

## Correlates of Drug Dealing in Female Methamphetamine Users

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**ABSTRACT** *Female drug dealers have been a neglected population despite their potentially elevated risk for social, legal, family, and psychological health problems. This study examined correlates of drug-dealing behavior in a sample of 209 female methamphetamine users in San Diego, CA. Twenty-five percent of the sample reported dealing methamphetamine in the past 2 months. Women who dealt methamphetamine were significantly more likely than their nondealing counterparts to have started using illicit drugs before the age of 13 years (68 % versus 44.7 %,  $p=.003$ ); to have been introduced to methamphetamine by a parent (15.1 % versus 5.8 %,  $p=.037$ ); and to report currently using methamphetamine to stay awake (84.9 % versus 64.7 %,  $p=.004$ ), enhance self-confidence (62.3 % versus 45.5 %,  $p=.025$ ), and feel more attractive (54.7 % versus 38.5 %,  $p=.029$ ). In a multivariate logistic regression, factors independently associated with methamphetamine dealing were: having a spouse or live-in partner (Adjusted Odds Ratio, AOR=2.89), using methamphetamine with a broader range of types of person (AOR=1.46), and reporting lower levels of emotional support (AOR=0.57). These findings suggest that female methamphetamine dealers are in urgent need of access to substance use treatment, therapies to enhance self-worth and emotional support, and family-based substance use prevention interventions for dependent children and those at risk.*

**KEYWORDS** *Methamphetamine, Dealers, Women, Emotional support, Self-concept*

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### INTRODUCTION

Historically, drug dealing has been viewed as a male activity.<sup>1</sup> Accordingly, women who sell drugs were a neglected population until the 1980s, when the epidemic of crack cocaine use in the US and the involvement of women in gangs brought attention to the phenomenon of female drug dealing.<sup>2</sup> More recently, female drug dealing has gained attention in popular media, for example, through the television series *Weeds*, the story of a middle class, single mother who turns to drug dealing to make ends meet. To date, the literature on female drug dealers is mostly descriptive, shedding light on demographic characteristics, pathways into drug dealing, and degree of involvement in different levels of distribution.

Although female drug dealers are a diverse group,<sup>1,2</sup> one common feature is social disadvantage. Loxley and Adams contend that poverty, lack of education, and limited employment opportunities force many drug-using women to participate in

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the illicit drug economy. Drug dealing among women is also associated with drug dependence and addiction.<sup>3-5</sup>

Pathways into drug dealing appear to be varied. Studies of crack cocaine users have found that some women get involved in dealing drugs as a way to “survive” on the streets.<sup>6,7</sup> Denton and O’Malley reported that income from selling drugs often protects women from having to enter the sex trade.<sup>8</sup> More commonly, female dealers become involved in drug dealing to supplement their income or to pay for their own personal drug use.<sup>2,9</sup> There are also reports of women who, as children, witnessed drug dealing by family members and friends and then entered the business themselves under the influence of these lifelong connections.<sup>1,10</sup> Other women report that they were coerced into dealing drugs by a spouse or sexual partner.<sup>2,11</sup> Still others voluntarily started dealing drugs with a spouse or steady partner and later, when the partner was unable to continue due to incarceration or severe drug dependence, continued the business on their own.<sup>12</sup>

Some women, who might be described as entrepreneurial, view drug dealing as an opportunity to build a successful business with little start-up capital.<sup>2,8</sup> In an ethnographic case study, Fitzgerald reported that female participation in drug dealing offered more than economic benefits.<sup>3</sup> Operating a successful drug-dealing business was associated with respect, power, control over others, and the development of kinlike social networks.<sup>1</sup>

Female dealers function in a range of roles in the illicit drug economy, including acting as “runners” or “mules” (i.e., transporting or smuggling drugs), acting as “lookouts” or “go-betweens,” and engaging in street-level dealing.<sup>2</sup> It has been suggested that female dealers like to partner with males who will handle threatening or dangerous situations.<sup>4</sup> Pooling resources with a male dealer has also been identified as a strategy for handling problems with suppliers and customers.<sup>4</sup> Although most female drug dealers work for someone else (usually a male), the US illicit drug economy does include powerful, high-level female drug dealers.<sup>2,4</sup>

Although the general literature suggests that women who sell drugs share some characteristics and experiences, it is likely that dealing behavior is influenced by the specific drug(s) a woman sells and may use herself. Methamphetamine is an illegal stimulant that is used throughout the United States, yet little is known about the people who deal it. To date, only three studies, one of which is unpublished, have reported data specifically on female methamphetamine dealers. The unpublished study, a monograph by Morgan et al. on methamphetamine use in three US cities, is the only one, to our knowledge, which reports on the frequency of methamphetamine dealing among female methamphetamine users; according to the authors, the frequency is 77%.<sup>13</sup> The same study reported that the primary reasons for initiating drug dealing were increasing income and offsetting the costs of one’s own drug use. In a separate analysis using data from the same three-city study, Morgan and Joe identified four primary types of female drug dealer based on lifestyles and social contexts: “citizen” (living a mainstream lifestyle); “outlaw” (marginal lifestyle with engagement in deviant behaviors); “floater” (in and out of mainstream and outlaw lifestyles); and “welfare mom” (receiving aid to families with dependent children).<sup>14</sup> Female dealers reported strong senses of pride, accomplishment, and control in relation to their drug businesses and were less likely than male dealers to believe that their personal drug use was out of control. In another study, Senjo reported that female methamphetamine dealers, compared to their male counterparts, were more educated, had fewer arrests, and were more likely to have tried treatment for their methamphetamine use.<sup>15</sup> The relative dearth of studies on female methamphetamine

dealers suggests that they remain a hidden population within the illicit drug economy.

The purposes of this study were to identify correlates of dealing behavior in a sample of female methamphetamine users and to describe the contexts of methamphetamine use among female dealers. We hypothesized that women who deal methamphetamine have greater access to this powerful stimulant, thereby placing them at higher risk for more personal, social, and legal problems, including addiction, mental health challenges, difficult family relationships, and involvement in criminal activities. Identifying correlates associated with methamphetamine-dealing behavior could make it possible also to identify pathways by which these women could choose to leave the illicit drug trade, improve their quality of life, or both.

## METHODS

### Sample Selection

These analyses used baseline data from a sample of 209 female methamphetamine users who were enrolled in a sexual risk reduction intervention at the University of California, San Diego, as has been described previously.<sup>16</sup> The Fastlane-II intervention is a 9-session, individual counseling program designed to reduce high-risk sexual practices, depressive symptoms, and methamphetamine use in the target population. Motivational interviewing concepts,<sup>17</sup> social cognitive strategies,<sup>18</sup> and cognitive behavioral therapy<sup>19</sup> were used to promote positive behavior change in the targeted areas. The intervention included both men and women. Participants were at least 18 years of age, self-identified as heterosexual, and reported having unprotected vaginal or anal sex with at least one opposite-sex partner in the previous 2 months. Participants also had to report using methamphetamine at least twice during the past 2 months, and at least once in the past 30 days. The following exclusion criteria were applied: not sexually active or always used condoms with all partners in the past 2 months, had unprotected sex with a spouse or steady partner only (i.e., monogamous), tried to get pregnant or tried to get a partner pregnant, psychiatric diagnosis with current psychotic symptoms or suicidal ideation, and currently enrolled in a formal outpatient or residential drug treatment program. Participants who scored 3 or less on the 7-item Beck Depression Inventory-Fast Screen (BDI-SF) were also excluded because they were not appropriate candidates for the mood regulation component of the protocol.<sup>20</sup>

The Fastlane-II project achieved its recruitment goal of 400 participants with approximately equal numbers of men and women. Over a 4-year recruitment period, 520 women were screened for the Fastlane-II project and 311 were determined to be ineligible. The main reasons for exclusion were (in rank order): monogamous sex only (51.4 %), no unprotected vaginal or anal sex in the past 2 months (17.0 %), not interested in participation after hearing detailed study description (7.9 %), and no methamphetamine use in the past 30 days (6.1 %). A small percentage (1.5 %) of women were excluded because their depression scores on the BDI-SF were 3 or less. Eligible and ineligible women did not differ significantly in terms of age or ethnicity.

Participants were recruited through multiple sources, including large-scale poster campaigns; advertisements in local media; referrals from case managers and public health agencies; and referrals from family, friends, and enrolled participants. The

baseline audio-CASI interview covered a range of topics including sociodemographic characteristics, drug and alcohol use patterns, sexual risk behavior, mood, social cognitive factors, attitudes, intentions, social norms, social support, self-esteem, and family relations. All participants provided written informed consent and were paid \$30 for their baseline assessment and first counseling session. The research protocol was reviewed and approved by UCSD's Institutional Review Board (Project #061330). Males were excluded from the present analysis by design.

## Measures

*Contexts of Methamphetamine Use* Participants were asked to report the age at which they had first used illicit drugs as well as the age at which they had first used methamphetamine. Participants were also presented with a list of eight relationship types and asked to report if any person in these categories had introduced them to methamphetamine. The categories included friend, parent, spouse or lover, boyfriend or girlfriend, other family member, coworker, dealer, and "other." In addition, participants were presented with a list of 19 reasons why they might currently be using methamphetamine and were asked to endorse those that applied. Each item was coded dichotomously (1=yes, 0=no).

*Substance Use Factors* Dealing behavior was assessed by asking if respondents had sold or traded methamphetamine in the past 2 months (yes=1, no=0). Methamphetamine use was measured as the number of grams consumed in the past 30 days. Participants were also given a list of seven relationship types (e.g., sex partner, friend, and dealer) and asked if they had used methamphetamine with a member of any of those categories during the past 2 months. A summary variable was computed to represent the total number of relationship categories with a member of which the participant had used methamphetamine in the specified time period. Frequency of methamphetamine use was assessed in terms of the number of days on which the participant had used the drug during the past 30 days. Injection drug use in the past 2 months was represented by a dichotomous variable (1=yes, 0=no). Frequency and amount of alcohol consumed were assessed using items from the Alcohol Use Disorders Identification Test (AUDIT): "How often do you have a drink containing alcohol?" (1=more than once a month, 0=once a month or less) and "How many drinks containing alcohol do you have on a typical day when you are drinking? Count as one drink, either one shot of liquor, one glass of wine, or one can of beer" (1=five or more drinks, 0=one to four drinks).<sup>21-23</sup> Finally, participants were presented with a list of 15 drugs (e.g., marijuana, cocaine, and ecstasy) and asked which ones they had ever used (1=yes, 0=no).<sup>22,24</sup> A summary score was created to represent the number of illicit drugs used in the participant's lifetime.

*Psychosocial Factors* *Depressive symptoms* were assessed using the Beck Depression Inventory (BDI-II).<sup>25</sup> The BDI-II consists of 21 items, each of which has four statements graded from 0 to 3 in the order of increasing depressive symptoms. Summary scores thus ranged from 0 to 63. Anxiety and hostility symptoms were measured using subscales of the Brief Symptom Inventory (BSI).<sup>26</sup> Participants were asked six questions to assess *anxiety symptoms* (e.g., "During the past week, including today, how much were you distressed by nervousness or shakiness inside, suddenly feeling scared for no reason, feeling tense or keyed up?"). Five questions assessed *hostility symptoms* (e.g., "During the past week, including today, how

much were you distressed by temper outbursts that you could not control, having urges to beat, injure or harm someone?”). Items were rated on a five-point scale ranging from 0 (not at all) to 5 (extremely). A summary score was calculated for each of these variables. *Perceived emotional support* assessed the availability of family members and friends whom the participant perceived as caring, trustworthy, uplifting, and as confidants. Seven items were rated on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree).<sup>27</sup> A summary score was used. *Parental role strain* was measured with an 18-item scale that assessed children’s behavioral and emotional problems, children’s physical health problems, family financial strain, interpersonal conflict related to children, and intrapsychic parenting strains (e.g., guilt and shame). Items were measured on a four-point scale ranging from 1 (never) to 4 (very often).<sup>28</sup> A summary score was calculated. Family conflict was assessed by asking participants to indicate how much disagreement they had had with anyone in their family over five central issues in the past year (e.g., “They don’t accept you for who you are”; “They are critical of your lifestyle”). Items were coded 0 (no disagreement) to 3 (quite a bit of disagreement).<sup>16</sup> A summary score was used.

*Statistical Analyses* Statistical analyses compared dealers with nondealers. Continuous and categorical data were examined using *t* test and chi-square analysis, respectively. Univariate logistic regressions were used to examine the associations between each variable and drug-dealing behavior. A multivariate logistic regression was used to identify factors independently associated with methamphetamine-dealing behavior. Variables that were significant at the 5 % level in univariate logistic regressions were considered for inclusion in the multivariate model.

## RESULTS

### Sample Description

Our sample of female methamphetamine users was predominantly ethnic minority (27.3 % African American, 25.4 % Latina, 10.5 % other non-Caucasian), never married (47.8 %), living with another adult in a nonsexual relationship or living alone (48.8 %), unemployed (79.9 %), with a high school diploma or less (64.6 %), and having an income of less than \$10,000 per year (75.1 %). The average age was 36.4 years (SD=9.2, median 36.0, range 18–63). Thirty-five percent reported having a spouse or steady partner, and 72 % had at least one child. Among mothers ( $N=151$ ), the average number of children was 3.0 (range 1–8, SD=1.5). Among mothers with children under the age of 18 years ( $N=112$ ), the average age of children was 10.0 (SD=4.4, median=10). Only 37 % of mothers with dependent-age children had a child living with them.

Twenty-five percent of the sample reported dealing methamphetamine in the past 2 months. Women who did so were significantly more likely to report having a spouse or live-in partner (50.9 % versus 30.1 %,  $p=.006$ ) and a felony conviction (66.0 % versus 44.9 %,  $p=.011$ ) compared to nondealers. The two groups did not differ significantly on any other sociodemographic variable (see Table 1).

### Contexts of Methamphetamine Use

Female methamphetamine dealers had been significantly younger when they initiated illicit drug use (primarily marijuana) compared to nondealers (12.9

**TABLE 1 Sociodemographic characteristics of female methamphetamine users who have and have not dealt methamphetamine in the past 2 months (N=209)**

Variable	Dealt MA in the past two months (N=53)	Did not deal MA in the past 2 months (N=156)	Test statistic	p value		
Ethnicity						
Caucasian	39.6 %	35.9 %	$\chi^2=3.51$	.320		
African American	34.0	25.0				
Latina	20.8	26.9				
Other	5.7	12.2				
Education						
Less than high school	28.3 %	28.8 %	$\chi^2=3.35$	.341		
High school or equivalent	35.8	35.9				
2-year degree or some college	30.2	34.0				
4-year college degree	5.7	1.3				
Graduate or advanced degree	0.0	0.0				
Marital status						
Never married	50.9 %	46.8 %	$\chi^2=5.60$	.231		
Married	13.2	9.6				
Separated	17.0	15.4				
Divorced	17.0	28.2				
Widowed	1.9	0.0				
Living arrangement						
With spouse	17.0 %	7.1 %	$\chi^2=9.78$	.082		
With steady partner	7.5	11.5				
With other adults who are not sexual partners	22.6	41.0				
Alone	15.1	11.5				
Homeless	17.0	13.5				
Other	20.8	15.4				
Income						
Less than \$10,000	69.8 %	76.9 %	$\chi^2=2.07$	.839		
\$10,000–\$19,999	18.9	14.1				
\$20,000–\$29,999	7.5	4.5				
\$30,000–\$39,999	1.9	2.6				
\$40,000–\$49,999	1.9	1.3				
\$50,000 or more	0.0	0.6				
Employed	22.6 %	19.2 %	$\chi^2=0.287$	.692		
Felony conviction	66.0 %	44.9 %			$\chi^2=7.09$	.011
Have at least one child	71.7 %	72.4 %				
Have a spouse or live in partner	50.9 %	30.1 %	$\chi^2=7.49$	.006		
Age (mean, SD)	35.9 (9.4)	36.5 (9.1)	$t=0.447$	.656		

MA methamphetamine

versus 14.7 years,  $p=.013$ ). Dealers were also significantly more likely to report that they were introduced to methamphetamine by a parent than were their nondealing counterparts (15.1 % versus 5.8 %,  $p=.037$ ). Female dealers were also significantly more likely than nondealers to report using methamphetamine to: stay awake (84.9 % versus 64.7 %,  $p=.004$ ), feel more attractive (54.7 % versus 38.5 %,  $p=.029$ ), and feel more self-confident (62.3 % versus 45.5 %,  $p=.025$ ).

### **Sociodemographic Correlates of Dealing Behavior**

Women who reported having a spouse or live-in partner had almost two and one-half times the odds of dealing methamphetamine in the past 2 months compared to women who did not have a spouse or live-in partner. Also, women who had a felony conviction were over two times more likely to have dealt methamphetamine in the past 2 months compared to women who reported never having a felony conviction. No other sociodemographic factors were associated with methamphetamine-dealing behavior (see Table 2).

### **Substance Use Correlates of Dealing Behavior**

Women who had injected methamphetamine in the past 2 months had two times the odds of dealing methamphetamine compared to women who had not injected in this time frame. Frequency of methamphetamine use was also associated with drug-dealing behavior. For every 1-day increase in the frequency of methamphetamine use during the past 30 days, the odds of dealing methamphetamine increased by 7 %. Female methamphetamine dealers also reported using methamphetamine with a broader range of person types during the past 2 months. For each additional type of person, women used methamphetamine within the past 2 months, the odds of drug dealing increased significantly (OR = 1.63). Dealing was also associated with lifetime polydrug use. For each additional illicit drug used in the participant's lifetime, the odds of drug dealing increased by 14 % (see Table 2).

Trading sex for methamphetamine was not associated with drug-dealing behavior; however, women who traded something other than sex for methamphetamine had two times the odds of dealing methamphetamine in the past 2 months compared to women who did not exchange goods or services for this drug. Descriptive data revealed that female drug dealers who traded methamphetamine for goods or services ( $N=26$ ) were most likely to receive jewelry, electronic devices, and items of clothing. Number of grams of methamphetamine used in the past 30 days, frequency of alcohol use, and amount of alcohol consumed were not associated with dealing behavior.

### **Psychosocial Correlates of Dealing Behavior**

Dealers and nondealers differed on only one psychosocial correlate of methamphetamine use, emotional support, which was associated with drug-dealing behavior. For every unit increase in the emotional support score, the odds of being in the drug-dealing group decreased by 44 %. Family conflict, parental role strain, depressive symptoms, hostility, and anxiety were not associated with methamphetamine-dealing behavior (see Table 2).

### **Factors Independently Associated with Methamphetamine-Dealing Behavior**

In a multivariate model, three factors were independently associated with dealing behavior among methamphetamine-using women. After controlling for all other factors, female methamphetamine dealers were more likely to have a spouse or live-in partner (Adjusted Odds Ratio [AOR]=2.89; 95 % CI 1.38–6.06), use methamphetamine with a broader range of person types (AOR=1.46; 95 % CI 1.11–1.91), and report lower levels of emotional support (AOR=0.57; 95 % CI 0.34–0.95) (see Table 2).

**TABLE 2 Sociodemographic characteristics, substance use variables, and psychosocial factors associated with drug-dealing behavior among methamphetamine-using women (N=209)**

	Odds ratio (OR)	95 % confidence interval (CI)	Adjusted odds ratio (95 % CI)
<b>Sociodemographic characteristics</b>			
Ethnic minority (versus White)	0.85	0.45–1.62	
High school or less (versus Some College or more)	0.97	0.51–1.87	
Never married (versus Other)	1.18	0.63–2.20	
Homeless (versus Other)	1.32	0.56–3.08	
\$10,000 or more per year (versus less than \$10,000 per year)	1.44	0.72–2.89	
Employed (versus not employed)	1.23	0.58–2.62	
Have a felony conviction	2.39**	1.25–4.58	
Have at least one child	0.96	0.48–1.93	
Have a spouse or live-in partner	2.41**	1.27–4.56	2.89** (1.38–6.06)
Less than 39 years old (versus ≥39)	1.15	0.61–2.17	
<b>Substance use variables</b>			
Number grams of MA used in past 30 days (per gram increase)	1.01	0.99–1.02	
Number of relationship types used MA with in past 2 months (per unit increase) <sup>a</sup>	1.63***	1.31–2.04	1.46** (1.11–1.91)
Injected MA in the past 2 months	2.10*	1.07–4.10	
Frequency of MA use in the past 30 days (per day increase)	1.07***	1.03–1.11	
Frequency of alcohol use in past 30 days (>once per month versus ≤once per month)	0.83	0.44–1.54	
Amount of alcohol consumed in a typical day (≥5 drinks versus 1–4 drinks)	0.92	0.44–1.92	
Number of types of illicit drugs used in participant's lifetime	1.14*	1.03–1.28	
Traded MA for goods or services in past 2 months	2.17*	1.15–4.10	
<b>Psychosocial factors</b>			
Depressive symptoms (per unit increase)	1.01	0.98–1.03	
Anxiety symptoms (per unit increase)	1.04	0.98–1.09	
Hostility symptoms (per unit increase)	1.06	0.99–1.12	
Emotional support (per unit increase)	0.56*	0.36–0.88	0.57* (0.34–0.95)
Parental role strain (per unit increase)	0.98	0.90–1.07	
Family conflict (per unit increase)	0.79	0.55–1.12	

<sup>a</sup>Seven categories of relationship types

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

## DISCUSSION

In this study of female methamphetamine users, one-quarter of the sample reported dealing methamphetamine in the past 2 months. Descriptive data on the contexts of methamphetamine use revealed that female drug dealers were more likely than nondealers to have initiated illicit drug use before puberty and to have been



introduced to methamphetamine by a parent. These findings indicate that some women may be socialized at an early age to participate in the illicit drug economy. Indeed, studies of female gang members have reported that the gang members' family members often supplied them with illicit drugs for dealing.<sup>12</sup> Our data suggest the need for early intervention in high-risk families with methamphetamine-using parents. As suggested by Contractor et al.,<sup>29</sup> family-based programs should include comprehensive substance use treatment for parents, family counseling, peer support, and after-school activities for the children of parents with substance use disorders.

Our data also revealed that motivations for methamphetamine use differed between dealers and nondealers. Female methamphetamine dealers appeared to struggle with poor self-concept, as evidenced by their use of methamphetamine to make themselves feel attractive, more self-confident, and more energetic. Dealing drugs and running a successful business may help to ameliorate poor self-concept and low self-worth. In one study, successful female methamphetamine dealers described themselves as resourceful, intelligent, and proud of their accomplishments.<sup>13</sup> Therapies that address childhood and adult sources of poor self-concept may be effective in altering negative self-perceptions and bolstering self-esteem. Cognitive behavior therapy, in particular, has been used successfully to help patients in drug treatment unlearn thought patterns that contribute to negative self-concepts.<sup>30</sup>

Three factors were identified as independently associated with methamphetamine-dealing behavior. Women who had a spouse or live-in partner had almost three times the odds of dealing methamphetamine in the past 2 months compared to women who did not have this type of partner. This finding is consistent with previous research that documents the important influence that male sex partners can have over women's drug use behaviors. For example, female IDUs are most likely to have received their first injection from a male sex partner.<sup>31</sup> It has also been reported that substance-using women who have drug-using male partners receive less support and encounter more resistance to their efforts to seek treatment compared to women whose partners are not substance users.<sup>32</sup> More research is needed to determine the influence of steady male partners on women's involvement in the illicit drug trade. For example, to what extent is involvement in the drug trade voluntary versus coerced by a male partner? Treatment programs for female methamphetamine dealers may need to address relationship characteristics and their influence on drug-dealing behavior. Counseling programs should help women to clarify their personal values and goals and determine how drug dealing either supports or conflicts with their life vision. Gender-specific drug treatment programs may be particularly beneficial for women who live in environments characterized by partner violence and abuse.

Dealing behavior was also associated with using methamphetamine with a wider variety of relationship categories, including sexual partners, family, friends, strangers, coworkers, and other dealers. This finding challenges the notion of female drug dealers as socially isolated. It is likely that such women's social networks are business-related, since it is common for dealers to participate in the testing of drugs with potential buyers. This may be especially true for female dealers, who often build solid reputations by providing high quality, "uncut" drugs and good customer service.<sup>1,14</sup> Treatment programs that aim to remove drug users from their existing social networks without appropriate replacements are not likely to be

successful due to potential feelings of isolation and loss of power. Treatment models for female drug dealers instead should be designed to broaden interpersonal networks to include nondrug-using family and friends and should include activities that empower the individual and address issues of social isolation.

Lower scores on a measure of emotional support were also associated with drug-dealing behavior. The distrustful nature of drug-dealing relationships would suggest that dealers' personal relationships are often superficial and lacking in emotional support. Low levels of emotional support may result in reduced treatment-seeking by female dealers. In general, those who seek drug treatment and achieve favorable outcomes report higher levels of support from family and friends.<sup>33-35</sup> Thus, interventions for women who engage in drug-dealing behavior should focus on building and strengthening sources of emotional support, particularly those that encourage entry into substance use treatment and exit from drug-dealing lifestyles.

These findings provide partial support for our hypothesis that women who deal methamphetamine have greater access to this drug, thus placing them at higher risk for more personal, social, and legal problems, including addiction, mental health challenges, and difficult family relationships. We identified relationships between drug-dealing behavior and heavier substance use, lower levels of emotional support, and specific types of personal and intimate relationships that support methamphetamine use. Contrary to expectation, dealing behavior was associated neither with greater risk for mental health problems nor with difficult family relationships. The lack of association may be explained by the high levels of psychological distress and family problems reported by methamphetamine-using women even in the absence of drug-dealing behavior.<sup>16,28,36,37</sup> In other words, being a methamphetamine dealer may not contribute much incrementally to levels of psychological and familial distress experienced by the female methamphetamine users in general.

This study's findings should be considered in light of its limitations. The generalizability of our findings is limited by the volunteer nature of the Fastlane-II project. It is possible that women who participated in the intervention were more concerned about their drug use and sexual risk behaviors compared to women in the general population of methamphetamine users. Moreover, specific eligibility criteria pertaining to sexual risk behaviors resulted in a large percentage of female methamphetamine users being excluded from the parent project for reporting monogamous sex or protected sex only, thereby further limiting the generalizability of our findings. Also, drug-dealing behavior was measured by a single question regarding the sale of drugs within the previous 2 months, and some women may have felt uncomfortable disclosing this information. The absence of detailed information on the contexts of drug sales makes it impossible for us to distinguish between supplying drugs to friends and family and dealing within wider markets. Future studies should provide participants with a definition of drug-dealing behavior and gather data on its frequency, the amounts and types of drugs sold, the locations of drug sales, the numbers and characteristics of buyers, the income generated, and the structural organization of drug activities. In addition, the use of a 2-month recall period for drug-dealing behavior may have resulted in an underestimation of the percentage of women who deal methamphetamine on a regular basis. Drug dealing is not always continuous; it is often interrupted by supply problems or concerns about law enforcement.<sup>13</sup> The self-report nature of these data could also have resulted in the underestimation of methamphetamine-dealing behavior. Despite

assurances of confidentiality, it is possible that some women were less than candid about their drug-dealing behaviors because they feared attention from law enforcement or they had been warned by their suppliers not to talk about their drug dealing. Lastly, the use of cross-sectional data does not permit us to address causality or examine reciprocal relationships in key variables.

In summary, these findings suggest that methamphetamine dealing by women who use the drug is not uncommon. These women are in urgent need of both social and psychological health services. This study supports the position that female drug dealers need access to substance use treatment programs and job opportunities that eliminate the need for income supplementation through drug dealing.<sup>15</sup> Our findings also highlight the need for additional services, including psychotherapeutic or psychoeducational therapies to enhance emotional support and self-worth, and family-based substance use prevention interventions for high-risk dependent children.

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