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The effect of local life circumstances on female probationers' offending*

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This article examines the influence of change in local life circumstances on the short-term criminal behavior of female drug-abusing probationers. Using a binomial hierarchical generalized linear model, we examine the probability that certain "discrete life events" act to modify or change crimi-nal behavior in the short term. The findings indicate that participants' in-volvement in conventional activities results in the *decreased likelihood* of engaging in nondrug crimes but an *increased likelihood* of drug dealing. Faced with this contradiction, we suggest that the dynamics of offending are altered by the nature of the criminal activity itself and the way in which gender structures criminal involvement.

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Research has explored patterns of behavioral change within in-dividuals over the life course as they relate to crime and institu-tions of informal social control (Horney, Osgood, & Marshall, 1995; Laub, Nagin, & Sampson, 1998; Maltz & Mullany, 2000; Nagin, Farrington, & Moffitt, 1995; Sampson & Laub, 1990, 1993). In their studies of male offenders, Sampson and Laub (1990, 1993, 1996, 1997) and Laub and Sampson (1993) have focused extensively on the importance of change over the life course, suggesting that change is the other side of continuity. Using life-history data col-lected by Glueck and Glueck (1950, 1968), Sampson and Laub (1990, p. 625) argued that "trajectories of crime and deviance are systematically modified by social bonds to adult institutions of in- formal social control." So although childhood deviance may persist into adulthood, turning points in one's adult life can act to modify such trajectories.

Laub and Sampson (1993, p. 304) subsequently elaborated on the nature and quality of change, conceptualizing it as a "dynamic process whereby the interlocking nature of trajectories and transi-tions generates turning points or a change in life course." They fo-cused specifically on significant or "deep" change, a turning point in one's life that is characterized by a modification in the structure of significant relationships and associations with social institutions. Change in and of itself is less important than its effect on an indi-vidual's investment in relationships and social networks. For example, the end of a marriage is a significant change only to the extent that the individual valued and participated in that relationship. The strength of such social ties points to the existence of social capi-tal, which is necessary to promote desistance from crime. From their analysis of life-history records, Laub and Sampson (1993) noted the existence of major turning points, both positive and nega-tive, that shaped the paths of the men they studied. They found that stable employment and good marriages were major turning points in the life course for men who refrained from criminal behav-ior in adulthood. In these instances, whether through a develop- mental process or a single event, these men changed and responded to change in a way that strengthened their social bonds and their increased social capital, thus altering the trajectory of their life course.

Laub and Sampson (2001) extended their life-course perspec-tive with their extensive discussion of the theoretical development and current state of research on desistance from crime. From their review of relevant studies, they found that the significant factors associated with the complex process of desistance from crime appeared to be age; a strong marriage; secure, legitimate work; and the decision to "go straight." They argued that a life-course perspec-tive is necessary to understand this process because it focuses on within-individual offending patterns, as well as the social and insti-tutional contexts within which change occurs- the "combination of individual actions (choice) in conjunction with situational contacts and structural influences linked to important institutions" (p. 48).

LOCAL LIFE CIRCUMSTANCES

Horney et al. (1995) expanded on the importance of change in the life course to explain men's criminal behavior. They broadened the conceptual framework of change and its relation to criminal ac-tivity by introducing the idea of "local life circumstances"-those immediate conditions that constitute an individual's social reality (e.g., employment, marriage, living conditions, and drug and alco-hol use). Unlike Laub and Sampson's (1993) study, which used life- history data and examined the influence of change (abrupt or incre-mental) on long-term patterns of offending, Horney et al. shifted the focus to short-term change, suggesting that rapid and frequent change in the conditions of an individual's life could occur over a short period. With the use of hierarchical linear modeling, they ex-amined the relationship between such circumstances and month-to- month changes in criminal behavior by serious male offenders. Con-trasting Laub and Sampson's (1993) long-term view of change, which focused on major turning points in the life course of an indi-vidual, Horney et al. questioned the possibility of enduring change in criminal behavior, given the potential for frequent modifications in life circumstances, At the same time, however, they noted that the "underlying processes involved in producing short-term change may very well be the same process that produces a more enduring change" (p. 670), suggesting that immediate life circumstances are part of the long-term pathway. From this perspective, short-term change can be viewed much like a building block. Incremental change resulting from short-term variations in an individual's re-sponse to social realities may allow enough social capital to develop and then to motivate an individual to develop and maintain conven-tional social ties. Continued incremental change may result from this commitment to maintaining social bonds, promoting a process that leads to desistance from crime. Herein lies the value of exam-ining meaningful short-term change.

Similar to Laub and Sampson (1993), Horney et al. (1995) found that involvement in social institutions influenced criminal behavior. More specifically, they reported that the odds of commit- ting some types of crime, such as assault, in any given month de- creased when a man lived with his wife, suggesting that changes in local life circumstances can alter criminal careers by modifying the likelihood of offending at a given point in time. In contrast, living with a girlfriend, which may be interpreted as indicative of a weak social bond, significantly increased the odds of committing a drug crime.

SOCIAL CONTROL AND WOMEN OFFENDERS

Laub and Sampson (1993) acknowledged that individuals most likely do not share a common conception of transitions. Whether it is marriage, employment, or some other modification in the struc-ture of an association,

what may initially appear as an opportunity for change often is viewed differently by each person. Although Laub and Sampson (1993) were referring to diverse responses to transitions within their sample of men, we contend that such change or transition may play out differently by gender as well. Historically, studies of the relationship between informal social controls and criminal behavior have focused on male offenders, pri-marily male juvenile offenders. More recently, researchers have be- gun to examine the extent to which female offenders are dissuaded from committing crimes because of strong social bonds (Covington, 1985, 1988; Erickson, Crosnoe, & Dornbusch, 2000; Friedman & Ro-senbaum, 1988; J. Rosenbaum, 1987; Torstensson, 1990). Relatively few studies have focused specifically on adult social bonds and adult female offenders' desistance from crime (Alarid, Burton, & Cullen, 2000; Li & MacKenzie, 2002; Simons, Stewart, Gordon, Conger, & Elder, 2002; Uggen & Kruttschnitt, 1998). Alarid et al. (2000) studied male and female first-time convicted felony offenders who had been sentenced to shock probation for three months. Over- all, social control variables (measured as attachment to friends, at-tachment to family, attachment to partner, involvement, and belief) had a greater influence on women than on men. More specifically, a woman's lack of parental attachment was a significant predictor of greater criminal involvement (violent, property, and drug crimes), her lack of involvement in conventional activities predicted in- creased participation in drug and violent crime, and her involve-ment in a relationship with a man (married or living together) was significantly related to increased participation in drug and/or prop-erty offenses. Alarid et al.'s findings regarding parental attachment and conventional activities support Laub and Sampson's (1993) idea that adults will desist from criminal behavior as they amass social capital in their work and family lives. However, the relation- ship between a woman's criminal behavior and her involvement in a relationship does not appear to support the notion that strong so-cial bonds inhibit criminal activity. Alarid et al. suggested that a differential association perspective may provide an explanation for the relationship between attachment and criminality.

Li and MacKenzie (2002) examined the influence of social bonds on the likelihood of continued criminal activity by a group of convicted male and female felony offenders who were placed on probation. For the female probationers, the likelihood of being involved in crime *increased* if they lived with their spouses, were employed, or attended school. These same social bonds inhibited male criminal activity. Li and MacKenzie suggested that there is a need for a gen- der-specific theory of crime that considers the centrality of relationships in women's lives, as well as their lower antisocial tendencies.

Uggen and Kruttschnitt (1998) brought a different perspective to research on gender and desistance from crime with their use of two theoretical models to identify predictors of self-reported illegal earnings and arrest. They contrasted

Black's (1976) theory of law (the idea that the "behavior" of law, or the extent to which one is subject to governmental social control, varies on the basis of one's social status) with sociological theories, such as rational choice, social control, and opportunity theories (theories that focus on indi-vidual motivations to desist from crime). Although Uggen and Kruttschnitt found, in general, greater gender differences in the arrest model (which was used to test Black's theory), their findings regarding individual motivations to desist from crime are also note-worthy. For women, greater education, the presence of children, and the presence of a "straight" friend lowered the risk of engaging in behavior resulting in illegal earnings. Uggen and Kruttschnitt argued that the gender differences they observed in the illegal earnings model "are related more to subtle distinctions in the situational contingencies of men's and women's lives" (p. 359) and noted that these findings suggest the importance of understanding the relationship between gender differences in illegal behavior and social relationships.

Simons et al.'s (2002) study of antisocial behavior from adolescence to adulthood added much to the understanding of the gendered role of romantic bonds in criminal activity. Building on Warr's (1998) alternative explanation for the role of marriage in desistance from crime (the idea that with marriage comes a termination of activity with deviant peers, resulting in decreased criminal behavior), Simons et al. suggested that involvement with deviant peers is decreased only in the presence of a conventional partner. While having an antisocial partner was strongly associated with criminal behavior **for** both men and women, they found that roman- tic partnerships exerted a greater influence on the criminal behavior of women than of men. For men, networks of deviant peers appeared to have the greatest influence on criminal behavior, influencing both the choice of a romantic partner and involvement in criminal activity. In addition, Simmons et al. found that job attach-ment was inversely related to crime for men; no such relationship was found between job attachment and criminal activity among women.

Several qualitative studies have provided a thicker and more descriptive examination of women offenders and their desistance from crime (Baskin & Sommers, 1998; Eaton, 1993; Harm & Phil- lips, 2001; O'Brien, 2001). Much like Laub and Sampson's (1993) research on male offenders, these studies explored the complex pro-cess of change and transition for women offenders in their attempts to avoid involvement in crime for significant periods. Baskin and Sommers (1998, p. 128), in particular, described a complex process of change that was triggered by a crisis and the women's reassess-ment of their lives that had become "bereft of conventional involve-ments, obligations, and responsibilities." A common theme throughout this research was the need to reestablish conventional social networks and relationships-most notably with

their chil-dren, family, and legal employment. It is clear, however, that it was the nature and quality of these relationships, not their mere pres-ence, that proved to be significant in the desistance process.

For example, in their attempts to reenter relationships and strengthen attachments to the conventional world, many women experienced high levels of stress and isolation. One source of stress that the women often mentioned was the role of parent. Once they were released from prison, the women frequently faced resistance in their attempts to negotiate their role as mother with their chil-dren and the person (usually the offender's own mother) who assumed the role of mother during their incarceration (Baskin & Sommers, 1998; Eaton, 1993; Harm & Phillips, 2001; O'Brien, 2001). Another source of stress emanated from the women's at- tempts to regain legal custody of their children, as well as the un- certainty of being able to provide for their children (Harm & Phillips, 2001; O'Brien, 2001). These studies indicated that while the transition for this group of offenders was difficult and complex, the "centrality of relationships to the women's lives and the struggle for instrumentality or empowerment within those relationships" was key to their refraining from engaging in crime (O'Brien, 2001, p. 119).

What is less apparent from this body of research is the role an intimate partner plays in the entrance into or desistance from crime. Few of these studies examined closely the dynamics of in-volvement with a spouse or partner. In their life-history interviews with 170 women who had committed violent felony crimes, Baskin and Sommers (1998) noted only that the women rejected the notion that they were forced into crime (presumably by an intimate part-ner) and objected to the idea that they would ever "go up the river" for a man (p. 9). Harm and Phillips (2001) stated that of the 38 women prisoners they interviewed, only 6% returned to living with a spouse or significant other after their release from their previous prison sentence, and of those who discussed their relationships with men, all but one described the relationships as abusive. Speaking more broadly of the need to alter the patterns of relationships in general, Eaton (1993, p. 93) suggested that for the 33 women she studied, "successfully changing their lives involved a move away from the traditional gender stereotype and a hierarchical pattern of relationships." Only O'Brien (2001), in her study of 18 female of- fenders who were released from prison over a 12-year period, dis- cussed the way in which attachment to a significant other could support or inhibit the process of reentry into conventional society. According to O'Brien, a woman's self-worth is often derived from her attachment to a significant other and her ability to maintain that relationship. This attachment, coupled with the observation that "the primary relationship that lawbreaking women create is often characterized by a high degree of abuse, violence and exploita-tion" (p. 87) suggests that for women, the relationship between criminal activity and an intimate relationship is multifaceted and complex. Although they presented little description of the role of intimate

relationships in the desistance process, these studies illus-trate the importance of social capital and the way in which social networks that are found within conventional lifestyles influence criminal behavior.

THE STUDY

Our study built on the previous research regarding women, so-cial bonds, and criminal behavior by drawing on both Sampson and Laub's (1993) use of social control theory to explain change in the criminal life course and Horney et al.'s (1995) incorporation of local life circumstances in the examination of short-term change. It ex-plored the relatively neglected area of women and adult social bonds, allowing us to begin to explicate the complex relationships among crime, drug use, and meaningful short-term change for a group of female drug-using offenders. As with Horney et al.'s study of male offenders, this short-term perspective did not allow us to delve as deeply into the quality and nature of change and transition as a more long-term perspective would. Instead, we examined the probability that certain "discrete life events," such as a change in the status of a relationship, employment, living arrangement (with or without a significant other and children), living conditions, and drug use may act to modify or change criminal behavior in the short term. We expected to find that changes in local life circumstances affected female probationers' offending behavior. On the basis of so-cial control theory, offending should decrease or desist with an in- crease in social bonds. The limited research on women and social bonds, however, suggests an ambiguous relationship between at-tachment to a partner and desistance from crime. Some researchers have found that a woman's attachment to a significant other pro- vides increased opportunities to engage in crime; others have noted the need for a gender-specific theory of crime that takes into consid-eration social and psychological factors that lead women to place primary importance on maintaining intimate relationships. With these interpretations in mind, we hypothesized a departure from social control theory and anticipated increased offending for women who were involved in relationships with significant others.

Participants

The participants were 195 women who were interviewed be- tween January 1999 and August 1999. Research assistants em-ployed by the evaluation team conducted the majority of the interviews (89%) in the Maricopa County, Arizona, women's jail fa-cility and the remainder in the community after the women were released from jail. All participants were self-identified as individu-als with a substance abuse problem and who volunteered to partici-pate in the Women's

Treatment, Services, and Supervision Network (hereafter "the Women's Network").[1]

These women first met with the program assessors, who deter- mined their eligibility for the Women's Network and ascertained each woman's supervision and treatment needs. To be eligible for the Women's Network, a woman had to be on probation (or would be placed on probation after her release from jail), self-identified as having a substance abuse problem, living in Maricopa County, and not diagnosed as having a mental disorder. The women who were accepted by the Women's Network were then randomly assigned to a treatment or control group. Those in the treatment group were offered the services provided by the Women's Network, while those in the control group acted as a comparison group for evaluation purposes. Within two to four days, the researchers interviewed the wo- men who were randomly assigned to the treatment group. Each interview lasted approximately two hours, during which trained re- searchers posed both open-ended and closed-ended questions and assisted each woman in completing an event-history calendar. The women were paid $10 after they completed this second interview. Participation in the interview was voluntary, and a woman could terminate the interview at any time. It is this second interview with the treatment group participants that provided the data for this study.

Interview Instrument

The interview instrument used in the study is similar to that used by Horney et al. (1995) in their study of incarcerated male of- fenders. An event-history calendar was constructed to help each wo- man recall the previous 36-month period. For each month, the women were asked to recall and record activities related to housing, living arrangements, social relationships, education, employment, children and family, stressful events, and travel. Using these social anchors to improve their ability to distinguish each of the 36 months as a unique period, the researchers then asked the women to respond by each month to questions that ascertained the extent of their criminal activity (see Wells & Horney, 2002, for a thorough discussion of the use and validity of event-history calendars). Since the unit of analysis was the participant's monthly activities, this method of data collection resulted in a total of 7,020 months of ob-servation (195 participants x 36 months).

[1] The Women's Network was operated by the Maricopa County, Arizona, Adult Probation Department and was funded by a five-year grant from the U.S. De-partment of Health and Human Services. Maricopa County was one of four demon-stration sites that focused on providing services and supervision for substance- abusing women offenders. More specifically, the mission of the Women's Network was to create an integrated and coordinated system of assessment, supervision, and delivery of services for substance-abusing women in Maricopa County.

Analytical Model

A two-level binomial hierarchical generalized linear model (HGLM) was used to analyze the data. The HGLM is appropriate for repeated measures of binary outcomes across multiple observa-tion periods that occur within individuals. As we noted, observa-tions in these data were recorded on a monthly basis. Given that the outcome measured was a binary variable, the assumption of normality within the data was not realistic and required a non- linear analytical HGLM with a LaPlace estimation approach,[2] rather than a standard HLM strategy (Raudenbush, Bryk, Cheong, & Congdon, 2000; Yang, 1998). This model is similar to a logistic regression model that produces predicted values of the binary out- comes, which reflect the probability that the outcome will take on a value of 1 (occurrence), rather than O (nonoccurrence). This analysis parallels the general modeling strategy used by Horney et al. (1995) in their examination of life course events, with minor differences that are due to the availability of data. The participants' monthly activities were group mean centered, which allows the model to dis-tinguish the combined effect of a change (e.g., the start or end of a relationship with a significant other from one month to the next) in the individual's local life circumstances on criminal activities from her average circumstances over the period studied.

Measures

Independent variables. The two levels of the HGLM were used to determine the impact of the participants' dynamic and static factors on their criminal activity. The first level of the HGLM accounted for the variation in dynamic factors that could change for each offender on a monthly basis. Variables were derived from the event-history calendar for each participant (1 = condition present, 0 = condition absent), including employment (or full-time student), relationship with a significant other, living with a significant other, children liv-ing with the participant, stable living situation (apartment/home versus shelter/street), drug use, and polydrug use. As was noted earlier, the strategy paralleled Horney et al.'s (1995) analytical technique in which the independent variables were group mean centered, so that each month's values were calculated as the participant's deviation from her mean level for the entire 36-month period.[3]

The second level of the HGLM accounted for the variation in criminal activity that was attributable to characteristics that were not malleable, including age,

2 The LaPlace approach results in the most efficient estimates of parameters with remarkable approximation to maximum likelihood estimates.

3 Further reflecting the modeling strategy implemented by Horney et al. (1995), the mean level of each life circumstance was included as a control variable within the Level-2 data.

race, age at first crime, and history of childhood abuse. Age was measured as the participant's age at the time of the interview.[4] The participants categorized themselves into one of seven groups to measure race.[5] Age at first crime was opera-tionalized as the youngest age at which the participant self-re- ported her involvement in any type of illegal behavior. The history of childhood victimization variable included physical, mental, and/or sexual victimization that occurred before age 18. The researchers were trained to use specific behavioral indicators to define clearly instances of victimization for each of the three categories of abuse; for instance, they asked: "Were you ever physically abused? For ex- ample, were you ever slapped, pushed, kicked, hit or punched?"[6]

In addition, it was important to control for effects that maybe related to gradual changes that are not attributable to the substan-tive local life circumstances variables. As Horney et al. (1995, p. 663) noted, "it would be unreasonable to assume that individual time trends are so consistent as to be linear." With the inclusion of a third-order polynomial function of time, "changes over time in of- fending are attributed to substantive variables only if offending closely tracks that variable over time. More gradual or diffuse changes are instead attributable to the individual time trend" (p. 663). As a result, the model also included control variables for time and whether the individual was incarcerated or in another institu-tionalized living setting (e.g., inpatient treatment, prison, or jail) at any point during the 36-month period.

Dependent variables. To determine the nature and extent of crimi-nal involvement, for each calendar month, the participants were asked, "What type of illegal activity were you involved in?" This question elicited a limited number of types of crimes, including drug dealing, theft/shoplifting, prostitution, fraudulent schemes, and other minor crimes. To account for the possibility that changes in local life circumstances may differentially affect decisions to engage in various types of crime, as previous studies suggested, we disaggregated and operationalized self-reported criminal activity into two categories: drug dealing and nondrug crimes. Nondrug crimes included theft/shoplifting, prostitution, fraudulent schemes, and crimes listed as other minor crimes.

4 Data were collected retrospectively; thus age during the offending period was inflated up to 36 months, given this method of operationalization.

5 Since significant differences did not exist between statistical models that in-cluded multiple racial groups and categorization of the participants as white and nonwhite, the more parsimonious model is presented.

6 Copies of the multiple data collection instruments are available on request from the first author.

RESULTS

Static Characteristics of the Participants

Descriptive statistics of the 195 female participants at the time of their interviews are presented in Table 1. The average partici-pant was a 33 year old, white female.[7] The average age of the par-ticipants at the time of their first self-reported criminal act was 22.5 years (range: 19 to 57 years). As Table 1 indicates, a high pro- portion of the sample (70%) reported experiencing some form of abuse (sexual, physical, or mental) during their childhood.

It is possible that this sample may not be representative of the general population of female offenders in the Maricopa County sys-tem, since these women self-identified as having a substance abuse problem and actively sought treatment *after* the 36 months of activ-ities we examined in this study. The women represent, however, an important and growing segment of the jailed population. To deter- mine the generalizability of our sample to a typical population of offenders in this geographic region, we compared the demographic characteristics of our sample to two populations: (1) the entire Wo-men's Network population (treatment and control groups)-al- though the majority of the women entered the Women's Network through jail, others entered the program after being placed directly on probation or while awaiting sentencing with a recommendation of probation-and (2) the Phoenix participants from the Arrestee Drug Abuse Monitoring (ADAM) Program in 1999 (U.S. Depart-ment of Justice, 2002). The primary goal of the ADAM program is to interview and drug test offenders on their arrest to determine the prevalence and types of drugs used by offenders in urban areas.

The comparison of these groups demonstrated that our participants were more likely to be white and unemployed. There are two poten-tial reasons for these differences in the populations. First, we be-lieve that a greater proportion of white women (and fewer Hispanic women) were part of the Women's Network because of the limited number of Spanish- speaking staff during the eligibility interview process. Second, the high unemployment rates are most likely ex-plained by the nature of the sample and the timing of the initial interviews, since these women were recently released from jail at the time that the data were collected.[8]

Dynamic Characteristics of the Participants

In examining the data from the event-history calendars, we found that the participants engaged in some type of criminal activ-ity during 37% of the 7,020

7 Given that the participants' activities were studied retrospectively for 36 months before the interview, the average age at the beginning of the data collection period was 30 years.

8 See Appendix A for more details on the demographic characteristics availa-ble and compared across all three groups and Appendix B for a correlation matrix of the static characteristics.

Table 1. Descriptive Statistics for the Static Variables: 1999 *(N* = 195 participants)

Characteristic	Mean	*SD*	Minimum	Maximum
Age at interview	33.7	8.0	19	57
Age at first crime	22.5	8.2	9	47
			Proportion	
Gender				
Female			1.00	
Male				
Race				
White			.57	
Hispanic			.18	
African American			.16	
Native American			.04	
Other			.01	
Not reported			.05	
Childhood Abuse (proportion yes)			.70	

months that were observed. Partici-pants' self-reports indicated that the majority of these activities were drug dealing (57%), followed by prostitution (24%), theft (11%), and other crimes (3%).[9] Because we are interested in the dy-namic effects of life circumstances on criminal activity, it was nec-essary to determine whether sufficient change within these life circumstances occurred. For example, did a sufficient number of participants enter and exit relationships with significant others across the 36-month period? We considered a "change" in a circum-stance to have occurred whenever the participant's status on a characteristic at time twas different from her status at time $t+_1$• For instance, if a participant was in a relationship at t_1 but was not in a relationship at t_2, we considered a change to have occurred. We did not consider the length of time that this change was sustained. The second column of Table 2 illustrates the proportion of the sample who experienced at least one change in the circumstance during the period measured.

The greatest amount of change was evident in self-reported drug use. The results demonstrated that 95% of the sample shifted from either using drugs to not using drugs or the converse, at least once during the period studied. It is also possible that the same individual experienced multiple changes in a characteristic during the period. For example, a participant may have desisted from drug use at one point but subsequently returned to drug use at a later point. The majority of the sample also experienced changes in the stability of their living situation, employment status, relationship status, and whether they were living with a significant other.[10]

9 Other crimes included fraudulent schemes (n = 83) and other unspecified crimes *(n* = 52).

10 See Appendix C for the correlation matrix of the dynamic variables.

Table 2. Descriptive Statistics for Dynamic Variables: 1996-99

Variable	Sample Proportion of Change in Months	Proportion of Occurred	Proportion of with Circumstancesa
Measures of Offending Drug Crime	.21		
Theftb	.04		
Prostitutionb	.09		
Otherb	.03		
Life Circumstances			
Drug use	.61	.95	
Polydrug use	.23	.40	
Employment	.34	.75	
Relationship	.59	.72	
Children living with participant	.31	.50	
Living with significant other	.29	.61	
Stable living situation	.61	.90	

• The column reflects the proportion of the sample who experienced at least one change in circumstance during the 36-month period.
b These categories constitute the aggregated category nondrug crime.

Effect of Static Factors on Monthly Offenses

Table 3 demonstrates the impact of demographic characteris-tics on drug dealing and nondrug crimes across the 36-month pe-riod. To determine the impact of these static characteristics on each measure of criminal activity, we examined the logistic coefficient, represented by gamma, and the odds ratio for statistically signifi-cant coefficients. To facilitate interpretation, we converted coeffi-cients to probability differences using the following formula (Hanushek & Jackson, 1997):[11]
[(odds/ (odds+l)) - .50] The HGLM results indicated that age, race, age at first crime, and history of childhood abuse significantly affected the likelihood of en-gaging in both measures of criminal activity.

Participants who were older at the time of the interview were 5% less likely to engage in drug dealing but 6% more likely to en-gage in nondrug crimes than were younger participants. The probability of drug dealing was 36% greater for the white partici-pants and 21% lower for nondrug crimes, compared to the partici-pants of color. The participants who initially engaged in crime at a later point in life had only a 1% greater probability of committing a drug crime and a

11 We thank the anonymous reviewers for suggesting the use of this formula.

Table 3. Effect of the Static Factors on Offending, 1996-99: Logistic Coefficients (y) **and Odds Ratio from Binomial Hie:rarchical Generalized Linear Model**

Static Characteristic	Drug Dealing			Nondrug Crime		
	Odds Ratio	Probability Difference(%)	y	Odds Ratio	Probability Difference (%)	
Age	- .79	-5	.24* (.02)	1.27	6	.24* (.02)
Race (white = 1)	1.78* (.18)	5.9	36 -.88* (.20)	.41	-21	
Age at first crime	.04* (.01)	1.04	1-.152* (.01)	.86	-4	
Childhood abuse	-2.21* (.31)	.11	-401.52* (.23)	5.6	35	

* $p < .05$.
Note: Standards errors are in parentheses.

4% lower probability of committing a nondrug crime compared to those who initially engaged in criminal activity at a younger age. Finally, the participants who reported experienc-ing mental, physical, and/or sexual abuse during their childhoods were 40% less likely to engage in drug dealing but 35% more likely than the nonabused participants to engage in nondrug crimes

Effect of Life Circumstances on Offending

Table 4 presents the logistic coefficients with standard errors shown in parentheses, the odds ratio for the effect of life circum-stances on drug dealing and nondrug criminal activity, and the cal-culated probability differences. Drug use had a robust effect on a participant's criminal activity, increasing the probability of involve-ment in drug dealing by 50% and nondrug crimes by 45%. Polydrug use also demonstrated facilitating effects, increasing the probability of participants committing both drug and nondrug crimes by 27% and 22%, respectively.

The results also demonstrated that drug-dealing activity was significantly inhibited by employment, involvement in a relation- ship with a significant other,

and children living with the partici-pant. The participants who were employed were 29% less likely to engage in drug dealing. Employment also suppressed nondrug crime, but not significantly so. The participants who were involved in a relationship were 19% less likely to engage in drug dealing; however, the impact of a relationship on nondrug crimes was not statistically significant. If children were living with the participant, the probability of drug dealing was significantly decreased by 35%, but this circumstance did not significantly affect nondrug crimes. Furthermore, a stable living situation significantly decreased the probability of nondrug crimes by 35% but did not significantly influ-ence the likelihood of involvement in drug dealing.

A notable mixed effect was found for the effect of living with a significant other on the two measures of crime. Living with a signif-icant other *decreased* the likelihood of participants' involvement in nondrug crimes by 25% but *increased* the likelihood of participants' involvement in drug-dealing activity by 37%.

DISCUSSION

We examined the relationship between short-term change in lo-cal life circumstances and criminal behavior, arguing that change in a women's immediate social condition (relationship status, living conditions, employment, child custody, and so forth) would alter patterns of offending. In addition, we hypothesized that such modi-fication of offending patterns would be gendered in nature. Much like Horney et al.'s (1995) study of male offending, our study indi-cated that short-term change in a woman's life circumstances does influence her likelihood of offending. In general, our findings sug-gest that, in many instances, involvement in conventional activities results in a decreased likelihood of engaging in certain kinds of crime. A woman's investment in relationships and social networks, as evidenced by her participation in institutions of informal social control in the short term, was strongly related to her likelihood of engaging in criminal behavior. The women in our sample were less likely to engage in drug dealing if employed, involved in a relation- ship, or living with their children. They were less likely to engage in nondrug crimes if they had stable living conditions or were living with a husband or significant other. These findings are partially supported by qualitative data that, although fairly silent on the role of a spouse or significant other, indicate that women who were able to establish secure housing, locate stable employment, and reestab-lish strong relationships with their children were also able to stay "out of the life" for a period (Baskin & Sommers, 1998; Eaton, 1993; O'Brien, 2001).

Although these findings support the notion that a short-term change in social bonds modifies the likelihood of criminal behavior and are generally consistent with social control theory, some of the results regarding social bonds and gender were contrary to our ex-pectations. As we mentioned previously, studies on the relationship between adult social bonds and female criminal behavior are

few, but those that do exist have suggested a gendered response. Much of this research has focused on the significance that women place on intimate relationships and the ways in which such relational con-cerns and attachments result in girls and women becoming in- volved in criminal activities (Alarid et al., 2000; Haney, 1996; Jessor, Donovan, & Costa, 1991; Richie, 1996; Steffensmeier & Allan, 1996).

Table 4. Effect of Life Circumstances on Offending, 1996-99: Logistic Coefficients (y) **and Odds Ratio from Binomial Hierarchical Generalized Linear Model**

Dynamic Factor	Drug Dealing			Nondrug Crime		
	y	Odds Ratio	Probability Difference (%)	y	Odds Ratio	Probability Difference (%)
Drug use	7.95* 2835 (.51)		50	3.05* (.15)	21.1	45
Polydrug use	1.22* 3.39 (.36)		27	.96* (.21)	2.6	22
Employment	-1.33* .26 (.23)		-29	-.22 (.17)		
Relationship	-.78* .46 (.28)		-19	.09 (.18)		
Children living with participant	-1.78* .17 (.30)		-35	-.03 (.23)		
Living with significant other	1.89* (.28)	6.6	37	-1.09* (.19)	.34	-25
Stable living situation	.30 (.24)			-1.76* (.18)	.17	-35

Note: Standards errors are in parentheses.
* $p < .05$.

Society conditions women to accept the role of nurturer and to be responsive to others, ultimately rewarding their ability to main-tain intimate attachments (Steffensmeier & Allan, 1996). Such role expectations result in their identity being derived from the signifi-cant men in their lives. According to Steffensmeier and Allan, "de-rivative identity constrains deviance on the part of women involved with conventional males but encourages the criminal involvements of those who become accomplices of husbands or boyfriends" (p. 476). It appears that younger women are similarly situated. In her ethnographic study of delinquent girls, Haney (1996) described a "cycle of male dependency and delinquency," in which these girls defined their own self-worth on the basis of the men in their lives and were motivated to engage in crime to maintain that relation- ship. According to Haney, probation officers "faulted their girls' overinvestment in men for its tendency to make them weak, malle-able, and ultimately delinquent" (p. 764).

Some studies of male offending have found no relationship be- tween intimate partnerships and one's likelihood to engage in crime (Alarid et al., 2000). Others have suggested that, for men, a marital relationship acts as a social bond that promotes desistance from crime (Gibbens, 1984; Horney et al., 1995; Laub et al., 1998; Laub & Sampson, 1993; Sampson & Laub, 1993; Trasler, 1979). More re- cent research has found that romantic relationships constrain crim-inal activity only insofar as they decrease involvement with deviant friends (Simons et al., 2002; Warr, 1998). As we noted previously, there is much evidence to suggest that this bond does not have a similar effect on women. It is important to note that our data did not allow for an assessment of the quality of a participant's rela-tionship with her significant other or whether the significant other was a boyfriend or husband. As a result, we could not assume that involvement and/or cohabitation with a significant other was based on a positive relationship. This caveat points to an important as-sumption of social control theory-the assumed conventionality of the significant other. Theoretically, the presence of social bonds presupposes restraint from criminal activity because of the pres-ence of a conventional significant other, but this presupposition does not allow for the exacerbation of criminal activity that is due to the criminogenic effects of an unconventional significant other. Without a measure of the quality of the relationship included in the study, we are unable to understand clearly the role of this social bond in the participant's criminal activities.

On the basis of prior research with female offenders (Alarid et al., 2000; Li & MacKenzie, 2002), we expected to find an increased likelihood of criminal involvement among women who were living with significant others. The results from our data are somewhat ambiguous. Women who were living with their husbands or boy- friends were *more likely* to engage in drug dealing, but were *less likely* to engage in nondrug crimes. In addition, women who were involved in a relationship but did not share a residence were *less likely* to engage in drug dealing. Regardless of whether the data support the notion of a gendered response to informal social con-trols, we would expect to see a similar response for both categories of crimes. Faced with this contradiction, we suggest that the dy-namics of offending are somehow altered by the nature of the crimi-nal activity itself and the way in which

gender structures criminal involvement.

To understand why our findings provide only partial support for a social control perspective and to achieve a more parsimonious explanation for what appears to be a gendered response to partici-pation in the drug economy, we need to examine how the organiza-tion of gender shapes a woman's opportunity to engage in certain types of crime. According to Steffensmeier and Allen (1996, p. 474), "the broad social forces suggested by traditional theories exert gen-eral causal influences on both male and female crime. But it is gen- der that mediates the manner in which those forces play out into sex differences in types, frequency, and contexts of crime involve-ments." A significant body of research has examined the way in which gender structures women's opportunities to engage in crime (Alarid, Marquart, Burton, Cullen, & Cuvelier, 1996; Steffensmeier, 1983), especially in more lucrative criminal ventures, such as the street-level drug economy (Adler, 1985; Baskin, Sommers, & Fagan, 1993; Fagan, 1994; Inciardi, Lockwood, & Pottieger, 1993; Maher & Curtis, 1992; Maher & Daly, 1996). Researchers have described a highly sexist and segregated culture, in which street-level drug markets are often characterized by well-structured distribution systems that are operated by men, with women existing only at the lower ranks. What is less clear is the extent to which the current drug economy has provided women with expanded job opportunities in the underworld. The image of women's changing role in the drug market is by no means consistent-women have either been af-forded "new opportunities" in this highly lucrative growth market (Fagan, 1994) or continue to be "confined to an increasingly harsh economic periphery" (Maher & Daly, 1996, p. 486). Just like the le-gitimate world, opportunities in the underworld are often struc-tured according to stereotypical beliefs about an individual's capabilities, as well as sex typing of the task at hand (Steffen-smeier, 1983). Women's opportunities to participate in the drug trade are limited by "male employers' perceptions of women as un-reliable, untrustworthy, and incapable of demonstrating an effec-tive capacity for violence" (Maher & Daly, 1996, p. 483).

Faced with such barriers to participation, it is not difficult to understand how a woman's intimate relationship with a man facili-tates access to the drug trade (Adler, 1985; Alarid et al., 1996; Koes-ter & Schwartz, 1993; Murphy, Waldorf, & Reinarman, 1991; M. Rosenbaum, 1981) in a way that one would not expect in a less gen- der-segregated criminal network (Steffensmeier, 1983). Other stud-ies, however, have suggested a decrease in the importance of domestic partnerships (Fagan, 1994; Maher & Daly, 1996), espe-cially "when drug markets are highly structured and kin based" (Maher & Daly, 1996, p. 484). Our findings support the significance of a domestic relationship to a woman's entrance into the drug market. One could argue that instead of acting as an mechanism of in- formal social control, as has been found in studies of male offenders (Horney et al., 1995; Sampson & Laub, 1993), living with a crimi-nogenic significant other increases the likelihood of engaging in drug dealing because it provides the opportunity to do so.

This interpretation seems reasonable when the findings are taken as a

whole. If we were to argue that women engage in crime in an effort to sustain a personal relationship and maintain their identity (O'Brien, 2001), we would expect similar findings for both drug dealing and non-drug-related criminal activity. We would not expect the context of the criminal activity itself to be significant. This is not the case. The extensive body of research that has identi-fied the sex-segregated nature of the drug trade provides the most useful framework for understanding the context of drug dealing for women and the role of husbands and boyfriends in gaining access to this "highly gender-stratified labor market" (Maher & Daly, 1996, p. 483). On the other hand, the findings regarding nondrug crimes suggest a social control perspective. It appears that the organization of gender does, indeed, moderate the context of offending.

An important, though less surprising, finding is the strong re-lationship between drug use and the likelihood of continued criminal activity. We found that the resumption of drug use greatly increases the likelihood of engaging in both drug dealing and non- drug crimes. This finding supports the findings of other studies that drug use accelerates the rate of criminal activity (Anglin & Speck- art, 1988; Cantor, 1999; Chaiken & Chaiken, 1982; Collins & Bai- ley, 1987; Gandossy, Williams, Cohen, & Harwood, 1980; Inciardi, 1979; Li, Priu, & MacKenzie, 2000; McGlothlin, Anglin, & Wilson, 1978; Speckart & Anglin, 1986), regardless of gender (Anglin & Hser, 1987; Fagan, 1994; James, Gosho, & Wohl, 1979).

Nor is it surprising to see the robust relationship between drug use and the likelihood of engaging in drug dealing. Although our data did not allow us to ascertain the nature of the participant's involvement in the drug trade or her commitment to this lifestyle, they suggest a certain dynamic. Arguably, it is an issue of convenience: Access and opportunity to participate in the buying and sell-ing of drugs allows a woman to support her own drug habit in the process. The nature of this population may also account for the stronger relationship between drug use and drug dealing than be- tween drug use and property crime. In their study of female crimi-nality and drug use, James et al. (1979) found that 74% of the female addicts in their sample ranked drug sales as their most important source of illegal support, with shoplifting and larceny a distant second and third, respectively. It is interesting that only about a third of female offenders (nonaddicts) ranked drug sales as their primary source of illegal support. It appears that for their addicted group, as well as those in our sample, opportunity and the "speed of the cash return" are salient factors in determining the choice of criminal activity.

Once again, it is important to recognize the limitations of this study when interpreting the data and generalizing findings to other populations of offenders. We believe that these limitations are two- fold. First, measurement of the quality of social bonds was limited primarily to their presence or absence (i.e., employed/not employed, living/not living with a significant other). This inability to ascertain the quality of social bonds prevented us from gaining insight into the process that led to these short-term changes in local life circumstances.

The second limitation addresses the generalizability of our findings. Our

sample was comprised of female offenders who were jailed or released recently from jail; these women identified them- selves as drug abusers and sought entrance to a program that pro- vided treatment for their addiction as well as assistance for their reentry into the community. The fact that this group consisted of female drug-abusing offenders presents fewer problems in terms of generalizability. According to the 1999 annual report of the Arrestee Drug Abuse Monitoring Program, 66.6% of the women in Phoe-nix jails tested positive for any drug use at the time of their arrest (U.S. Department of Justice, 2002). In 1998, 30% of the women in jails were incarcerated for drug offenses (Greenfeld & Snell, 1999). Clearly, although not all incarcerated women are drug users, they do make up a sizable and growing proportion of all incarcerated women.

We believe that it is potentially more problematic that our sample was comprised of women offenders who presented themselves for treatment. Arguably, these women represent a highly motivated group of offenders. They recognized that substance abuse was a problem in their lives and took steps to alter their negative patterns of behavior. The salient issue, however, is not their motivation to seek treatment, but the events that led to the development of this motivation. The retrospective data collected on each woman, covering the previous 36 months, represent her journey to a similar location, a turning point perhaps. Qualitative studies of female offenders have suggested that many who resolve to leave a criminal life and/or take steps to address their drug addiction do so only af-ter they have "experienced a long period of personal deterioration and a 'rock bottom' experience" (Baskin & Sommers, 1998, p. 139; see also Eaton, 1993; O'Brien, 2001). We were unable to determine how their experiences, which ultimately brought them to their deci-sion to enter a treatment program, differed from those of other female offenders. Were the women we interviewed any more deeply involved in a lifestyle of drugs and crime than those who did not seek treatment? To what extent did their addiction and their prior experiences heighten the relationship between drug use and in-volvement in drug crime? These questions raise important issues, questions that our data do not address. We believe, however, that this limitation does not diminish the importance of our findings regarding the role of short-term change in the lives of these proba-tioners or the way in which the organization of gender influences the context of offending.

CONCLUSION

Our findings suggest that we need to continue to explore the way in which gender moderates the social forces that influence changes in patterns of criminal activity and the context of criminal activity. Although we found only partial support for a gendered response to short-term change in interpersonal bonds suggested by previous research, our findings support the notion that the organi-zation of gender influences women's likelihood of engaging in cer-tain types of criminal behavior. Again, it is important to note that unlike Laub and Sampson (1993), our study was unable to evaluate the quality of the social bonds or to explore the context of drug use or criminal activity in any depth. We would be remiss to ignore the significance of women's unique experiences and

the complexity of personal relationships that become clouded with the addition of illicit drugs and criminal behavior. Future studies that incorporate measures of the quality and strength of social bonds, especially re-garding intimate relationships, will do much to broaden our under- standing of the way in which the organization of gender influences women's participation in crime.

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Appendix A. Demographic Comparisons of Sample to the Entire Women's Network Population and the ADAM Data

Demographic Characteristic	Sample (n = 195) 1999	Women's Network Population (n = 1,768) 1996-2000	ADAM Data Phoenix Site (n = 398) 1999
Race(%)			
White	57.1	63.0	49.0
Hispanic	18.2	16.8	25.5
African American	15.7	15.1	16.4
Other	9.0	5.0	9.1
Age at 1st marijuana use, *M* (SD)	16.3(5.3)	12.4(6.8)	15.2[1]
Years of education, mode	12th grade	12th grade	10th to 12th grade
Current housing(% stable)	61.0	36.5	86.0
Employed (% full or part time)	5.6	17.3	43.5

[1] Standard deviation unavailable

Appendix B. Correlation Matrix for Level 1 Variables

	Drug crime	Nondrug Crime	Drug Use	Polydrug Use	Employment	Relationship	Children Living with Participant	Living with Significant Other	Stable Living Situation
Drug dealing	1.0								
Nondrug crime	-.22**	1.0							
Drug use	.39**	.29**	1.0						
Poly drug use	.21**	.19**	.44**	1.0					
Employment	-.08**	-.15**	.01	.01	1.0				
Relationship	.00	.03**	.12**	.04**	.08**	1.0			
Children living with participant	.04**	-.12**	.08**	-.06**	.25**	.09**	1.0		
Living with significant other	.03*	.10**	.20**	.12**	.10**	.49**	.07**	1.0	
Stable living situation	.14**	-.06**	.24**	-.00	.33**	.16**	.36**	.23**	1.0

* p = .05, ** p = .001.

Appendix C. Correlation Matrix for Level-2 Variables

Race Age		Age at First Crime	(1 = White)	Childhood Abuse
Age	1.0			
Age at first crime	.522**	1.0		
Race (1 = white)	.028	.060	1.0	
Childhood abuse	-.144*	-.215**	.028	1.0

* $p = .05$, ** $p = .001$.