participants' social circumstances, sex, drug, and alcohol risk, and recidivism at baseline and 1-year, 2-year, and 3-years after release from jail (see also Figure 1 for a graphical representation). The percentage of being employed full time, part-time, or on-and-off increased continuously and significantly after release from jail ($p < 0.05$). Similarly, more and more participants reported that they secured a reliable source of transportation to get to places like grocery stores or doctor appointments ($p < 0.05$). The percentage of having health insurance increased in general, but the increase was only marginally significant ($p < 0.10$). The participants became stably housed and financially reliable (i.e., not receiving public benefits) progressively as they stayed longer in the community, but these changes were not statistically significant (all $p > 0.05$).

The percentage of exchanging sex substantially decreased in the first year after release from jail and it continued to decrease, but slowly, in the following two years ($p < 0.0001$). The incidence of an alcohol problem ($p < 0.001$), substance dependence ($p < 0.0001$), and hard drug use in the past 30 days ($p < 0.0001$) significantly reduced over a three-year period. The percentage of having unprotected sex steadily decreased during the first two years in the community but returned to its baseline level (i.e., before release) in the third year after release. Both the reincarceration rate and the number of rearrests in the past year reduced after release from jail, but these changes were not statistically significant (both $p > 0.05$).

### 4.3 Impacts of Social Circumstances

Table 2 shows the parameter estimates of the fitted mixed models that represent the impacts of social circumstances (predictors) on sex, drug, and alcohol risks, and recidivism (outcomes). The time (i.e., year) effect was significant for some outcomes, supporting the findings from the bivariate/multivariate tests—i.e., controlling for social circumstances, the likelihood of exchanging sex for money, drugs, or life necessities, alcohol use problems, substance dependence, and hard drug use in the past 30 days significantly decreased over three years after release from jail (all $p < 0.001$). More importantly, the participants who were employed, stably housed, and had a reliable source of transportation were less likely to have substance dependence after release (all $p < 0.05$). Similarly, the participants who were employed and had a reliable source of transportation and health insurance were less likely to use hard drugs in the past 30 days over the three-year period (all $p < 0.05$). The participants who were employed were less likely to be reincarcerated in the past year ($p < 0.001$); and those who were stably housed showed fewer rearrests in the past year ($p < 0.0001$). In summary, being employed was a significant predictor (i.e., inhibitor) of substance dependence, hard drug use, and reincarceration; securing a reliable source of transportation was a significant predictor of substance dependence and hard drug use; being stably housed was a significant predictor of substance dependence and rearrests; and finally, having health insurance was a significant predictor of hard drug use.

# Chapter 5: Discussion

This study captures the changing health and social circumstances of women leaving jails. Criminal justice involvement has proven to be disruptive to the lives of the individuals cycling through jails and prisons, especially women, no matter the length of stay (26, 27). Women returning to their communities from jail face a host of challenges that include reconnecting with family, unemployment, housing instability, financial insecurity, mental health issues, substance abuse problems, and economic marginalization. These stressors may predispose women to sex and drug risk that heighten their risk of acquiring HIV, STI, and hepatitis infections. This study explored the association between elements of a social bond and engagement in health risk behaviors that may expose previously incarcerated women to infectious diseases.

According to Hirschi, we are all capable of engaging in deviant behavior, but for many of us, it is our strong bonds to society that ensure our conformity to conventional norms. It is our attachment to others, our commitment to our goals, our belief in moral standards, and our involvement in activities that bond us to society. This study explored the effects of two of four of the domains of a social bond— attachment, commitment, and involvement— on health risk behaviors in previously incarcerated women. Hirschi describes attachment as the most important social bond. Social support plays a pivotal role in reentry success among those released from jails and prisons (28, 29). Evidence suggests that women, in particular, have a greater need for social support and compared to their male counterparts, are more likely to have more significant social networks (30). Parsons et al. (2002) explored the impact of support groups in helping women transition back to their communities, and found that a common theme among the women were feelings of support that helped them better manage the stress of readjusting to community life and keep hope during difficult times (31). Furthermore, previous studies suggest that positive relationships with friends and family inspired change in women and encouraged them to avoid

compromising situations (29). Although this study did not directly measure attachment and its impact on health risk behaviors, the authors saw a need to address the role that support may have played in the results. Exchange of sex for money, drugs, or life necessities, alcohol use, past 30-day hard drug use, and substance dependence all significantly trended down over the three years after release from jail. The participants in which these trends were observed not only represent a sample that had undergone a jail-based intervention, but a sample of women who had been regularly contacted leading up to their follow-up appointments, and constantly re-engaged by the SHE team to participate in focus groups and other studies. This may have created a sense of belonging and community for the participants.

Despite having greater social networks than incarcerated men, incarcerated women are more likely to be homeless during their reentry period. Housing has long been viewed as a key component to success during the reentry period (32-35). Unfortunately, those with unstable housing are likely to have additional vulnerabilities that impede their ability to refrain from risky behaviors and limit their exposures to HIV and STIs (36, 37). Our data suggest that although housing may not deter women from using substances, it may prevent them from becoming reliant on them. Housing is often the first obstacle, and a necessary obstacle to overcome before other post-release issues can be addressed. Among these issues are transportation, health insurance, and employment. We observed an upward trend over the three years and protective effects associated with health insurance. Health insurance was protective against past 30-day hard drug use ($p < .05$). Furthermore, we observed significant increases in women obtaining reliable transportation which showed to be protective against hard drug use ($p < .001$) and substance dependence ($p < .01$). Reliable transportation is a common need among recently incarcerated individuals and a contributor to reentry success. Unfortunately, it is often difficult to obtain.

Formerly incarcerated women often return to resource-poor communities with few services within walking distance and unpredictable public transportation (38). This jeopardizes the ability of many women to obtain and maintain stable employment, access healthcare services, and obtain additional necessities (39). As mentioned earlier, Hirschi writes about how the different elements of a social bond are interrelated— bonds to one element will strengthen an individual's bonds to the others. The ability to obtain transportation demonstrates this in that transportation, a component of commitment, can have effects on employment, a component of involvement. Housing, health insurance, and transportation are all components of commitment and commitment is predicated on the notion of "stake in conformity". In other words, if an individual has something to lose— housing, health insurance, and transportation, in this case— they are more likely to avoid engaging in deviant behaviors, defined as sexual and drug risk behaviors.

The third and final element of the social bond that we will discuss was involvement. Hirschi makes the claim that when an individual is involved in activities such as school and work, it leaves less time to engage in deviant behaviors. Among the participants in this study, there was a statistically significant increase in women who were able to secure work. In our analysis, we found employment to be protective against substance dependence, 30-day hard drug use, and exchange sex. Hirschi argues that participation in the workforce can help to strengthen an individual's social bonds and deter deviant behaviors, a finding we observed in our data. Marginalized individuals are overrepresented in jails, and criminal justice involvement only further marginalizes them. Many formerly incarcerated women bear the burden of minority status, low socioeconomic status, and a criminal record—all on top of being a woman. The reentry period in which incarcerated women come to terms with their new reality of disrupted social networks, scarce housing and employment opportunities, and a lack of some of life's most

basic necessities can be an isolating experience that results in weakened bonds to society. Hirschi argues that those with weak bonds to society are more likely to deviate from those with a strong attachment to conventional society. This study worked to unfold how increased bonds to society in the form of attachment to others, commitment to maintaining housing, insurance, and transportation, and involvement in the workforce decreased deviant behavior among formerly incarcerated women.

### 5.1 Limitations

There are a few limitations in this study. First, the participants in this study were recruited from jails in a single metropolitan area, thus the results may not be generalizable to other areas. Secondly, the participants in this study underwent an intervention before release from jail, thus their outcomes may have been influenced by their participation and may not reflect the experiences of other women leaving jails. Third, women who exhibited severe psychological distress that would impede their ability to consent to the parent study were excluded. Thus, our results may not be entirely representative of all women leaving jails and may overestimate the number of women able to improve their social circumstances and reduce sex and drug risk.

### 5.2 Conclusion

The post-release period represents a vulnerable time for many. During the post-release period, criminal justice-involved individuals are more likely to engage in risky sex and drug behaviors and women appear to engage in more sex and drug risk behaviors than men (40, 41). Paralleling the higher rates of sex and drug risk behaviors among women in the reentry period are increased HIV and STI positivity rates. (41). This study demonstrates the resiliency of criminal justice-involved women when they are given opportunities for employment and able to

obtain necessary resources. The results of this study paint a clear picture of how incarceration interacts with social determinants of health. Mass incarceration has emerged as a driver of health disparities, ultimately affecting entire communities in addition to the individual. Jails house a majority of low-income racial and ethnic minorities, reflecting a population that has traditionally been medically underserved and known to experience health problems and infectious diseases at much higher rates (42). Unfortunately, many of these individuals return to their impoverished neighborhoods upon release, and compounded with individual-level vulnerabilities, revert to engaging in risky behaviors as a means for coping and survival. Under Hirschi's Theory of Social Control, it is important to recognize ways to strengthen women's bonds to society to limit their exposure to sex and drug risk upon release from jail. Finding these solutions will reduce the burden of disease that many of these women carry and improve the health of the communities in which they return.

**TABLE 1. DESCRIPTIVE STATISTICS AND BIVARIATE/MULTIVARIATE TEST RESULTS**

| Variable | Baseline | | 12 months | | 24 months | | 36 months | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % | *n* | % | $\chi^2$ | *df* | *p* | *V* |
| **Employment** | | | | | | | | | 9.35 | 3 | 0.0250 | 0.13 |
| *Yes* | 85 | 33.3% | 57 | 42.9% | 55 | 42.3% | 59 | 48.8% | | | | |
| *No* | 151 | 59.2% | 59 | 44.4% | 66 | 50.8% | 58 | 47.9% | | | | |
| **Transportation** | | | | | | | | | 8.89 | 3 | 0.0307 | 0.12 |
| *Yes* | 171 | 67.1% | 94 | 70.7% | 98 | 75.4% | 94 | 77.7% | | | | |
| *No* | 78 | 30.6% | 36 | 27.1% | 25 | 19.2% | 22 | 18.2% | | | | |
| **Housing** | | | | | | | | | 2.89 | 3 | 0.4088 | 0.07 |
| *Yes* | 176 | 69.0% | 93 | 69.9% | 101 | 77.7% | 96 | 79.3% | | | | |
| *No* | 63 | 24.7% | 29 | 21.8% | 26 | 20.0% | 23 | 19.0% | | | | |
| **Finances** | | | | | | | | | 5.21 | 3 | 0.1568 | 0.09 |
| *Yes* | 131 | 51.4% | 59 | 44.4% | 54 | 41.5% | 50 | 41.3% | | | | |
| *No* | 124 | 48.6% | 74 | 55.6% | 76 | 58.5% | 71 | 58.7% | | | | |
| **Health insurance** | | | | | | | | | 6.57 | 3 | 0.0869 | 0.11 |
| *Yes* | 104 | 40.8% | 63 | 47.4% | 59 | 45.4% | 66 | 54.5% | | | | |
| *No* | 131 | 51.4% | 63 | 47.4% | 61 | 46.9% | 46 | 38.0% | | | | |
| **Unprotected sex** | | | | | | | | | 7.06 | 3 | 0.0702 | 0.11 |
| *Yes* | 192 | 75.3% | 96 | 72.2% | 83 | 63.8% | 89 | 73.6% | | | | |
| *No* | 53 | 20.8% | 32 | 24.1% | 43 | 33.1% | 28 | 23.1% | | | | |
| **Exchanging sex** | | | | | | | | | 64.52 | 3 | <0.0001 | 0.32 |
| *Yes* | 87 | 34.1% | 17 | 12.8% | 12 | 9.2% | 8 | 6.6% | | | | |
| *No* | 154 | 60.4% | 114 | 85.7% | 117 | 90.0% | 108 | 89.3% | | | | |
| **Alcohol use problem** | | | | | | | | | 20.44 | 3 | 0.0001 | 0.18 |
| *Yes* | 129 | 50.6% | 43 | 32.3% | 40 | 30.8% | 44 | 36.4% | | | | |
| *No* | 126 | 49.4% | 90 | 67.7% | 90 | 69.2% | 77 | 63.6% | | | | |
| **Substance dependence** | | | | | | | | | 103.61 | 3 | <0.0001 | 0.40 |
| *Yes* | 158 | 62.0% | 34 | 25.6% | 31 | 23.8% | 21 | 17.4% | | | | |
| *No* | 97 | 38.0% | 99 | 74.4% | 99 | 76.2% | 100 | 82.6% | | | | |
| **Hard drug use in the past 30 days** | | | | | | | | | 205.88 | 3 | <0.0001 | 0.57 |
| *Yes* | 171 | 67.1% | 20 | 15.0% | 16 | 12.3% | 11 | 9.1% | | | | |
| *No* | 84 | 32.9% | 113 | 85.0% | 114 | 87.7% | 110 | 90.9% | | | | |
| **Reincarceration in the past year** | | | | | | | | | 2.95 | 2 | 0.2283 | 0.09 |
| *Yes* | | | 52 | 39.1% | 43 | 33.1% | 35 | 28.9% | | | | |
| *No* | | | 80 | 60.2% | 85 | 65.4% | 85 | 70.2% | | | | |

*Note. Any women not released from jail at 1-year follow-up were removed from analysis.*

**TABLE 2. DESCRIPTIVE STATISTICS AND BIVARIATE/MULTIVARIATE TEST RESULTS (*CONTINUED*)**

| Variable | 12 months | | | 24 months | | | 36 months | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | *M* | *SD* | *n* | *M* | *SD* | *n* | *M* | *SD* | *F* | *df* | *p* | $R^2$ |
| **# arrests in the past year** | 132 | 0.86 | 2.44 | 128 | 0.98 | 2.44 | 115 | 0.62 | 1.20 | 1.38 | 1, 220 | 0.2411 | 0.00 |

## TABLE 3. MIXED MODELING RESULTS

| | DV = Unprotected sex | | | DV = Exchanging sex | | | DV = Alcohol use problem | | | DV = Substance dependence | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | *b* | *SE* | *p* | *b* | *SE* | *p* | *b* | *SE* | *p* | *b* | *SE* | *p* |
| Intercept | 2.07 | 0.48 | <0.0001 | 0.07 | 0.54 | 0.8989 | 0.34 | 0.43 | 0.4295 | 2.53 | 0.45 | <0.0001 |
| Year | −0.15 | 0.12 | 0.1975 | −1.32 | 0.26 | <0.0001 | −0.41 | 0.12 | 0.0006 | −0.96 | 0.15 | <0.0001 |
| Employment (*Yes*) | 0.16 | 0.32 | 0.6047 | −0.92 | 0.49 | 0.0598 | 0.25 | 0.31 | 0.4307 | −0.83 | 0.30 | 0.0054 |
| Transportation (*Yes*) | −0.42 | 0.40 | 0.2935 | −0.74 | 0.47 | 0.1208 | 0.15 | 0.37 | 0.6951 | −0.96 | 0.34 | 0.0053 |
| Housing (*Yes*) | −0.18 | 0.41 | 0.6642 | −0.84 | 0.50 | 0.0947 | −0.58 | 0.38 | 0.1319 | −0.85 | 0.36 | 0.0203 |
| Finances (*Yes*) | 0.42 | 0.34 | 0.2122 | 0.79 | 0.47 | 0.0916 | 0.04 | 0.32 | 0.9063 | −0.28 | 0.31 | 0.3664 |
| Health insurance (*Yes*) | −0.14 | 0.33 | 0.6754 | −0.76 | 0.47 | 0.1093 | −0.10 | 0.33 | 0.7554 | −0.41 | 0.31 | 0.1872 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | DV = Hard drug use in the past 30 days | | | DV = Reincarceration in the past year | | | DV = # rearrests in the past year | | | | | |
| Parameter | *b* | *SE* | *p* | *b* | *SE* | *p* | *b* | *SE* | *p* | | | |
| Intercept | 3.52 | 0.56 | <0.0001 | 1.41 | 0.64 | 0.0289 | 2.61 | 0.42 | <0.0001 | | | |
| Year | −1.69 | 0.22 | <0.0001 | −0.20 | 0.18 | 0.2705 | −0.09 | 0.10 | 0.3742 | | | |
| Employment (Yes) | −1.57 | 0.35 | <0.0001 | −1.38 | 0.37 | 0.0002 | −0.42 | 0.23 | 0.0649 | | | |
| Transportation (Yes) | −1.35 | 0.38 | 0.0004 | −0.49 | 0.45 | 0.2758 | −0.38 | 0.27 | 0.1703 | | | |
| Housing (Yes) | −0.67 | 0.40 | 0.0949 | −0.54 | 0.46 | 0.2432 | −1.34 | 0.29 | <0.0001 | | | |
| Finances (Yes) | −0.28 | 0.34 | 0.3986 | −0.29 | 0.36 | 0.4314 | −0.10 | 0.22 | 0.6603 | | | |
| Health insurance (Yes) | −0.89 | 0.35 | 0.0108 | −0.58 | 0.36 | 0.1074 | 0.25 | 0.23 | 0.2678 | | | |

**FIGURE 1: GRAPHICAL REPRESENTATION OF TRENDS IN INDEPENDENT VARIABLES**

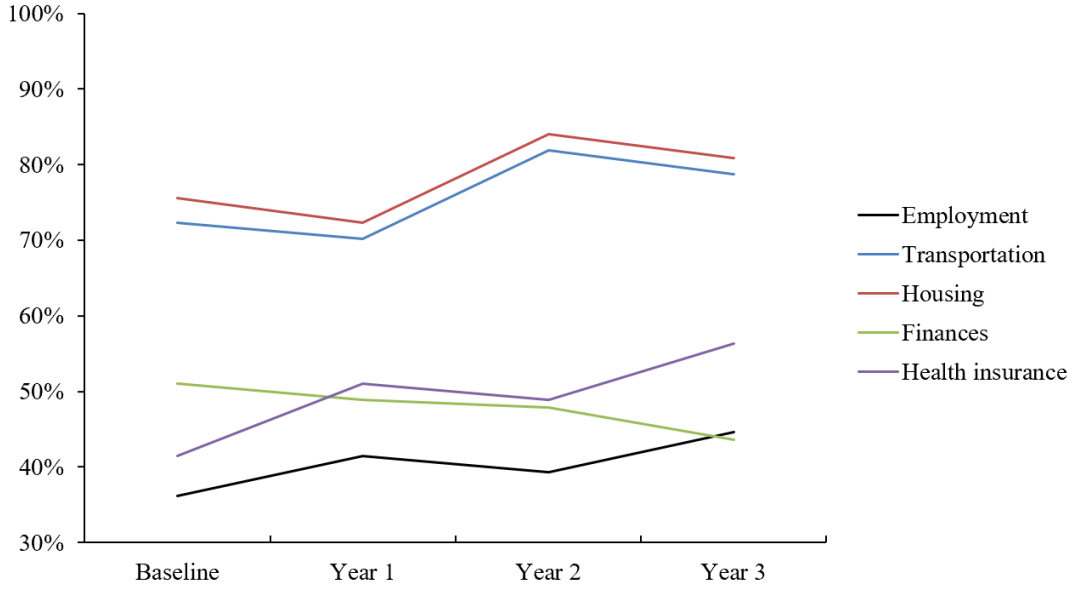
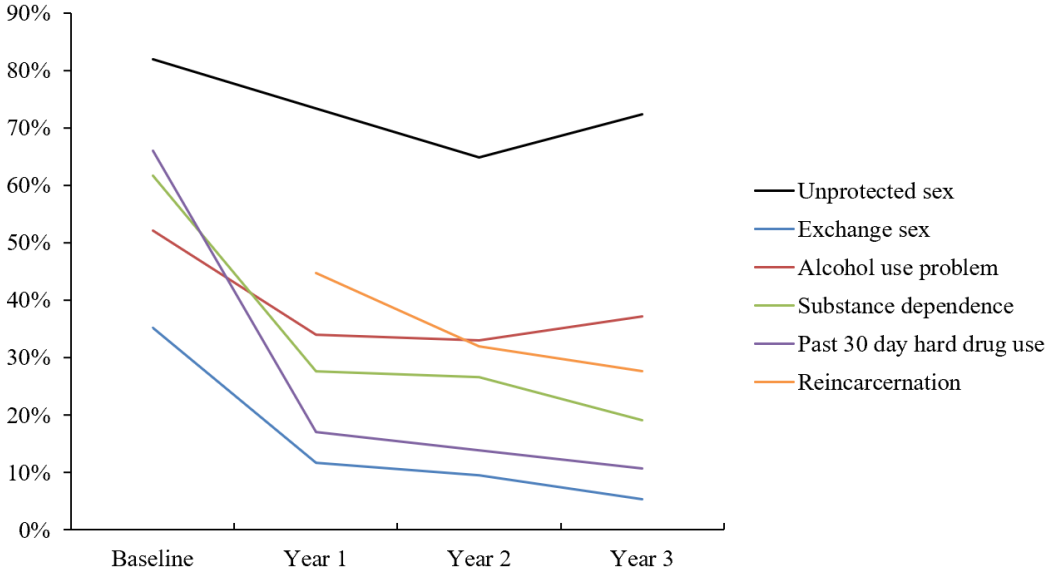



**FIGURE 2: GRAPHICAL REPRESENTATION OF TRENDS IN INDEPENDENT VARIABLES**



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