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Social support and crack/cocaine use among incarcerated mothers and non-mothers

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Keywords

female; cocaine; incarceration; social support; criminal justice; motherhood

Few studies have examined the interplay between motherhood, social support, and substance use in incarcerated female samples. Existing research demonstrates the positive effect of social support on the ability to cope with stressful life events and recover from illness and substance use problems (Cobb, 1976; Gottlieb, 1981; Stephens, 1987; Wilcox, 1988). Given the number of life problems and strains incarcerated women with substance use problems face, the present study examines whether adequate social support is related to a decrease in daily self-reported crack/cocaine use in a sample of mothers and non-mothers who are incarcerated. The importance of social support for mothers may be even greater among those who are incarcerated, as their lives are characterized by more stressful events than incarcerated men or non-incarcerated women (Glaze & Maruschak, 2008). The present study compares the characteristics and life circumstances of mothers and non-mothers and examines the relationship between perceived social support and daily use of crack/cocaine for both groups of women.

Substance Use and Parenting among Prisoners

Illicit substance use (ISU) remains a significant problem in the United States (U.S. Department of Health and Human Services, 2008), particularly among incarcerated adults. Female inmates represent a unique group whose reports of illicit substance use are increasing more rapidly than those of other populations. While large numbers of both male and female inmates report ISU, the number of women in federal prison who report using illicit substances in the month before incarceration (called 'month before' use) is growing at a faster rate than the number of men. Specifically, 'month before' use among female federal inmates increased by eleven percentage points between 1997 and 2004, while male inmates reported only a five percentage point increase during this time (Mumola & Karberg, 2006). Among all prison inmates, more women than men reported ISU in the month prior to incarceration – 54 percent and 50 percent, respectively (Mumola & Karberg, 2006). These data are further troubling given that 55% of female and 35% of male inmates were living with their children prior to incarceration (Glaze & Maruschak, 2008), which indicates that many of these children may have been affected by their parents' ISU.

Limited research shows that correlates of substance use differ for mothers and non-mothers. This study compares mothers and non-mothers by examining the relationship between perceived social support and frequency of crack/cocaine use. Data for the 307 female prisoners in this sample were collected between 2007-2008 in four U.S. states during the Criminal Justice-Drug Abuse Treatment Studies' (CJ-DATS) Reducing Risky Relationships for HIV protocol. Ordinary least squares regression models revealed that greater social support was significantly associated with less frequent crack/cocaine use for mothers but not non-mothers. Implications are discussed. This research was supported by the National Institute on Drug Abuse.

According to the Bureau of Justice Statistics (BJS), the number of children with a mother in prison has more than doubled since 1997 (Glaze & Maruschak, 2008) and a staggering 61.7 percent of incarcerated females report having at least one child under the age of eighteen. Once again, the numbers for women are increasing more rapidly than those of men. Between 1991 and 2007 the number of mothers in state and federal prisons increased 122 percent versus a 76 percent increase for fathers (Glaze & Maruschak, 2008).

The typical female prisoner is economically disadvantaged, has a history of substance abuse and sexual victimization, and is a single mother who had custody of two to three children prior to incarceration (Henderson, 1998; Bloom & Steinhart, 1993; Mumola, 2000). Given the numerous roles and responsibilities women are often expected to fulfill, one would expect their substance use to cause severe disruption in many areas of their lives. Research focusing specifically on female cocaine users reveals that women suffer more severe family and social problems stemming from their cocaine use than do male users (Griffin, Weiss, Mirin, & Lange, 1989; Kosten, Gawin, Kosten, & Rounsaville, 1993). The combination of managing one's substance use problems while providing care for minor children merits researchers' attention, particularly because women experience a more rapid progression from use to addiction (McCance-Katz, Carroll, & Rounsaville, 1999). Mothers with substance use problems who engage in drug-related criminal activities are at significant risk for losing guardianship of their children and being arrested and incarcerated due to their substance use (Henderson, 1998; Schilling, Mares, & El-Bassel, 2004).

Among non-incarcerated men and women, having children generally serves as a protective factor against behaviors like drug use. This trend, however, has not been reported among incarcerated women. In fact, incarcerated parents report slightly *higher* levels of past ISU than non-parents (Mumola, 2000). The Bureau of Justice Statistics has not published a report that examines specific differences in the rate of ISU between incarcerated mothers and non-mothers; however, inferences can be made from two existing reports focusing on (1) the ISU of the general female inmate population (Mumola & Karberg, 2006), and (2) only those inmates who are mothers to minor children (Glaze & Maruschak, 2008). According to these two reports, the percentage of mothers incarcerated in state prisons who meet DSM-IV criteria for substance dependence/abuse (American Psychiatric Association, 2000) is 10 percentage points higher than that of the general female state prison population, 70.1 percent and 60.2 percent respectively. Because more non-mothers in the general population engage in ISU, it may be that, because of the concern for children, mothers who use illicit substances face the risk of being reported to child protection services and subsequently the police. Thus, while more women in the general population who engage in ISU are non-mothers, it is much more likely that mothers will be arrested and incarcerated.

While incarcerated men and women with children report relatively equal levels of drug use (Glaze & Maruschak, 2008), women are much more likely to have been living in the same home as their children prior to incarceration (55 percent vs. 35 percent of men), and three times more likely than male inmates to report living in a single-parent household (Glaze & Maruschak, 2008). Further, among the parents that lived with their kids prior to incarceration, 77 percent of incarcerated mothers said that they personally provided the majority of the daily care for their children before incarceration, while only 26 percent of fathers did (Glaze & Maruschak, 2008). Although these women and children would benefit more from comprehensive substance abuse treatment, whose effectiveness has been studied at length (Ashley, Marsden, & Brady, 2003), the rate of incarceration of mothers continues to skyrocket instead (Schirmer, Nellis, & Mauer, 2009).

Although drug abusing women are more likely than men to be dependent on a family member or on public assistance for survival (Marsh & Simpson, 1986), they are also more

likely to be the primary caretakers of children. Thus, mothers are often forced to manage their own drug problems while simultaneously trying to adequately care for their children in order to avoid criminal justice system or family intervention. This likely causes significant stress, and some have reported *increasing* their substance use to cope with the stress of parenting (Pelham & Lang, 1993, 1999; Pelham et al., 1998). However, mothers who use illicit substances face a much greater risk of losing guardianship or custody of their children prior to incarceration, and whether or not their ISU is what facilitated the removal of their children, it is likely that their use will increase afterwards (El-Bassel et al., 1996). The need to examine differences in the backgrounds and experiences of incarcerated women is apparent. Women are a complex group and as feminists commonly state, there is no single “woman” experience. Thus, research must examine variations among different groups of women. This study will consider only two groups of incarcerated women – non-mothers and mothers of minor children. Of particular interest is how these groups differ in terms of their daily crack/cocaine use and how important factors such as social support impact their daily crack/cocaine use.

Social Support

Social support has been defined as the “existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us” (Sarason, Levine, Basham, & Sarason, 1983, p. 127). Previous research on social support in psychology, sociology, social work, and medicine has found that social support has a significant and positive impact on individual well-being and functioning. Individuals with adequate social support report greater physical and mental well-being (for a review of this literature, see Cohen, Underwood, & Gottlieb, 2000, ch. 1). While extant literature cites the importance of social support for women in general (Tucker, 1982; Mondanaro, 1989), few studies have focused particularly on one of the most strained group of women in our society: incarcerated mothers of minor children with substance use problems.

There is reason to hypothesize that social support may then be especially important for women with substance use problems. Not only do women regularly score higher than men on measures of stress, anxiety, and depression (Riehm et al, 2008), they also appear to be particularly susceptible to negative life events (Rhoads, 1983). This susceptibility to negative life events, including the likelihood of contracting sexually transmitted or blood borne infections, is also greater for women who use illicit substances (Holmberg, 1996; Irwin et al., 1996; CDC, 1998, 1996). According to Tucker’s (1982) findings, women who had drug problems experienced, or perceived themselves as experiencing, a greater number of stressful life circumstances than others. Tucker goes on to note that the social support-stress-coping model would imply that when under more strain, women with drug problems have more reason to resort to abusing drugs and are in greater need of social resources compared to both women without substance use problems and men with substance use problems (1982). This is not surprising since some of these negative events, such as suffering from a medical condition (Tucker, 1982), may be outside of the woman’s control which likely exacerbates the level of stress they cause.

The existing social support literature indicates that it may be even more crucial for women who have children than for non-mothers, particularly in helping them to adjust to being a single parent and reduce drug use (Donati, 1995; Stewart, 1995; El-Bassel et al., 1996). Given the extensive literature on the positive outcomes associated with higher levels of social support in the general population, it is expected that similar positive effects would be found among the population under study as well. As discussed earlier, substance-using women experience high rates of negative life events and therefore stand to benefit greatly from social support. Additionally, research shows that women with fewer sources of support

will face added stress in trying to stay off drugs and in raising their children (Mondanaro, 1989). Since the majority of the women who are single mothers receive little or no financial help from their partners/ex-partners, it is expected that they might be particularly dependent upon those around them for support (El-Bassel, Chen, & Cooper, 1998). Because having children entails numerous obligations, substance-using mothers may rely more on the support of those around them than other women.

This study examines two main research questions using data from 307 female inmates. First, what effect does social support have on the daily use of crack/cocaine for the women in this sample? Second, is there a difference in the effect of social support on daily crack/cocaine use between mothers and non-mothers? It is hypothesized that there will be a negative relationship between social support and daily crack/cocaine use, and that this relationship will be stronger for mothers than for non-mothers.

Methods

Sample

This study uses data collected during the first wave of the Reducing Risky Relationships for HIV (RRR-HIV) protocol within the National Institute on Drug Abuse's Criminal Justice Drug Abuse Treatment Studies (CJ-DATS) cooperative agreement. The primary goal of the RRR-HIV study was to examine the effect of an HIV intervention on a population of incarcerated, substance-using women (see Staton-Tindall et al, 2007b). Interviews were conducted with 442 incarcerated women and contain a distribution of women in terms of age, race, employment status, and other variables. For the RRR-HIV study, extensive interviews were conducted with incarcerated women in four U.S. states during 2007–2008. Eligibility criteria for participation were as follows: must be an incarcerated woman scheduled to go before the parole board or serve out their prison sentence within six weeks of participating in the study, report substance use at least monthly in the year before prison, and be at least 18 years of age. Women reporting psychotic features in the past month were excluded from the study. Interviews were conducted face-to-face in a private area inside the prison facility. The data set includes a census sample of incarcerated women re-entering the community. All women who met eligibility criteria and consented were interviewed.

For this study, however, only those women who reported crack/cocaine use in the six months before incarceration were included (N=307). This allows for some generalizability about the characteristics and experiences of women who use the same kind of illicit substance rather than comparing women who use different substances. A second reason the present study includes only crack/cocaine use is that use of these substances is particularly high among the population under consideration. In a Bureau of Justice Statistics report, 46 percent of incarcerated mothers reported using crack/cocaine in the month before their incarceration, making it the most frequently used drug (Mumola, 2000). Among state prisoners, crack/cocaine use ranks second only to marijuana as the most frequently used illicit drug (47 percent) (Mumola & Karberg, 2006). Additionally, when asked to rank order the drugs which caused them the most serious problems before arrest, over 39 percent of the 442 women listed crack or cocaine as causing them the most serious problems, and over 29 percent listed crack or cocaine as the second most serious. Thus, crack/cocaine use among women prisoners is more reflective of female prisoners nationwide and daily use of crack/cocaine is indicative of abuse and likely, dependence.

Measures

Dependent Variable: The dependent variable in this study is the *daily use of self-reported crack/cocaine use in the six months prior to incarceration*. Each respondent was asked to

indicate how often she had used crack and cocaine in the six months before her current incarceration. The response categories are: 1= Used only 1–3 times; 2=About 1 time per month; 3=About 2–3 times per month; 4=About 1 time per week; 5=About 2–6 times per week; 6=About 1 time per day; 7=About 2–3 times per day; 8=About 4 or more times per day. The response categories were then condensed so that women were placed into either the “daily use” category (for responding with a 6, 7, or 8 to questions about use for either crack and/or cocaine), or the “non daily use” category (for responding with a 1, 2, 3, 4, or 5).

Independent Variable: The independent variable is *social support*, which was measured using each respondent’s score on the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS is comprised of 12 items which measure the subjective assessment of social support adequacy from three sources: family, friends, and significant other. Responses for each item range from 1 (low level of support) to 7 (high level of support). Responses are then totaled for each of the 12 items and used to compute a mean score ranging from 1 (low level of support) to 7 (high level of support). In the present study, the reliability of the MSPSS is $\alpha=.90$.

Control Variables: Only variables that were found to be significant at the bivariate level were included in the multivariate analysis. Of the five initial control variables, three were excluded due to a lack of significance at the bivariate level. The excluded variables were: high school diploma or equivalent (1=yes, 0=no), marital status (1=married or living as married, 0=never married, separated, divorced, or widowed), and lifetime experiences with victimization/abuse (with “0” indicating none of the abusive events happened and “11” meaning the respondent answered yes to experiencing all 11 events). The two variables that reached significance were included as control variables in the analyses presented below. Both of these variables were dichotomous: race (1=white, 0=non-white) and employment in the six months prior to incarceration (1=yes, 0=no).

Analytic Strategy: Frequencies were run on non-mothers (n=98) and mothers (n=209) separately. After preliminary analyses, two multivariate logistic regression models were run.

The first multivariate logistic regression model assessed the relationship between social support and daily crack/cocaine use reported by non-mothers. This model included only non-mothers (n=98) and included the following independent variables: social support, race, and employment status, as well as the dependent variable, daily use of crack/cocaine in the six months before incarceration. For model two, a multivariate logistic regression was run to assess the relationship between each of the three independent variables – social support, race, and employment status – and the dependent variable, daily crack/cocaine use concerning mothers only (n=209).

Results

Descriptive Statistics

Table 1.1 presents the descriptive statistics for the variables of concern for the entire sample (N=307). The youngest respondent was eighteen years old and the eldest was sixty at the time of the interview. Over two-thirds of the sample was between eighteen and thirty-nine years of age, with an average age of 34.5. Additionally, the majority of the sample (70%, n=215) was white.

Most respondents were unmarried (87%, n=267). In addition, (40.1%, n=123) fewer than half completed high school, and almost 61 percent were not employed in the six months before incarceration. Two-thirds (68.1 percent) of the women reported having at least one

child under the age of 18, with an average of 2.4 minor children per mother. Moreover, over half of the women (57.7% n=177) reported daily use of crack/cocaine. [TABLE 1.1 HERE]

Bivariate Analysis

Logistic regression was used to explore the relationships between each of the independent variables and daily use of crack/cocaine in the six months prior to incarceration for both non-mothers and mothers. The unadjusted odds ratios and 95% confidence intervals from these models are reported in table 1.2. Variables which are significant at the p .05 level are included in the full multivariate logistic regression models for both non-mothers (n=98) and mothers (n=209).

For non-mothers, only one variable was significantly associated with daily use of crack. Specifically, being white significantly decreased the odds of daily crack/cocaine use for non-mothers. For mothers, social support and being employed were the only significant correlates of the daily use of crack/cocaine. Greater levels of social support significantly decreased the odds of daily crack/cocaine use for mothers. Moreover, being employed reduced the odds of daily crack/cocaine use by about 60%. After running collinearity diagnostics on the data, no multi-collinearity problems were detected. [TABLE 1.2 HERE]

Multivariate Analysis

Model #1: Non-Mothers: Table 1.3 presents the results for the first multivariate logistic regression model (non-mothers only) of daily crack/cocaine use in the six months prior to incarceration on the independent variables – perceived social support, being white and employed. For non-mothers, this model was not significant, thus the hypothesis that social support would be negatively correlated with of the daily use of crack/cocaine for both groups of women was not supported. This indicates that variables other than those included in this model impact the daily use of crack/cocaine by non-mothers. [TABLE 1.3 HERE]

Model #2: Mothers: Concerning mothers only (Table 1.4), social support and employment were significantly associated with the dependent variable. Specifically, women with higher levels of perceived social support and those who were employed reported less daily crack/cocaine use. Race was not significantly related to crack/cocaine use among mothers. Given that social support was significant for mothers' daily use of crack/cocaine, but not non-mothers', the hypothesis that the relationship between social support and daily crack/cocaine use will be stronger for women who are mothers than for women who are not mothers was supported. [TABLE 1.4 HERE]

Limitations

One of the limitations of this study was the use of cross-sectional data which did not allow for temporal ordering. Future studies should examine the effect of social support on substance abuse longitudinally. A second limitation is the limited number of variables included in the model. Although social support and employment are related to the substance-using behavior of incarcerated mothers, additional factors need to be examined to understand the remaining variance. Important factors such as socioeconomic status, history of substance abuse, and prior involvement in a substance abuse treatment program might shed light on the differences between mothers and non-mothers in this sample in terms of what variables impact their crack/cocaine use. Additionally, this sample is 70% white so it is important to note its limited generalizability to the overall U.S. female prison population where white women comprise only 46.4% of the inmate population (Sabot & Couture, 2008). It should be noted that about half of the women were recruited from Kentucky correctional institutions where the prison population is 66% white (Sourcebook of Criminal

Justice Statistics in the Commonwealth, 2008); therefore, the racial demographics are representative of Kentucky prisons. However, this is one of the first studies that distinguish mothers/non-mothers and substance use behaviors as well as factors that are protective against substance use. Further research is needed to understand other protecting factors for substance use in mothers and non-mothers.

Discussion

The present study explored the different factors associated with daily crack/cocaine use among a sample of incarcerated mothers. In particular, the role of social support was examined in relation to the daily use of crack/cocaine of women who were mothers and non-mothers. It was hypothesized that having adequate social support would be negatively associated with daily crack/cocaine use. Substance-using mothers have more responsibilities than substance-using women who are not mothers because they must manage their substance use problems while providing care for their children and avoiding the attention of police or child welfare agencies. Consequently, it was hypothesized that social support would be a more significant factor in the daily use of crack/cocaine for mothers than for non-mothers. This hypothesis was supported. In fact, the multivariate model of daily crack/cocaine use among non-mothers was not significant, although a significant bivariate relationship was found between non-white race and likelihood of daily use. This demonstrates that the social support model is more pertinent to the substance use of some women than others. It also suggests a need to study mothers and non-mothers separately.

The other significant finding was that one of the control variables – employment in the six months prior to incarceration – was significantly and inversely related to the daily use of crack/cocaine by mothers. That is, mothers who were employed during this time frame were significantly less likely to be daily users than were unemployed women. The significant protective power of employment has been studied (see Dooley & Prause, 1998; El-Bassel et al., 1996; Simmons et al., 2009) and the current finding adds to this literature. Interventions designed to assist mothers with substance use problems should incorporate job skills training and assistance with obtaining employment.

Friends and family of mothers with substance use problems may be frustrated by the illegal and potentially harmful behavior of their loved one; however, their support is essential for a number of reasons. Perhaps the most salient reason that mothers benefit from social support is that it provides them with emotional support that may decrease their reliance upon illicit substances. Additionally, if these women are to access treatment and successfully abstain from harmful substances, the social support of friends and family members may prove to be an important catalyst that encourages these women to enter treatment. A substance-abusing friend or family member can be difficult and those who care about them may lose patience and hope and eventually “turn their back” on a woman who habitually abuses substances. This denial of assistance and support may be even greater for mothers who have faced legal consequences for their substance use such as being incarcerated or losing custody of their children. However, the importance of having a supportive network of people is paramount to the substance-abusing woman’s recovery (United Nations Office on Drugs and Crime, 2004). And regardless of whether or not the woman enters treatment, this support is important for her overall well-being (Gottlieb, 1981).

Mothers with substance use problems have been greatly affected by child welfare campaigns in the United States. As policies in the 1980s with a focus on family preservation and reunification were replaced by policies in the 1990s whose new aims were instead the protection of children, a significant reduction in resources allotted to assist substance-using mothers has taken place (Pelton, 1997; Hines et al., 2004; USDHHS, 1998, 2005; Pew

Charitable Trusts, 2008). Over this same time period and into the 21st century, these policy changes have coincided with an increase in incarceration rates among mothers, the majority of which are serving time for a drug-related offense (Glaze & Maruschak, 2008). These developments and others have led some to accuse the state of controlling women via incarceration and child welfare system involvement under the guise of “child protection” (Appell, 1998). Prior to incarceration, the majority of the women in this study were mothers attempting to care for their children alone while trying to manage their substance use, financial, and other problems. Despite efforts that take a punitive stance toward substance-abusing mothers (Ketinger et al., 2000; Connors et al., 2004), research has shown that victimization, poverty, and substance use are often cyclical absent some form of intervention (Greene, Haney, & Hurtado, 2000). Findings from our study suggest that combining child welfare services and job skills training/employment assistance with substance abuse services could more effectively serve women with substance abuse problems and their children.

In addition to the need for greater availability of comprehensive substance abuse treatment programs for women, other steps can be taken to increase the social support networks within which these women exist. Community outreach programs can serve to de-stigmatize substance use and educate family and community members on the nature of substance abuse and how to better support their loved ones who may be experiencing substance dependence. In addition to initiatives such as these, there must also be initiatives to increase support for substance using women who are incarcerated once they are released. Community reintegration programs may be beneficial to women if family members and the woman’s children are involved in the woman’s post-release plans, and are encouraged to support her while she tries to adjust once again to life outside of prison. In sum, these suggested initiatives for increasing social support may assist women in abstaining from substance use and avoiding incarceration, may encourage women to seek substance abuse treatment, or may assist female prisoners in reintegrating into society and maintaining sobriety from drugs and alcohol upon their release. This research demonstrates that these initiatives may be particularly helpful to mothers with substance use problems than for other populations of women.

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Table 1.1

Descriptive Statistics for All Women (N=307)

Variables	N	% (SD)
Age (mean) [†]	34.5	(8.90)
Race		
White	215	70
Non-White	92	30
High School Graduate		
Yes	123	40.1
No	184	59.9
Number of Lifetime Arrests		
1–5	105	34.2
6–10	86	28
11+	116	37.8
Employed in 6 months before incarceration		
Yes	120	39.1
No	187	60.9
Married		
Yes	40	13
No	267	87
Mother to at least one child under 18		
Yes	209	68.1
No	98	31.9
Children residing with mother prior to incarceration? (mothers only; n=209)		
Yes	56	26.8
No	153	73.2
Daily use of crack/cocaine		
Yes	177	57.7
No	130	43.3
MSPSS score (mean)	5.19	(1.30)

Source: RRR-HIV Baseline Data

[†]denotes one missing value (N=306)

Table 1.2

Bivariate Logistic Regression Models of Selected Independent Variables and Daily Crack/Cocaine Use in 6 Months Prior to Incarceration (Non-Mothers and Mothers)

Variable	NON-MOTHERS		MOTHERS	
	Unadjusted Odds Ratio	95% Confidence Interval	Unadjusted Odds Ratio	95% Confidence Interval
Social Support	1.01	.728–1.40	.738	.588–.927 ^{**}
Race(white)	.381	.154–.941 [*]	.588	.309–1.12
Employment	.744	.324–1.71	.398	.224–.708 ^{**}
N	98		209	

*
p<.05 (2-tailed)

**
p<.01 (2-tailed)

Table 1.3

Multivariate Logistic Regression Model Identifying the Significant Correlates of Daily Crack/Cocaine Use in 6 Months Prior to Incarceration for Non-Mothers (n=98)

Variable	Coefficient (S.E.)	Adjusted Odds Ratio	95% Confidence Interval
Social Support	.016 (.172)	1.02	.726–1.42
Race(white)	–.956* (.463)	.384	.155–.952
Employment	–.270 (.437)	.763	.324–1.80
–2 Log-likelihood	122.71		
Model X ²	.169		
Nagelkerke R ²	.069		

*
p<.05

**
p<.01

Table 1.4

Multivariate Logistic Regression Model Identifying the Significant Correlates of Daily Crack/Cocaine Use in 6 Months Prior to Incarceration for Mothers (n=209)

Variable	Coefficient (S.E.)	Adjusted Odds Ratio	95% Confidence Interval
Social Support	-.296* (.118)	.744	.590-.937
Race(white)	-.587 (.343)	.556	.284-1.09
Employment	-.952** (.303)	.386	.213-.699
-2 Log-likelihood	268.05		
Model X ²	19.96		
Nagelkerke R ²	.122		

*
p<.05

**
p<.01