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Reentering Women: The Impact of Social Ties on Long-Term Recidivism

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Abstract

Criminological theories have long suggested that family relationships influence criminal behavior. Yet, little recidivism research focuses on in-prison social ties. Despite evidence that social ties are more important for women, most research has focused on men. Furthermore, little is known about the effect that in-prison contact has on post-release support and what role this plays in the social ties–recidivism relationship. This study seeks to build on existing research by examining the relationship between female in-prison contact, post-release support, and recidivism. Results suggest that in-prison family contact and post-release family support are protective whereas in-prison non-family contact is a risk factor.

Keywords

women in prison, recidivism, reentry, emotional support, social ties

Introduction

Over the past decade, the United States experienced an unprecedented increase in the number of offenders leaving prison, as more than 700,000 inmates were

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released each year (Sabol & Couture, 2008; West, Sabol, & Greenman, 2010). Research suggests that as many as half of released prisoners will be reincarcerated within 3 years (Langan & Levin, 2002). Not surprisingly, a growing body of research has focused on examining means to improve outcomes of reentering offenders. Research on the effectiveness of various reentry strategies at reducing recidivism suggests that cognitive-behavioral approaches and programs that target criminogenic factors and individual needs and that focus on individual-level change may be most effective at reducing recidivism among adults and juveniles (Andrews & Bonta, 2003; Andrews et al., 1990; Aos et al., 2006; Fonagy & Kurtz, 2002; Lipsey, 1995; Lipsey & Cullen, 2007; MacKenzie, 2006). Other studies suggest that the neighborhood to which an offender returns may affect recidivism with those returning to areas of concentrated disadvantage and poverty faring worse than others (Huebner, DeJong, & Cobbina, 2010; Kubrin & Stewart, 2006).

Relatively little attention has been given to the relationship between inmate social ties and recidivism (see Bales & Mears, 2008, for a recent exception). This lack of research is somewhat surprising as most modern criminological theories anticipate that social ties should reduce criminal behavior (e.g., Hirschi's, 1969, social bond theory; Sampson & Laub's, 1993, age-graded theory of informal social control; and Agnew's, 2006, general strain theory). The limited body of research suggests that inmate social ties may reduce recidivism; however, the existing studies are limited in a number of ways. Frequently cited studies supporting the social ties–recidivism relationship often use dated samples and draw conclusions based on bivariate analyses (e.g., Glaser, 1964). Also, though more recent studies have used multivariate techniques, they have also narrowly defined social ties as in-prison visits within 12 months of release from prison (e.g., Bales & Mears, 2008). However, visitation is not the only form of in-prison contact and social ties may be sustained through a combination of visits, telephone calls, and mail correspondence (Tewksbury & DeMichele, 2005). Other studies have examined a broader spectrum of contact but focused on in-prison infractions rather than recidivism upon release (e.g., Jiang & Winfree, 2006). In addition, most research on family ties has focused on in-prison relationships and subsequent recidivism and ignored the social processes by which in-prison family relationships may affect recidivism, including the role of post-release family support in successful reintegration (Visher & Travis, 2003). Finally, much of this research either has relied on entirely male samples or does not report findings separately by sex (Visher & Travis, 2003; see Bales & Mears, 2008, for a recent exception). This gap is unfortunate given evidence that family relationships and social ties may be particularly important for female offenders (Bloom, Owen, & Covington, 2002; Jiang & Winfree, 2006; Kiser, 1991).

Although women represent less than 10% of the total inmate population, between 2000 and 2008, the average number of female prisoners grew faster (2.6% annually) than the average number of male prisoners (1.8% annually; West et al., 2010). This increasing rate, with an attendant increase in incarcerated women from 93,234 in 2000 to 113,462 in 2009, highlights the importance of understanding correlates of recidivism among women. Although research has demonstrated that a number of factors may be important in explaining recidivism among males and females (e.g., low levels of education and limited job opportunities), the issue of in-prison social ties may be more important to women. For example, research suggests that female prisoners are more likely to have parental responsibilities and may be more preoccupied with family relationships during prison than male counterparts (Kiser, 1991).

The current study seeks to fill a gap in the literature by examining the relationship among in-prison social ties (in-person visits, telephone calls, mail correspondence, and perceived family emotional support), post-release social support (perceived family emotional and instrumental support), and long-term recidivism outcomes among reentering women.

Reentering Women

Returning prisoners face multiple obstacles, including limited occupational and educational experience and training to prepare them for employment, drug and alcohol addictions, mental and physical health problems, strained family relations, and limited opportunities due to the stigma of a criminal record (Broner, Lattimore, & Steffey, 2010; Petersilia, 2003; Travis & Visher, 2005). Although research suggests male and female prisoners are similar in having relatively low educational attainment and poor employment histories (Robbins, Martin, & Surratt, 2009), women have unique life experiences and pathways to crime (Belknap, 2001) that may complicate successful reentry. For example, Bloom et al. (2002) identified pathways that research suggests are particularly salient for women, including histories of personal abuse, mental illness and substance abuse, economic and social marginality, homelessness, and relationships. These circumstances that may have played a role in their initial criminal involvement are further compounded upon release. For example, when released from prison, women often have difficulty accessing substance abuse and mental health treatment, have unresolved issues related to prior victimization, have difficulty securing employment, and may need to rely on family members for financial support to avoid homelessness (Richie, 2001).

Family support may be particularly important in reentry success. Research has documented that the primary reentry concerns for female offenders are to

successfully reunite with their children, maintain a suitable lifestyle, and sustain relationships with family and intimate partners (La Vigne, Brooks, & Shollenberger, 2008; O'Brien, 2001; Richie, 2001). In an analysis of female offenders returning to Houston, Texas (La Vigne et al., 2008), many women expected to have emotional and financial support from their families and relationships upon release. Maintaining contact with family and supportive others while incarcerated may play an important role in ensuring successful reunification upon release. Interviews with female inmates in one prison in Illinois revealed that familial visits were extremely important to female inmates, who interpreted the visits as evidence that their family members supported them (Kiser, 1991). However, women who did not receive visitors indicated that this absence was one of the most difficult aspects of serving time.

Prisoner Social Ties and Recidivism

Research has long suggested that social ties may influence criminal behavior and may be important to successful reentry. For example, Ohlin (1954) found that among prisoners released from Illinois prisons in the 1920s and 1930s, inmates who maintained an active interest in family (measured as frequency of family contacts) were more likely to be successful on parole than those classified as loners. A follow-up study examining prisoners released during the 1940s and 1950s reaffirmed these results (Glaser, 1964). Similarly, in a study of 412 male parolees, Holt and Miller (1972) found that the number of visitors an inmate had during the last year of incarceration increased the likelihood of parole success (fewer parole violations and arrests). However, not all research has supported these findings. For example, Adams and Fischer (1976) found that neither the average number of visits nor letters received from family, friends, and others was associated with recidivism in their study of 120 released prisoners.

Although these studies provide an important foundation for examining the relationship between in-prison social ties and recidivism, they included only male prisoners, and the findings were based on bivariate analyses that did not control for other characteristics (e.g., criminal history). More recent studies have examined both perceived emotional support, including close family relationships, acceptance, and encouragement (e.g., Nelson, Deess, & Allan, 1999; Visher, Kachnowski, La Vigne, & Travis, 2004), and inmate mail, telephone, and in-person contact (Bales & Mears, 2008; Jiang & Winfree, 2006) with multivariate analytic techniques.

The limited research examining the impact of perceived emotional support suggests such support may aid successful reintegration. In 1999, Nelson

and colleagues interviewed 49 offenders released from New York jails and prisons about 30 days post incarceration and found that family emotional support, such as acceptance and encouragement, affected success with regard to drug use, employment, and criminal activity. The reentering offenders indicated that family acceptance allowed them to plan for the future and develop pro-social relationships. However, not all social bonds were helpful; offenders who reunited with criminal and drug-using friends were more likely to fail. Similar findings were reported in a study of offenders returning to Baltimore. Visher et al. (2004) found that close family relationships and strong family support were associated with improvements in employment and substance use outcomes post release. However, they also noted the potential for family to have a negative influence on reentering offenders; more than half of the inmates had family members who had been convicted of a crime and more than 25% had at least three family members with a substance abuse problem.

A few recent studies have examined the impact of in-prison social contact on recidivism. Social contact has typically been defined as the occurrence or frequency of in-prison visitation, telephone calls, and mail correspondence. Overall, the results suggest a protective effect of in-prison contact. Using data from the 1997 State and Federal Correctional Facilities in the United States survey, Jiang and Winfree (2006) examined whether an inmate's level of social support was associated with the number of rule violations received while incarcerated. Three dichotomous (*yes*/*no*) variables were used to measure support from outside the prison: visits by children, telephone calls made to or received from children, and mail sent to or received from children. Both male and female inmates who received calls from their children had fewer rule violations. However, neither visitation nor mail contact with children had a significant effect on violations. These findings were limited to in-prison behavior rather than post-release recidivism and examined only contact with children not with other family members or friends.

Bales and Mears (2008) used data from the Florida Department of Corrections to examine whether in-prison visitation affected recidivism outcomes for 7,000 male and female inmates released in 2001 and 2002. The effect of visitation was examined separately by type of visitor (parent, spouse, significant other, child, relative, friend, or other person) on both the occurrence and timing of conviction for a new felony resulting in incarceration within 2 years following release. Findings suggest that the existence and frequency of visitation both reduce the occurrence and delay the onset of recidivism. Although visits from family and friends had positive outcomes, the effects were strongest for spousal visitation. Somewhat surprisingly, child visitation was associated with a higher likelihood of reconviction. Even

though this was not hypothesized by the authors, it is consistent with prior research, which found that mothers visited by their minor children are more likely to receive prison infractions than mothers who do not receive such visits (Casey-Acevedo, Bakken, & Karle, 2004). Finally, in a study of over 200 male prisoners reentering Chicago, La Vigne, Naser, Brooks, and Castro (2005) found that inmates who maintained family contact had stronger post-release family relationships. More specifically, in-prison visits were found to be more important for relationships with partners and children, whereas phone and mail contact were more important for other members of the family. Although this study did not examine recidivism, the results highlight the important role that in-prison family contact plays in successful reintegration. They also suggest that the relationship between in-prison social ties and recidivism may be mediated through post-release relationships.

The goal of the current study is to build on this literature by examining the relationship among in-prison social ties, including multiple forms of contact with family members and friends and perceived family emotional support, post-release social support, and long-term recidivism outcomes for women. Based on the limited literature, we anticipate finding (a) a positive relationship between in-prison family contact and post-release family support, and (b) a negative relationship between in-prison family contact and reincarceration that is at least partially mediated through post-release family support.

Data and Method

The data presented here were collected as part of the Multi-Site Evaluation of the Serious and Violent Offender Reentry Initiative (SVORI; e.g., Lattimore, Barrick, et al., 2011; Lattimore & Visher, 2009; Lattimore,Visher, & Steffey, 2011; Lindquist, Barrick, Lattimore, & Visher, 2009; Winterfield, Lattimore, Steffey, Brumbaugh, & Lindquist, 2006), a multi-site evaluation of state and local reentry initiatives. The data were collected as part of this evaluation through inmate surveys during interviews 30 days before release and 3, 9, and 15 months after release; data from state agencies and the National Criminal Information Center (NCIC) identified post-release recidivism. The sample includes 255 women from Iowa, Indiana, Ohio, Oklahoma, South Carolina, and Washington who either participated in SVORI programs or were members of control or comparison groups between 2004 and 2007.[1] The study participants were high-risk offenders who had extensive criminal and substance use histories, low levels of education and employment skills, and families and peers who were substance- and criminal justice system–involved.

Dependent Variables

Two measures of recidivism were included in the analyses. The occurrence of recidivism was defined as whether the offender was *reincarcerated* (1 = *yes*) within nearly 5 years of release from prison. The *time to reincarceration* was measured as the number of days from release to reincarceration (up to 2,282 days). For both measures, reincarceration included returns to prison for either a new offense or for a parole or probation revocation.

Independent Variables

Our primary independent variables included perceptions of family emotional support and in-prison contact with family members and others. *In-prison family emotional support* was measured with a scale of the following 10 items: "I feel close to my family," "I want my family to be involved in my life," "I consider myself a source of support for my family," "I fight a lot with my family," "I often feel like I disappoint my family," "I am criticized a lot by family," "I have someone in my family to talk to about myself or my problems," "I have someone in my family to turn to for suggestions about how to deal with a personal problem," "I have someone in my family who understands my problems," and "I have someone in my family to love me and make me feel wanted." Response options ranged from *strongly agree* (4) to *strongly disagree* (1). These 10 items were summed so that a high score indicates greater perceived family emotional support (negatively worded items were reverse-coded). *Post-release family emotional support* was measured using the same variables asked at the 3-, 9-, and 15-month post-release interviews. The scale was calculated at each wave, but to reduce attrition, the average of the three post-release scales was calculated. Of the 255 women in the sample, 193 had data to construct this scale.

Post-release family instrumental support was measured with a scale of the following items (asked at each of the three post-release interviews): "I have someone in my family who would provide help or advice on finding a place to live," "I have someone in my family who would provide help or advice on finding a job," "I have someone in my family who would provide support for dealing with a substance abuse problem," "I have someone in my family who would provide transportation to work or other appointments if needed," and "I have someone in my family who would provide me with financial support." Response options ranged from *strongly agree* (4) to strongly *disagree* (1). These five items were reverse-coded and summed so that a high score indicates greater perceived family instrumental support. Similar to family emotional support, the average of instrumental support across the three waves was calculated.

In-prison contact was measured by constructing two scales of the type and frequency of contact inmates reported: *family contact* and *non-family contact*. Each inmate was asked how frequently (*daily* = 4, *weekly* = 3, *monthly* = 2, *a few times* = 1, or *never* = 0) they talked on the phone, sent or received mail, or were visited by family members and others. The *family contact* scale was constructed by summing the frequency with which inmates reported contact with family members through phone calls, mail, or in-person visits. Similarly, the *non-family contact* scale was constructed by summing the analogous items for non-family members. In addition, to assess the relative importance of each contact type, six dichotomous indicators (1 = *had contact type*, 0 = *never had contact type*) were developed: *family phone contact, non-family phone contact, family mail contact, non-family mail contact, family visit*, and *non-family visit*.

Control Variables

The multivariate models control for a number of individual characteristics that research has suggested may predict recidivism. Demographic variables included race (*non-White* = 1), age, relationship status (*married or in a steady relationship prior to release* = 1), employment history (*employed during 6 months prior to incarceration* = 1), educational attainment (*high school graduate* = 1, if completed 12th grade or equivalent), and having *minor children* (1 = *yes*).

Because criminal history has been demonstrated to be one of the strongest predictors of recidivism, we included the *age at first arrest*, the *number of prior convictions*, whether the current incarceration was for a probation or parole violation (*probation/parole violation* = 1), the number of times in *juvenile detention*, a measure of risk[2] (*maximum risk* = 1, *medium or low risk* = 0), total number of prior *violence charges*, and the total number of prior *nonviolent charges* (property, drug, public order, other).

Because research on female offenders has suggested that certain factors may be particularly salient for predicting women's recidivism (Bloom et al., 2002), we included indicators for mental health (Global Severity Index score [GSI]), substance abuse (*prior AOD tx* = 1, if received alcohol or drug treatment prior to this incarceration), and *victimization prior to incarceration* (scale of frequency and severity of victimization prior to this incarceration).[3]

In addition, recent research has suggested that the institutional context may also affect recidivism (Huebner, DeJong, & Cobbina, 2010), so we included controls for the frequency and severity of *victimization during this incarceration*, receipt of at least one disciplinary *infraction* (1 = *yes*) this incarceration, and placement in administrative *segregation* (1 = *yes*) this

incarceration. In addition to these variables, we also controlled for site (IA, IN, OH, OK, WA). South Carolina was selected as the reference category because it had largest number of respondents.

Analytic Strategy

The goal of this study was to assess the impact of inmate social ties on both the occurrence and timing of recidivism. First, bivariate analyses were conducted to establish the relationships between family social ties and recidivism and between in-prison and post-release family social ties. Then, a series of multivariate models were estimated to assess the effect of in-prison social ties on long-term recidivism and to determine whether this effect is mediated by post-release family support. Logistic regression models were estimated for the dichotomous reincarceration outcome. Lognormal survival models were estimated on the time to incarceration outcome. We also specified an exponential model, but the Akaike information criterion (AIC) and Bayesian information criterion (BIC) suggested the lognormal survival model fit the data better.

Findings

Sample Description

A description of the 255 women included in the analyses is presented in Table 1. Nearly half (44%) were reincarcerated within 5 years of release. On average, the prisoners were 33 years old at the time of release and the majority was non-White. About half of the women had been married or in a steady relationship prior to release and nearly three quarters had minor children. More than half of the women had a high school diploma or equivalent and were employed during the 6 months prior to incarceration. The women presented relatively serious prior criminal histories. On average, the inmates were 20 years old at the time of their first arrest and had more than five prior convictions. While they only had about one prior charge for a violent offense, they had nearly 13 prior charges for non-violent offenses (e.g., property, drug, public order, and other).

With regard to in-prison social ties, mail was the most common type of contact respondents had with family (93%) and non-family (78%). The majority of respondents reported having telephone contact with family (81%) and half spoke on the phone with non-family members. Just over half of the women indicated they were visited by family (57%), whereas less than one in three women was visited by someone who was not a family member (32%).

Table 1. Description of Sample, by Reincarceration Status.

		Full sample (N = 255)		Reincarcerated (n = 113)		Not reincarcerated (n = 142)	
Variable	Description	*M* or %	*SD*	*M* or %	*SD*	*M* or %	*SD*
Reincarcerated	Reincarcerated within 5 years of release	0.4431	0.4977				
Time to reincarceration	Number of days from release to first reincarceration (among women who were reincarcerated)	1,357.12	714.1194				
In-prison family emotional support*	Scale of self-reported family emotional support (in-prison)	30.6145	6.0718	29.5089	6.4668	31.5182	5.5916
Family contact*	Scale of frequency of family contacts during incarceration (in-person visits, phone calls, and letters)	5.4157	2.7707	4.7168	2.7725	5.9718	2.6496
Non-family contact	Scale of frequency of non-family contacts during incarceration (in-person visits, phone calls, and letters)	3.5079	2.8503	3.4894	2.8476	3.531	2.8663
Family phone contact*	Had phone contact with family (1 = *yes*)	0.8107	0.3923	0.6667	0.4735	0.8652	0.3427
Non-family phone contact	Had phone contact with non-family (1 = *yes*)	0.5044	0.5007	0.5413	0.5006	0.4526	0.4996
Family mail contact	Had mail contact with family (1 = *yes*)	0.9326	0.2511	0.9115	0.2853	0.9362	0.2453
Non-family mail contact	Had mail contact with non-family (1 = *yes*)	0.7810	0.4142	0.7727	0.421	0.7482	0.4356
Family visit*	Had visit from family (1 = *yes*)	0.5666	0.4963	0.4595	0.5006	0.6214	0.4868
Non-family visit	Had visit from non-family (1 = *yes*)	0.3186	0.4666	0.3148	0.4666	0.365	0.4832
Post-release family emotional support*	Scale of self-reported family emotional support (post-release)	31.2901	5.3774	29.3889	5.2949	32.7759	4.9773
Post-release family instrumental support*	Scale of self-report family instrumental support (post-release)	15.7775	3.1801	15.1147	3.2265	16.2955	3.0578
Non-White	Non-White vs. White	0.5765	0.4951	0.5664	0.4978	0.5845	0.4946
Age	Age at release from prison for this incarceration	32.6314	7.2338	32.4779	6.9025	32.7535	7.509
Relationship status	Married or in a steady relationship prior to release	0.4940	0.5010	0.5405	0.5006	0.4571	0.4999
Employment history	Employed during 6 months prior to incarceration	0.5216	0.5005	0.5133	0.5021	0.5282	0.501

(continued)

Table 1. (continued)

Variable	Description	Full sample (*N* = 255)		Reincarcerated (*n* = 113)		Not reincarcerated (*n* = 142)	
		M or %	*SD*	*M* or %	*SD*	*M* or %	*SD*
High school graduate	Completed 12th grade or GED/other high school equivalent	0.5843	0.4938	0.5664	0.4978	0.5986	0.4919
Minor children	Have child(ren) under age 18	0.7451	0.4367	0.7257	0.4482	0.7606	0.4283
Age at first arrest*	Age at first arrest	19.6964	6.5853	17.8257	5.5791	21.1739	6.9534
Number of prior convictions*	Number of prior convictions	5.6025	5.7372	7.3084	6.8148	4.2701	4.3054
Probation/parole violation	Current incarceration is for probation or parole violation	0.2235	0.4174	0.2301	0.4228	0.2183	0.4146
Juvenile detention*	Times in juvenile detention/lock-up	1.3936	3.3705	2.156	4.0235	0.8	2.6231
Maximum risk*	Pseudo LSI-R:SV risk classification = maximum	0.2706	0.4451	0.3982	0.4917	0.169	0.3761
Violence charges†	Total number of prior charges for a violent offense	1.2667	1.7044	1.3363	1.8449	1.2113	1.5882
Other charges*	Total number of prior charges for property, drug, and other offenses	12.9686	11.7278	15.3097	12.8973	11.1056	10.3805
GSI*	Global Severity Index	77.4745	30.1231	82.1239	33.1754	73.7746	27.0047
Prior AOD tx*	Received alcohol or other drug treatment at least once prior to this incarceration	0.5373	0.4996	0.6195	0.4877	0.4718	0.501
Victimization prior to incarceration†	Scale of frequency and severity of victimization prior to this incarceration	3.9647	2.7513	4.3186	3.0656	3.6831	2.4477
Reentry program	Enrolled in a prison reentry program	0.3608	0.4812	0.3628	0.483	0.3592	0.4815
Victimization during incarceration	Scale of frequency and severity of victimization during this incarceration	2.7333	1.3130	2.8496	1.5824	2.6408	1.0474
Infraction	Received disciplinary infraction this incarceration	0.4667	0.4999	0.4956	0.5022	0.4437	0.4986
Segregation	Placed in administrative segregation this incarceration	0.3098	0.4633	0.3451	0.4775	0.2817	0.4514

Note. GED = General Educational Development; LSI-R:SV = Level of Service Inventory–Revised: Screening Version.
†Reincarcerated and not reincarcerated groups are significantly different at $p < .10$.
*Reincarcerated and not reincarcerated groups are significantly different at $p < .05$.

On average, women scored 31 on both in-prison and post-release family emotional support scales (range: 16-40). The mean post-release family instrumental support score was 16 (range: 5-20).

Bivariate Analyses

Prior to developing multivariate models, we ran *t* tests to assess any differences between the reincarcerated and not reincarcerated women (Table 1). Not surprisingly, the reincarcerated women had more severe criminal histories. On average, those who were reincarcerated within 5 years of release were younger at the time of their first arrest, had more prior convictions, spent more time in juvenile detention, were more likely to be classified as high risk, and had a greater number of prior charges for non-violent offenses than those who were not reincarcerated. Supporting gendered pathways theories, the women who recidivated had worse mental health pre-release and were more likely to have been in substance abuse treatment prior to this incarceration than those who did not recidivate. Finally, the bivariate analyses support the notion that women with greater social ties are less likely to recidivate. Women who were not reincarcerated reported higher family emotional and instrumental support and more in-prison family contact than those who were reincarcerated. However, the level of non-family contact was not significantly different. Two bivariate ordinary least squares regression models were estimated to determine whether in-prison family contact is predictive of post-release family emotional support and post-release family instrumental support. In both models, in-prison family contact was significant (data not shown).

Multivariate Analyses

Next, a series of logistic regression models was estimated to assess the impact of in-prison and post-release social ties on the likelihood of reincarceration within 5 years of release (Table 2).[4] Model 1 includes in-prison support measures and the full set of covariates. Post-release family emotional support and instrumental support are added in Models 2 and 3, respectively.[5]

In Model 1, having minor children was the only demographic characteristic associated with recidivism; women with children were less likely to be reincarcerated. Although a number of criminal history variables were significantly associated with reincarceration in the bivariate models, only risk level retained significance when other variables were included. Not surprisingly, women classified as high risk were more likely to be reincarcerated than those who were medium or low risk. Also, the number of prior convictions

Table 2. Logistic Regression Models of Reincarceration Within 5 Years of Release.

	Model 1			Model 2			Model 3		
Variable	Coefficient	*SE*	OR	Coefficient	*SE*	OR	Coefficient	*SE*	OR
Intercept	0.3853	1.9283		5.0065	2.5233		2.3001	2.3228	
Post-release family emotional support				−0.2055*	0.056	0.814			
Post-release family instrumental support							−0.1586*	0.0717	0.853
In-prison family emotional support	0.0112	0.0336	1.011	0.0583	0.046	1.06	0.0213	0.0397	1.022
In-prison family contact	−0.3287*	0.0866	0.72	−0.3634*	0.1058	0.695	−0.3425*	0.0974	0.71
In-prison non-family contact	0.1134†	0.0663	1.12	0.1617*	0.0804	1.175	0.1582*	0.0769	1.171
Non-White	−0.2652	0.4118	0.767	−0.1054	0.5087	0.9	−0.0838	0.4823	0.92
Age	−0.0188	0.0312	0.981	0.0126	0.0391	1.013	−0.00265	0.0353	0.997
Partner	0.422	0.356	1.525	0.5593	0.4329	1.75	0.4949	0.4054	1.64
Employment history	−0.1246	0.3694	0.883	0.0683	0.4402	1.071	0.0874	0.4169	1.091
High school graduate	−0.0993	0.3657	0.906	0.1901	0.439	1.209	0.1367	0.4182	1.147
Minor children	−0.9881*	0.441	0.372	−1.0975*	0.5242	0.334	−0.9926*	0.4934	0.371
Age at first arrest	−0.0279	0.0358	0.973	−0.048	0.0415	0.953	−0.039	0.0396	0.962
Number of prior convictions	0.0687†	0.0399	1.071	0.0459	0.0462	1.047	0.0662	0.0457	1.068
Probation/parole violation	−0.1565	0.4382	0.855	−0.4832	0.5294	0.617	−0.4309	0.5141	0.65
Juvenile detention	−0.00889	0.0656	0.991	−0.0117	0.0951	0.988	0.0109	0.0944	1.011
Maximum risk	1.2082*	0.4502	3.347	1.0798	0.5532	2.944	1.3049*	0.5254	3.687
Violence charges	0.0152	0.115	1.015	−0.04	0.133	0.961	−0.0726	0.1284	0.93
Other charges	0.0345†	0.0177	1.035	0.0437*	0.0201	1.045	0.0346†	0.0192	1.035
GSI	−0.00426	0.00669	0.996	−0.0117	0.00842	0.988	−0.00747	0.00779	0.993

(continued)

Table 2. (continued)

Variable	Model 1			Model 2			Model 3		
	Coefficient	*SE*	OR	Coefficient	*SE*	OR	Coefficient	*SE*	OR
Prior AOD tx	0.484	0.3574	1.623	0.4931	0.4297	1.637	0.6334	0.414	1.884
Victimization prior to incarceration	0.0527	0.068	1.054	0.0824	0.0821	1.086	0.1042	0.0805	1.11
Reentry program	0.1341	0.4486	1.143	−0.2267	0.522	0.797	−0.1627	0.499	0.85
Victimization during incarceration	0.0651	0.1587	1.067	0.1608	0.197	1.174	0.0343	0.1843	1.035
Infraction	−0.0901	0.4658	0.914	−0.1256	0.5501	0.882	−0.1156	0.5258	0.891
Segregation	0.7803	0.5478	2.182	0.6332	0.6511	1.884	0.7916	0.625	2.207
IA	1.836*	0.6701	6.271	2.3328*	0.8066	10.307	1.7188*	0.7388	5.578
IN	0.9901	0.6173	2.691	0.8125	0.6927	2.254	0.7216	0.6794	2.058
OH	0.4341	0.6628	1.544	0.1475	0.8761	1.159	0.4288	0.8338	1.535
OK	−0.1537	1.0159	0.857	−0.2456	1.3461	0.782	−0.4432	1.2424	0.642
WA	−1.3618	1.0113	0.256	−2.5237*	1.2309	0.08	−2.559*	1.2892	0.077

Note. GSI = Global Severity Index; AOD tx = alcohol or other drug treatment.
†$p < .10$. *$p < .05$.

and non-violent prior charges approached significance. Consistent with our expectations, the multivariate analyses suggest that women with greater family ties are less likely to recidivate. Having greater family contact was associated with a reduced likelihood of being reincarcerated. However, family emotional support did not have a significant impact on the likelihood of reincarceration and non-family contact was associated with a marginally significant increase in the likelihood of reincarceration.

Post-release family emotional support was added to Model 2 and was significant. However, in-prison family contact remains significant, suggesting that its impact is not entirely mediated through improving family emotional support post release. Similar results were achieved for post-release instrumental support; both post-release instrumental support and in-prison family contact are significant predictors of reincarceration (Model 3). Furthermore, the size of the in-prison effect remains roughly the same across all three models.

Similar results were found in survival models assessing the time to reincarceration (Table 3). In Model 1, none of the included demographic characteristics was associated with the timing of reincarceration. Women who were younger at first arrest recidivated more quickly than those who were older. Risk class and non-violent prior charges were associated with a marginally significant increase in the time to reincarceration. Again, support was found for the relationship between family ties and reincarceration. Women who reported having greater contact with their families were slower to recidivate than those with less contact. However, those who reported having greater non-family contact were reincarcerated more quickly than those with less contact. Analogous to the findings in the logistic models, post-release family emotional support and in-prison family contact were significant in Model 2, and both post-release instrumental support and in-prison family contact were significant in Model 3.

While most prior research has focused on in-prison visits, it is plausible that other forms of social contact may also impact recidivism. To examine whether one type of contact is more beneficial than others, we created six dichotomous variables indicating whether a prisoner reported any phone, mail, and in-person contact with family and non-family. Logistic models are presented in Table 4. Consistent with the bivariate differences presented in Table 1, in all three models, family phone contact seems to have the biggest impact on both the occurrence and timing of reincarceration. Women who reported having phone contact with a family member during this incarceration were significantly less likely to be reincarcerated within 5 years post release than women who did not report family phone contact. Women who reported receiving a family visit were less likely to be reincarcerated than those who did not. Again, both post-release

Table 3. Lognormal Survival Models of Reincarceration Within 5 Years of Release.

	Model 1		Model 2		Model 3	
Variable	Coefficient	*SE*	Coefficient	*SE*	Coefficient	*SE*
Intercept	6.3172	1.1471	3.722	1.2888	4.9644	1.2982
Post-release family emotional support			0.1013*	0.0241		
Post-release family instrumental support					0.0955*	0.0379
In-prison family emotional support	0.0126	0.0193	−0.0075	0.021	0.0032	0.0215
In-prison family contact	0.1755*	0.0484	0.1709*	0.0494	0.1921*	0.0517
In-prison non-family contact	−0.0851*	0.0399	−0.0869*	0.0411	−0.1057*	0.0429
Non-White	0.2678	0.2413	0.1037	0.2523	0.1056	0.2641
Age	0.0009	0.0183	−0.0138	0.0191	−0.0033	0.0195
Partner	−0.1568	0.2101	−0.1141	0.2175	−0.1637	0.2257
Employment history	0.0286	0.2143	−0.0236	0.2203	−0.0456	0.2288
High school graduate	0.1075	0.2114	0.0216	0.2208	0.0015	0.2297
Minor children	0.3443	0.2456	0.3716	0.2478	0.3568	0.2581
Age at first arrest	0.0446*	0.0214	0.055*	0.0217	0.0505*	0.0224
Number of prior convictions	−0.0301	0.0205	−0.0315	0.022	−0.04†	0.0231
Probation/parole violation	0.2061	0.267	0.4212	0.284	0.3988	0.296
Juvenile detention	0.0283	0.0327	0.037	0.0384	0.0364	0.0403
Maximum risk	−0.4329†	0.2506	−0.2712	0.2638	−0.427	0.2727
Violence charges	0.0407	0.0679	0.0906	0.0688	0.0992	0.0715
Other charges	−0.0172†	0.0098	−0.0186†	0.0098	−0.0164	0.0101
GSI	0.0026	0.0039	0.0052	0.004	0.004	0.0042
Prior AOD tx	−0.2147	0.2112	−0.263	0.2234	−0.3746	0.2344
Victimization prior to incarceration	−0.0303	0.0388	−0.0296	0.0413	−0.0434	0.0429
Reentry program	0.0105	0.2775	0.1679	0.2783	0.1482	0.292
Victimization during incarceration	−0.0504	0.0881	−0.0545	0.0935	0.0035	0.0957
Infraction	−0.0672	0.2677	−0.1695	0.2714	−0.1584	0.2824
Segregation	−0.4534	0.3142	−0.3179	0.3223	−0.4628	0.3339
IA	−1.1792*	0.3867	−1.3005*	0.397	−1.1208*	0.4102
IN	−0.4519	0.3654	−0.2573	0.3618	−0.3127	0.377
OH	−0.2495	0.4031	−0.073	0.4677	−0.2387	0.4824
OK	0.8247	0.6596	1.0389	0.7608	1.103	0.7826
WA	0.8479	0.5687	1.187†	0.6137	1.2202†	0.6504

Note. GSI = Global Severity Index; AOD tx = alcohol or other drug treatment.
†$p < .10$. *$p < .05$.

family emotional support (Model 2) and family instrumental support (Model 3) were associated with a reduced likelihood of reincarceration. Regarding non-family contact, phone contact was associated with a marginal increase in the likelihood of reincarceration; however, mail contact and in-person visits were not associated with the likelihood of recidivism.

Results from the survival models produced similar results (Table 5). Women who reported family phone contact were reincarcerated later than

Table 4. Logistic Regression Models of Reincarceration Within 5 Years of Release, by Contact Type.

	Model 1			Model 2			Model 3		
Variable	Coefficient	*SE*	OR	Coefficient	*SE*	OR	Coefficient	*SE*	OR
Intercept	0.2968	2.2274		5.9222*	3.0166		3.6502	2.8238	
Post-release family emotional support				−0.2068*	0.058	0.813			
Post-release family instrumental support							−0.192*	0.0795	0.825
In-prison family emotional support	−0.0102	0.0356	0.99	0.0387	0.0499	1.039	0.00525	0.0439	1.005
Family phone contact	−1.807*	0.5489	0.164	−1.5671*	0.6256	0.209	−1.8333*	0.6159	0.16
Non-family phone contact	0.8525†	0.4572	2.345	1.1349*	0.5469	3.111	1.133*	0.5361	3.105
Family mail contact	1.084	0.9644	2.956	−0.3252	1.3436	0.722	0.0663	1.2674	1.069
Non-family mail contact	0.085	0.5235	1.089	0.404	0.6242	1.498	0.3133	0.5986	1.368
Family visit	−0.7049†	0.4255	0.494	−0.9826†	0.5201	0.374	−0.9017†	0.4952	0.406
Non-family visit	−0.4522	0.4413	0.636	−0.6348	0.5231	0.53	−0.5308	0.5074	0.588
Non-White	−0.4713	0.4455	0.624	−0.28	0.5555	0.756	−0.3102	0.5333	0.733
Age	−0.0169	0.0323	0.983	0.0186	0.0412	1.019	−0.00184	0.0373	0.998
Partner	0.1417	0.3684	1.152	0.2178	0.4497	1.243	0.2632	0.4317	1.301
Employment history	−0.2739	0.3938	0.76	−0.0697	0.4703	0.933	−0.1328	0.4486	0.876
High school graduate	−0.1883	0.3907	0.828	0.1138	0.4595	1.121	0.0984	0.4445	1.103
Minor children	−0.9191*	0.4684	0.399	−1.1591*	0.554	0.314	−1.046*	0.5324	0.351
Age at first arrest	−0.0237	0.0385	0.977	−0.0417	0.0455	0.959	−0.0293	0.0433	0.971

(continued)

Table 4. (continued)

	Model 1			Model 2			Model 3		
Variable	Coefficient	*SE*	OR	Coefficient	*SE*	OR	Coefficient	*SE*	OR
Number of prior convictions	0.0833†	0.0432	1.087	0.0524	0.0517	1.054	0.0761	0.0505	1.079
Probation/parole violation	−0.4296	0.4732	0.651	−0.5579	0.5647	0.572	−0.5293	0.5504	0.589
Juvenile detention	0.0211	0.0669	1.021	0.0572	0.1071	1.059	0.0666	0.1037	1.069
Maximum risk	1.2461*	0.4833	3.477	1.087†	0.5905	2.965	1.2946*	0.5715	3.649
Violence charges	−0.0783	0.1251	0.925	−0.1132	0.1443	0.893	−0.133	0.1412	0.875
Other charges	0.0382*	0.0188	1.039	0.0447*	0.0214	1.046	0.0384†	0.0206	1.039
GSI	−0.0038	0.00733	0.996	−0.0118	0.00888	0.988	−0.00875	0.00833	0.991
Prior AOD tx	0.0125	0.3865	1.013	0.1945	0.4606	1.215	0.3173	0.4436	1.373
Victimization prior to incarceration	0.0629	0.0715	1.065	0.0731	0.0867	1.076	0.0923	0.0862	1.097
Reentry program	0.6053	0.4747	1.832	0.1804	0.5565	1.198	0.2785	0.534	1.321
Victimization during incarceration	0.0381	0.1662	1.039	0.1341	0.2076	1.144	0.00743	0.1968	1.007
Infraction	0.1792	0.4876	1.196	0.1583	0.5905	1.172	0.1514	0.5644	1.164
Segregation	0.7637	0.5698	2.146	0.7613	0.6913	2.141	0.8962	0.662	2.45
IA	1.6361*	0.6895	5.135	1.8699*	0.8289	6.488	1.3317†	0.7678	3.788
IN	0.9776	0.6403	2.658	0.5225	0.7295	1.686	0.5348	0.7209	1.707
OH	0.5531	0.7266	1.739	0.2983	0.9554	1.348	0.4081	0.9047	1.504
OK	−0.0857	1.1215	0.918	−0.7098	1.5564	0.492	−0.8999	1.455	0.407
WA	−1.4989	1.0916	0.223	−3.4378*	1.4429	0.032	−3.4509*	1.4897	0.032

Note. GSI = Global Severity Index; AOD tx = alcohol or other drug treatment.
†$p < .10$. *$p < .05$.

Table 5. Lognormal Survival Models of Reincarceration Within 5 Years of Release, by Contact Type.

	Model 1		Model 2		Model 3	
Variable	Coefficient	*SE*	Coefficient	*SE*	Coefficient	*SE*
Intercept	6.6822	1.2868	3.841*	1.4265	4.8115*	1.4723
Post-release family emotional support			0.1005*	0.0251		
Post-release family instrumental support					0.0986*	0.0402
In-prison family emotional support	0.0237	0.0197	0.0008	0.0218	0.0131	0.0221
Family phone contact	1.0817*	0.2973	0.9443*	0.3039	1.0945*	0.3131
Non-family phone contact	−0.5924*	0.2576	−0.5234†	0.269	−0.5485*	0.2792
Family mail contact	−0.995*	0.4941	−0.4019	0.5448	−0.4324	0.5682
Non-family mail contact	0.0431	0.2988	−0.1205	0.3131	−0.1132	0.3231
Family visit	0.3488	0.24	0.4326†	0.2518	0.4244	0.2602
Non-family visit	0.0503	0.2488	0.0478	0.2593	−0.0041	0.2681
Non-White	0.4953†	0.2549	0.3437	0.2698	0.3652	0.2828
Age	−0.0045	0.0184	−0.0215	0.0193	−0.0084	0.0196
Partner	0.0286	0.2118	0.0196	0.2245	−0.0115	0.2325
Employment history	0.1614	0.2229	0.1376	0.2311	0.1531	0.2388
High school graduate	0.2324	0.2212	0.0754	0.2299	0.0677	0.2379
Minor children	0.218	0.2469	0.2863	0.2492	0.2715	0.2587
Age at first arrest	0.0475*	0.0224	0.0576*	0.0228	0.0518*	0.0235
Number of prior convictions	−0.0396†	0.0218	−0.0337	0.0241	−0.0468†	0.025
Probation/parole violation	0.3882	0.2813	0.4778	0.2951	0.4556	0.3072
Juvenile detention	0.0183	0.0325	0.0259	0.0389	0.023	0.0405
Maximum risk	−0.4413†	0.2543	−0.297	0.2688	−0.4193	0.2779
Violence charges	0.1149	0.0711	0.1417*	0.0716	0.1479*	0.0742
Other charges	−0.022*	0.0102	−0.021*	0.01	−0.0191†	0.0103
GSI	0.0039	0.0042	0.0063	0.0042	0.0055	0.0043
Prior AOD tx	0.0506	0.2195	−0.0396	0.2265	−0.1199	0.2364
Victimization prior to incarceration	−0.0332	0.0391	−0.0176	0.0415	−0.0284	0.0432
Reentry program	−0.249	0.2816	−0.0198	0.2831	−0.0832	0.2961
Victimization during incarceration	−0.0999	0.095	−0.1243	0.1026	−0.0641	0.1048
Infraction	−0.151	0.2756	−0.2091	0.2861	−0.1975	0.2956
Segregation	−0.584†	0.3277	−0.4978	0.3329	−0.6379†	0.3451
IA	−1.0483*	0.3912	−1.1776*	0.4028	−0.9655*	0.4138
IN	−0.5543	0.3733	−0.2589	0.3753	−0.3371	0.3895
OH	−0.2992	0.4447	−0.213	0.4858	−0.3463	0.5016
OK	0.9119	0.6771	1.3126	0.8065	1.4124†	0.8294
WA	0.9625	0.5902	1.5553*	0.6279	1.5719*	0.667

Note. GSI = Global Severity Index; AOD tx = alcohol or other drug treatment.
†$p < .10$. *$p < .05$.

those who did not. This finding holds when post-release support measures are added to the model. In addition, post-release family emotional support and

post-release family instrumental support were significantly associated with the timing of reincarceration (Models 2 and 3, respectively). In contrast to the logistic models, family visitation was not a significant predictor of time to incarceration.

Discussion

Studying the impact of social support among prison inmates is important for a number of reasons, most notably the potential this support has to improve outcomes upon release. Although prior research has found some support for the social ties–recidivism relationship, no study of which we are aware has rigorously examined the relationship between in-prison family emotional support and contacts, post-release family emotional and instrumental support, and recidivism among reentering women. This research is particularly important in light of evidence that social ties may be particularly relevant for women. The results of this study provide evidence that maintaining family social ties while incarcerated is an important element in success upon release for female offenders.

In sum, more than half of the women reported having each type of contact with family members during this incarceration, with mail and telephone contact being the most common. A relatively large proportion of the women also reported maintaining contact with individuals other than family. Overall, the results suggest that maintaining contact with family members is associated with higher levels of emotional and instrumental support post release and with a lower likelihood of recidivism. One notable finding is that in-prison family emotional support is not associated with either the occurrence or timing of reincarceration. This suggests that having family members actually demonstrate support by taking time to speak on the telephone or make an in-person visit is more important than the inmate's expressed perception of emotional support. Furthermore, when separately examining types of contact, familial telephone contact was most consistently associated with reductions in recidivism. This is consistent with research showing that telephone contact had the greatest impact on in-prison rule violations (Jiang & Winfree, 2006) and reaffirms the need to define social ties more broadly than visitation. In contrast to Bales and Mears (2008), who found that contact with friends was protective, non-family contact, particularly telephone calls, was associated with an increased likelihood of reincarceration.

The positive impact of family telephone contact is encouraging in light of numerous obstacles to in-prison visitation. For example, Hairston, Rollin, and Jo (2004) noted that the greater the distance between an inmate's home

and the prison, the fewer visits an inmate receives. This is problematic since many inmates serve time in institutions far from their homes. Yet, obstacles remain even for maintaining telephone contact with families, including limited access to telephones (Katz, 1998) and the need to rely on family and friends accepting collect calls, which can be cost prohibitive (Hairston et al., 2004). More specifically, Hairston et al. (2004) noted that "rates at which families pay to receive collect phone calls from their imprisoned relatives are often as much as 200 times the going rates for phone calls made outside the institution" (p. 3). Rather than discouraging phone contact through imposing such high costs on inmates' families, efforts should be made to reduce challenges to maintaining familial relationships while incarcerated. Encouraging and facilitating contact with families may be a cost-effective way of producing positive effects on post-release behavior.

Limitations

Although this study provides an important contribution to the literature by examining social ties among reentering women, a few limitations should be noted. The most notable limitation in this research is the inability to differentiate between various types of family members (i.e., child, parent, and spouse). For example, there is some evidence that spousal visitation has a greater impact on recidivism (Bales & Mears, 2008) whereas contact with children may actually result in negative outcomes (Bales & Mears, 2008; Casey-Acevedo et al., 2004). However, information about the nature of the familial relationship with the inmate was not asked in this study and could not be assessed here. In addition, recent research has found that characteristics of the community to which an inmate is released (e.g., concentrated disadvantage) may also affect her ability to succeed (Huebner et al., 2010). Unfortunately, neighborhood-level data were not available for the reentering women in this sample. Finally, the women included in these analyses were not randomly sampled, had histories of serious crime and violence, and were released from institutions in only six states. It is thus possible that the results here may not generalize to less serious female offenders and those incarcerated in other states. However, there is no theoretical reason to expect findings to vary significantly across states.

Future Research

Additional research is needed to broaden our understanding of why the maintenance of some relationships is protective against recidivism whereas others may be criminogenic. It is possible that family relationships are beneficial

because family members are more likely than friends to provide the prisoner both emotional and instrumental support upon release. Another possibility is that friends may be more likely than family members to be involved in criminal activity and substance use. Research that includes characteristics of individuals with whom inmates have contact, in addition to relationships, may help resolve some of these unanswered questions. Similarly, research that helps identify the mechanism by which social ties reduce recidivism is also needed. For example, it is plausible that in-prison family contact improves family reunification and increases the level of emotional and instrumental support a family provides upon release. However, it is also possible that strong family relationships are associated with improvements in other release outcomes, such as housing, employment, substance use, which mediate the relationship between family support and recidivism. Further research is needed to address these issues.

Authors' Note

Points of view are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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Notes

1. The original sample included 357 adult females from 11 sites. However, the analyses presented here include a subsample of women from seven sites in which National Criminal Information Center (NCIC) records include incarceration data.
2. We created eight indicator variables that are equivalent to or roughly correspond to the eight items in the Level of Service Inventory–Revised: Screening Version (LSI-R:SV). (For a discussion of the LSI-R:SV, see http://www.mhs.com/product.aspx?gr=saf&prod=lsi-rs&id=overview">http://www.mhs.com/product.aspx?gr=saf&prod=lsi-rs&id=overview.) These items are indicators of (a) whether the individual has two or more prior convictions; (b) whether the individual was arrested before age 16; (c) whether the individual is currently

employed (at baseline while the respondents were incarcerated, this was approximated by considering work release jobs and pre-prison employment; respondents with work release jobs at the time of the interview were treated as employed; respondents without work release jobs who had been incarcerated more than 1 year were treated as unemployed; for respondents without work release jobs who had been incarcerated less than 1 year, pre-prison employment was used as the indicator of employment status); (d) whether the individual has criminal friends (respondents who reported that they were currently in a gang or that any of their friends prior to incarceration had ever been convicted of a crime or in a correctional facility were coded as having criminal friends); (e) a pre-incarceration alcohol or drug problem based on whether the respondent got drunk or used drugs more than once a week in the 30 days prior to incarceration; (f) mental or psychological problems was coded as "*yes*" if any of the following were true: the respondent did not have a high school degree or General Educational Development certificate at the time of the interview, perpetrated violence against someone during the 6 months prior to incarceration, reported needing a batterer intervention program, scored above a *T*-score of 60 on any of the seven subscales in the Symptom Assessment-45 (SA-45), or scored below the study sample midpoint on a constructed scale of self-efficacy; (g) "non-rewarding" family relationships and is coded "*yes*" if the respondent scored below the study sample midpoint on a constructed scale of family emotional support; and (h) an orientation or attitudes supportive of crime coded "*yes*" if the respondent agreed or strongly agreed with three statements about breaking the law. The eight dichotomous indicators were summed. Respondents with scores of 6 to 8 were classified as high risk for these analyses.

3. Respondents were asked how frequently (*never* = 1, *once* = 2, *a few times* = 3, *about once a month* = 4, *a couple of times a month* = 5, *once a week* = 6, *several times a week* = 7) they faced the following: "were threatened with being hit by a fist or anything else that could hurt you"; "have anything thrown at you that could hurt you"; "were pushed, grabbed, or shoved; were slapped, kicked, bitten, or hit with a fist"; and "were threatened with a weapon or a weapon was used on you." These items were summed to create the victimization scales.
4. Logistic models were also run for reincarceration occurring more rapidly (i.e., within 18, 24, and 36 months of release) to examine whether different factors account for early and later recidivism. The results were substantially the same.
5. Due to multicollinearity, family emotional support and instrumental support were not included in the same model.

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