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## Recent Violence in a Community-Based Sample of Homeless and Unstably Housed Women With High Levels of Psychiatric Comorbidity

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### Abstract

**Objectives**—We determined associations between co-occurring psychiatric conditions and violence against homeless and unstably housed women.

**Methods**—Between 2008 and 2010, we interviewed homeless and unstably housed women recruited from community venues about violence, socioeconomic factors, and psychiatric conditions. We used multivariable logistic regression to determine independent correlates of violence.

**Results**—Among 291 women, 97% screened positive for 1 or more psychiatric conditions. Types of violence perpetrated by primary partners and persons who were not primary partners (non-primary partners) included emotional violence (24% vs 50%;  $P < .01$ ), physical violence

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**Contributors:** E. D. Riley conceptualized the study and led all writing efforts. J. Cohen contributed to the design of the study, supervised all field operations, and contributed to multiple article versions. K. R. Knight contributed to the design of the study, interpretation of findings, and multiple article versions. A. Decker and K. Marson conducted recruitment, interviews, and outreach activities for the study and contributed to multiple article versions. M. Shumway completed the analyses, led the interpretation of mental health findings, and contributed to multiple article versions.

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(11% vs 19%;  $P < .01$ ), and sexual violence (7% vs 22%;  $P < .01$ ). The odds of primary partner and non-primary partner violence increased with each additional psychiatric diagnosis and decreasing levels of social isolation.

**Conclusions**—All types of violence were more commonly perpetrated by non-primary partners, suggesting that an exclusive focus on domestic violence screening in health care or social service settings will miss most of the violence in this population. Contrary to some previous studies, the odds of violence decreased as social isolation increased, suggesting that social isolation may be protective in homeless and unstably housed communities with high levels of comorbidity and limited options.

Violence against women in the general US population is recognized as a major public health problem that is consistently associated with disability.<sup>1</sup> Violence against homeless women (i.e., women who sleep in a shelter or public place) and women who are unstably housed (i.e., those who are displaced or move often and women who sleep at homes of friends, family, associates, or strangers because they have no other shelter) is disproportionately common<sup>2,3</sup> yet addressed far less often.<sup>2</sup>

Homeless individuals face a myriad of profound life challenges, including the absence of a home, employment, economic security, health or well-being, and safety.<sup>4</sup> In addition, violence is often linked to symptoms of specific mental health conditions, including posttraumatic stress disorder (PTSD) and depression,<sup>5-7</sup> and some women initiate or increase drug use soon after intimate partner violence.<sup>8,9</sup> Although the overlap of trauma, mental illness, and substance dependence is common,<sup>10,11</sup> the ways in which these conditions influence and are influenced by violence against impoverished women is an understudied area.<sup>12</sup>

To gain a better understanding of violence and factors that predict it among impoverished women, it is important to acknowledge different types of violence. In a study of women living in homeless shelters and low-income housing, Wenzel et al.<sup>2</sup> reported distinct violence types (e.g., physical, sexual, and psychological) perpetrated not only by primary intimate partners but also by strangers, acquaintances, and family members. These investigators suggested that insufficient attention to different types of violence results in an artificially low overall prevalence of violence against impoverished and unstably housed women, thus conveying an incomplete assessment.<sup>2</sup> Furthermore, many studies conducted among impoverished individuals rely on clinic-based samples, which can systematically exclude individuals outside of formal health care settings.<sup>2</sup> In the current study, we sought to determine the influence of co-occurring mental health and substance use disorders on different types of violence perpetrated by primary intimate partners and persons who were not primary intimate partners (e.g., stranger, neighbor, acquaintance, ex-lover, or relative) in a sample of community-recruited homeless and unstably housed women.

## Methods

The analysis described here used cross-sectional baseline data collected between June 2008 and August 2010 for a cohort study on victimization and HIV risk behaviors among HIV-infected and non-HIV-infected homeless and unstably housed women living in San

Francisco, California. A mobile outreach team recruited women at free meal programs, homeless shelters, and a probability sample of low-cost single room occupancy hotels. This recruitment methodology was based on that developed by Burnam and Koegel,<sup>13</sup> which was designed to recruit representative samples of homeless individuals, and recognizes the realities of frequent transitions between literal homelessness and unstable housing.<sup>14,15</sup> It relies on public records to enumerate all venues and confirmation of service capacity with each venue, followed by weighting of each venue by the number of people served, and finally random selection with probability proportionate to the number of individuals served. HIV-infected women were oversampled to accomplish HIV-specific aims of the cohort study regarding violence and HIV risk behavior. Inclusion criteria were female sex (biological), age 18 years or older, and a history of housing instability (slept in public or a homeless shelter or stayed with other people because there was no other place to sleep [“couch-surfed”]). Reimbursement of \$15 was given for each study interview.

We pilot tested all questionnaires and study procedures to ensure appropriateness for the target population. Outcome measures were based on the Severity of Violence Against Women Scales<sup>16</sup> and indicated the presence of 3 violence types: (1) emotional (experienced threats, harassment, cruelty, aggression, harm to another person, or loss of property from malicious intent), (2) physical (being hit, slapped, kicked, bitten, choked, shot, stabbed, or struck with an object), and (3) sexual (forced to have sex of any kind). Violence perpetrated by someone the respondent loved most, felt closest to, or had a special emotional attachment to (primary partner) was considered separately from violence perpetrated by someone who was not a primary partner (a stranger, neighbor, acquaintance, ex-lover, or relative [non-primary partner]). Exposure variables included behavioral, social, and structural determinants of health. These variables were chosen on the basis of findings from previous violence studies, with an emphasis on factors that are more common among impoverished women than among women from the general population, including the following: unmet subsistence needs (insufficient access to food, clothing, a restroom, a place to wash, or a place to sleep)<sup>17</sup>; instrumental social support (someone who would give the respondent money or a place to sleep)<sup>18</sup>; social isolation, as measured by the Hawthorne Friendship Scale (a 6-item multidimensional scale designed to measure a quantitative spectrum between social isolation and social connection, where 0–11= very socially isolated, 12–15 = isolated or low social support, 16–18 = some social support, 19–21= socially connected, and 22–24 = very socially connected<sup>19</sup>); any use of crack cocaine; at-risk alcohol use (>1 drink/day for women<sup>20</sup>); and total number of current psychiatric diagnoses, as assessed by the computerized Diagnostic Interview Schedule for *DSM-IV*, which uses *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* criteria.<sup>21,22</sup> We assessed 39 psychiatric diagnoses, including anxiety disorders (panic attack, specific phobia, social phobia, agoraphobia, generalized anxiety disorder, PTSD), mood disorders (major depressive episode, dysthymia, hypomanic episode, manic episode), psychotic disorders (schizophrenia, schizophreniform disorder), substance-related disorders (withdrawal, abuse, and dependence associated with alcohol, amphetamines, cocaine, opiates, and sedatives; abuse and dependence associated with hallucinogens, inhalants, marijuana, and phencyclidine; and dependence on other drugs), as well as somatization disorder, pain

disorder, and dementia. HIV status was not a focus of the current analysis, but because recruitment was based on HIV status, it was included.

The McNemar test was used to compare the frequency of primary partner and non– primary partner violence. We used logistic regression to examine relations between participant characteristics and violence. Inferences were based on simultaneous adjustment for independent variables using multiple logistic regression. On the basis of recommendations by Hosmer and Lemeshow,<sup>23</sup> we used a backward stepwise approach in which bivariate predictors with a *P* value of .25 or less were included in the initial multivariable model, and variables were eliminated in order of their *P* values until all remaining parameter estimates had *P* values less than .1. We examined multicollinearity among explanatory variables and considered effect modification. We examined primary partner violence in 2 ways. First, to obtain a population perspective that may offer insight for violence screening among all homeless women, the entire population was included. Second, we restricted primary partner analyses to participants who reported having a primary partner and thus who would have had opportunities to experience the outcome.

## Results

More than 90% of the eligible persons agreed to participate in the study, resulting in a sample of 300 participants. Of those, 291 participants had complete data for the current analyses. Nine participants were excluded because they did not complete the Diagnostic Interview Schedule for *DSM-IV*. These 9 participants, with a mean age of 40 years (*SD* = 10 years), were younger than other participants, whose mean age was 47 years (*SD* = 9 years;  $t_{298} = -2.46$ ;  $P = .01$ ). Participants with and without diagnostic data did not differ significantly in terms of other sociodemographic characteristics, diagnoses, or experience of any violence type.

### Population Characteristics

As shown in Table 1, 65% of the participants had graduated from high school; 44% were African American, 30% were White, 5% were Latina, 3% were Asian/Pacific Islander, and 18% self-reported their race/ethnicity as “other.” Median monthly income was \$954, compared with the 2009 California Franchise Tax Board median monthly income estimated for San Francisco County, which was \$3540. More than one third of the participants reported sleeping on the street or in a public place in the past 6 months, and 48% reported unmet subsistence needs. Only 6% of the participants were legally married, 55% reported having a primary partner, and 72% reported sexual activity in the past 6 months. On a scale from 0 to 24, the mean Hawthorne Friendship Scale score was 10.21 (*SD* = 4.76), indicating a “very high” level of social isolation.<sup>19</sup>

As shown in Table 1, 97% of the participants met criteria for at least 1 psychiatric condition (mental health disorder or substance-related disorder), 90% met criteria for at least 1 mental health disorder, and 85% met criteria for at least 1 substance-related disorder. The mean number of diagnoses per participant was 7.88 (*SD* = 4.44; range = 0–20) of a possible total of 39 diagnoses. Major depressive episode (66%) was the most common single mental health diagnosis, and anxiety disorder was the most common diagnostic category (74%). Of

the participants, 63% met criteria for an alcohol-related disorder, and 77% met criteria for a drug-related disorder, with cocaine-related disorders being the most common (65%). Most study participants experienced comorbidity, with 66% meeting criteria for both mood and anxiety disorders and 78% meeting criteria for both mental health and substance-related disorders.

### Correlates of Violence

As detailed in Table 2, 60% of the participants experienced some type of violence during the 6 months preceding the interview. Violence was disproportionately perpetrated by non-primary partners. On a population level, 24% of the participants experienced emotional violence perpetrated by a primary partner, whereas 50% experienced emotional violence perpetrated by a non-primary partner ( $P < .001$ ). Eleven percent experienced physical violence perpetrated by a primary partner, whereas 19% experienced physical violence perpetrated by a non-primary partner ( $P = .006$ ). Of the participants, 7% experienced primary partner sexual violence, whereas 22% experienced non-primary partner sexual violence ( $P < .001$ ). When we restricted the sample to participants who reported that they had a primary partner, 45% reported primary partner emotional violence, 21% reported primary partner physical violence, and 13% reported primary partner sexual violence. Almost all women who reported physical violence (75 of 79; 95%) or sexual violence (72 of 78; 92%) also reported emotional violence. However, many women who reported emotional violence (63 of 166; 38%) did not report either physical or sexual violence.

In adjusted analyses examining the relations between participant characteristics and non-primary partner violence (Table 3), a greater number of psychiatric diagnoses increased the odds of experiencing non-primary partner emotional (adjusted odds ratio [AOR] = 1.10; 95% confidence interval [CI] = 1.04, 1.18), physical (AOR = 1.11; 95% CI = 1.03, 1.19), and sexual violence (AOR = 1.10; 95% CI = 1.18). A higher level of social connection increased the odds of non-primary partner emotional violence (AOR = 1.06; 95% CI = 1.00, 1.12) and sexual violence (AOR = 1.09; 95% CI = 1.02, 1.17). White race increased the odds of non-primary partner emotional violence (AOR = 1.63; 95% CI = 0.95, 2.81) and physical violence (AOR = 1.98; 95% CI = 3.77). Having unmet subsistence needs increased the odds of non-primary partner physical violence (AOR = 2.30; 95% CI = 1.19, 4.44). Being HIV positive decreased the odds of non-primary partner emotional violence (AOR = 0.49; 95% CI = 0.30, 0.82).

Considering the entire population, few characteristics were significantly associated with primary partner violence. As shown in Table 4, a greater number of psychiatric diagnoses increased the odds of primary partner emotional violence (AOR = 1.07; 95% CI = 1.00, 1.14), and a higher level of social connection increased the odds of primary partner physical violence (AOR = 1.09; 95% CI = 1.00, 1.18). When we restricted the population to women who reported having a primary partner (Table 4), higher levels of social connection increased the odds of emotional violence (AOR = 1.15; 95% CI = 1.07, 1.24), physical violence (AOR = 1.14; 95% CI = 1.04, 1.24), and sexual violence (AOR = 1.13; 95% CI = 1.02, 1.25) perpetrated by a primary partner. In addition, White race (AOR = 2.43; 95% CI =

1.16, 5.12) increased the odds of primary partner emotional violence, and older age increased the odds of primary partner sexual violence (AOR = 1.11; 95% CI = 1.03, 1.19).

## Discussion

Recent violence against homeless and unstably housed women is common and likely underestimated in studies that do not account for emotional violence or violence committed by persons other than primary partners. Although the importance of screening for domestic and intimate partner violence in health care settings is well established and recognized in recent recommendations from the Institute of Medicine,<sup>24</sup> data presented here suggest that an exclusive focus on domestic or primary partner violence screening may miss most violence against impoverished women. Screening, case management, surveillance, and safety plans should encompass all forms of violence, particularly in impoverished populations where levels of competing and unmet needs are disproportionately high.

Depression and PTSD are known to be associated with traumatic exposures<sup>25</sup> and substance use disorders,<sup>26,27</sup> but this was one of the first studies to directly measure and simultaneously analyze a broad range of psychiatric diagnoses, including depression, PTSD, manic episodes, schizophrenia, and substance use disorders. Results indicate that almost all participants (97%) screened positive for at least 1 psychiatric condition, and each additional psychiatric diagnosis significantly increased the odds of violence from non-primary partners, as well as from primary partners in analyses that considered the entire sample. Recent commentaries have underscored the challenges presented by psychiatric comorbidity in this population. For example, the co-occurrence of psychiatric conditions in homeless women is often partly a result of shared exposures that lead to more than 1 condition for the same individual, and each condition has the potential to influence the other.<sup>12</sup> Such interactions can result in misattributing influences of multiple conditions to a single factor when only 1 psychiatric condition is measured.<sup>28</sup> Research that further explores co-occurring psychiatric conditions is needed to identify opportunities for screening, prevention, and early intervention and to help ensure effective evidence-based treatments.<sup>12</sup> Results presented here suggest that independent correlates of violence against homeless and unstably housed women are not limited to 1 or 2 psychiatric conditions; rather, the odds of violence increase with each additional psychiatric condition. Thus, comprehensive psychiatric evaluation and treatment are essential for reducing violence in this population. Only 51% of the participants in the current study reported taking medication for psychiatric conditions; linkage to and consistency in receiving psychiatric care were not assessed because they were beyond the scope of the study.

The odds of violence in this population increased as social isolation decreased, and the association between social isolation and primary partner violence was even stronger when models were restricted to participants who reported having a primary partner. Considered in conjunction with the psychiatric comorbidity results described earlier, these findings appear to be inconsistent with previous research showing that social isolation increases morbidity and mortality,<sup>29–31</sup> as well as intimate partner violence.<sup>32,33</sup> However, these findings are consistent with previous qualitative studies from exclusively impoverished populations. In a recent qualitative study among a subsample of the study participants reported here, we found

that unstably housed women use social and physical isolation as protective strategies to manage negative mental health symptoms (e.g., hypervigilance, fear, and anxiety) within chaotic housing environments where threats of violence are commonplace.<sup>34</sup> Nelson-Zlupko et al.<sup>35</sup> also have reported that social isolation occurring in environments with high levels of poverty and drug trafficking may be protective for drug-using women. James et al.<sup>36</sup> suggested that social isolation is related to negative conditions through multiple mechanisms (e.g., coercive isolation in the case of domestic violence and self-imposed isolation in the case of cocaine use), which makes interpretation of findings among impoverished women challenging. Throughout the qualitative literature, violence is normative in the physical environments where many unstably housed women live.<sup>37</sup> This “everyday violence”<sup>32</sup> could be contributing to a reconfiguration of social isolation as a protective, or partially protective, strategy for women in this setting. Although the current analyses account for drug use, the mechanisms for social isolation protecting against violence among unstably housed women are complex and warrant further study.

Several additional findings from the current study are inconsistent with previous research conducted in the general population. First, White race was associated with both primary partner and non-primary partner violence, which is contrary to health and safety findings from the general population.<sup>38</sup> It is, however, consistent with results from Nyamathi et al.,<sup>3</sup> who reported that homeless women living on the streets of Los Angeles, California, were more likely than sheltered women to be White and longer-term homeless. Together, these studies suggest that race operates differently in impoverished populations compared with the general population and affects risk for victimization among unstably housed women. Second, younger age has been linked to violence in the general population,<sup>39–41</sup> but findings shown here suggest that older age increases the odds of violence against homeless and unstably housed women. Third, poverty is an established risk factor for violence against women<sup>2</sup>; however, income was not a significant correlate of violence in this study, whereas unmet subsistence needs were. These findings suggest that when the population is restricted to extremely impoverished women, basic needs and nonfinancial resources may be more relevant to understanding violence than is monetary income. Fourth, although violence is disproportionately common among HIV-infected women compared with women from the general population,<sup>42,43</sup> odds of emotional violence were lower among HIV-infected compared with non-HIV-infected unstably housed study participants. This finding highlights the role of poverty in modifying the effects of HIV-related factors on violence. It suggests that when study participants are restricted to extremely impoverished individuals with unmet needs, HIV infection may protect against emotional violence, possibly through effective case management, counseling, or housing linked to HIV care.

### Study Limitations

Results of this study should be considered in light of potential limitations. First, the analysis reported here was cross-sectional, and causation cannot be inferred. However, the purpose of the study was not to understand which factors cause other factors but rather to gain a better understanding of factors that are associated, a goal that has the potential to inform and improve health care delivery. For our purpose, it does not matter whether drug use leads to violence, violence leads to drug use, or whether a more likely bidirectional association exists



that has been found in previous research.<sup>44</sup> The fact that each additional psychiatric diagnosis (including substance-related disorders and mental health conditions) increased the odds of violence suggests that providers should not focus solely on depression or PTSD but rather that comprehensive assessment and treatment are important. Second, study participants may have underreported behaviors such as drug use because of recall bias or social desirability, a possibility that exists in all vulnerable populations and the general population. Also, women may have underreported primary partner violence because of shame, self-blame, or denial. The underreporting of male-perpetrated violence traditionally has been disproportionately high among married women compared with partnered but unmarried women.<sup>45</sup> However, underreporting would have biased results toward the null, indicating that effect sizes were at least as extreme as those reported. Third, the data used in this study oversampled HIV-infected women and came from a single city, which may compromise generalizability to other metropolitan areas. Results regarding the prevalence of violence and associated factors are, however, consistent with a nationally representative sample of Australian women,<sup>1</sup> as well as impoverished and unstably housed women living in Los Angeles,<sup>2</sup> suggesting applicability of results among impoverished women living in well-resourced environments. Fourth, the total number of psychiatric diagnoses was surprisingly high. Overreporting is always a possibility, but no services or incentives were offered within the study for meeting any particular diagnostic criteria. To the contrary, denying symptoms would have been socially desirable and also would have shortened the interview by eliminating follow-up questions, which makes overreporting unlikely. Regarding data quality, the standardized interview used in the study, the Diagnostic Interview Schedule, has been widely used and well validated.<sup>46,47</sup> However, the Diagnostic Interview Schedule and other standardized diagnostic interviews have been criticized for overdetecting related disorders, such as multiple phobias,<sup>48</sup> which may not be identified by practicing clinicians but likely contribute to the high number of diagnoses identified here. The clinical significance of these disorders may be limited in some situations, but our data indicate that each additional condition significantly increased the odds of victimization among homeless and unstably housed women. This finding would be unlikely if the diagnoses were spurious.

### Study Strengths

A major strength of this study was the community-based sample of women transitioning in and out of homelessness, a population that is known to contend with high rates of violence and mental illness. Additional strengths include distinguishing different types and perpetrators of violence, the inclusion of emotional violence, and the direct assessment of multiple mental health conditions.

### Conclusions

The high level of violence in this population exceeds reports from many previous studies because of its inclusion of emotional violence, perpetrators who were not primary or domestic partners, and a sensitive screening instrument. Comprehensive screening for violence against impoverished women in health care settings is needed, and these data suggest that this is especially true for mental health and drug treatment providers caring for impoverished women with high levels of psychiatric comorbidity. Referrals for care,

counseling, and safety plans should prioritize basic subsistence needs (housing, food, clothing, and hygiene needs), psychiatric assessment, and care. Finally, providers must understand that rather than a negative predictor of health and safety, social isolation may be an effective means for some impoverished women to extricate themselves from a potentially dangerous environment in the absence of other options.

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**Table 1**  
**Social, Structural (Past 6 Months), and Psychiatric Characteristics of Homeless and Unstably Housed Women (n = 291) Living in San Francisco, CA: 2008–2010**

Social and Structural Characteristics	Mean $\pm$ SD or No. (%)
Age, y	47 $\pm$ 8.56
Graduated high school	190 (65)
Race/ethnicity	
African American	127 (44)
White	88 (30)
Latina	15 (5)
Asian/Pacific Islander	10 (3)
Other	51 (18)
Employed	52 (18)
Monthly income, \$, median	954
Slept on the street or in a public place	111 (38)
Unmet subsistence needs <sup>a</sup>	141 (48)
Any instrumental support <sup>b</sup>	231 (79)
Crack cocaine use	132 (45)
At-risk drinking (> 1 drink/d)	65 (22)
Legally married	18 (6)
Primary partner	161 (55)
Sexually active	209 (72)
Social connection <sup>c</sup>	10.21 $\pm$ 4.76
HIV positive	146 (50)
Psychiatric diagnoses	
Any psychiatric diagnosis (mental health or substance-related disorder)	283 (97)
Any mental health diagnosis	263 (90)
Anxiety disorder	216 (74)
Mood disorder	204 (70)
Psychotic disorder	61 (21)
Any substance-related disorder	246 (85)
Alcohol-related disorder	194 (67)
Drug-related disorder	224 (77)
Co-occurring mental health and substance-related disorder diagnoses	226 (78)
No. of psychiatric diagnoses (out of 39)	7.88 $\pm$ 4.44

<sup>a</sup>Insufficient access to bathroom, place to wash, clothing, food, or shelter.

<sup>b</sup>Someone who would loan money or provide a place to stay.

<sup>c</sup>Hawthorne Friendship Scale, range = 0–24, higher scores = greater social connectedness (0–11 = very socially isolated).

**Table 2**  
**Violence Types and Perpetrators (Past 6 Months) Reported by Homeless and Unstably**  
**Housed Women (n = 291) Living in San Francisco, CA: 2008–2010**

Type of Violence	Type of Perpetrator			McNemar Test $\chi^2$
	Any, No. (%)	Primary Partner, No. (%)	Not a Primary Partner, No. (%)	
Any	175 (60)	73 (25)	157 (54)	102.00***
Emotional	166 (57)	70 (24)	146 (50)	49.79***
Physical	79 (27)	33 (11)	56 (19)	7.67**
Sexual	78 (27)	21 (7)	65 (22)	27.66***

\*  $P < .05$ ;

\*\*  $P < .01$ ;

\*\*\*  $P < .001$ .

**Table 3**  
**Correlates of Violence (Past 6 Months) Perpetrated by Someone Who Was Not a Primary Partner Among Homeless and Unstably Housed Women (n = 291) Living in San Francisco, CA: 2008–2010**

Characteristic	Emotional Violence			Physical Violence			Sexual Violence		
	Unadjusted OR (95% CI)	AOR (95% CI)	Unadjusted OR (95% CI)	Unadjusted OR (95% CI)	AOR (95% CI)	Unadjusted OR (95% CI)	Unadjusted OR (95% CI)	AOR (95% CI)	
Age	1.01 (0.98, 1.04)		0.99 (0.95, 1.02)			1.00 (0.97, 1.03)			
White	1.68 (1.01, 2.78)	1.63 (0.95, 2.81)	2.20 (1.21, 4.02)		1.98* (1.04, 3.77)	1.48 (0.83, 2.65)			
> median income	1.49 (0.94, 2.37)		1.75 (0.97, 3.15)			1.26 (0.73, 2.20)			
Unmet subsistence needs <sup>a</sup>	1.67 (1.05, 2.65)		2.99 (1.60, 5.59)		2.30** (1.19, 4.44)	2.15 (1.22, 3.80)		1.69 (0.93, 3.09)	
Has instrumental support <sup>b</sup>	0.78 (0.44, 1.39)		0.94 (0.46, 1.92)			0.83 (0.43, 1.61)			
Social connection <sup>c</sup>	1.10 (1.05, 1.16)	1.06* (1.00, 1.12)	1.09 (1.03, 1.17)			1.13 (1.06, 1.21)		1.09* (1.02, 1.17)	
Cocaine use	2.05 (1.28, 3.27)	1.59 (0.95, 2.64)	2.16 (1.19, 3.92)		1.81 (0.95, 3.47)	2.33 (1.32, 4.10)		1.73 (0.95, 3.17)	
At-risk drinking	1.42 (0.81, 2.47)		1.70 (0.89, 3.26)			1.62 (0.87, 3.02)			
HIV positive	0.54 (0.34, 0.85)	0.49** (0.30, 0.82)	0.53 (0.28, 0.96)		0.53 (0.28, 1.02)	0.64 (0.37, 1.12)			
No. of DSM-IV diagnoses <sup>d</sup>	1.13 (1.07, 1.20)	1.10*** (1.04, 1.18)	1.13 (1.06, 1.21)		1.11* (1.03, 1.19)	1.15 (1.08, 1.23)		1.10*** (1.03, 1.18)	

Note. AOR = adjusted odds ratio; CI = confidence interval; DSM-IV = *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.<sup>22</sup>

<sup>a</sup> Insufficient access to bathroom, place to wash, clothing, food, or shelter.

<sup>b</sup> Someone who would loan money or provide a place to stay.

<sup>c</sup> Hawthorne Friendship Scale, range = 0–24, higher scores = greater social connectedness.

<sup>d</sup> Psychiatric diagnoses assessed (39 possible) were somatization disorder; pain disorder; panic attack; specific phobia; social phobia; agoraphobia; generalized anxiety disorder; posttraumatic stress disorder; major depressive episode; dysthymia; hypomanic episode; manic episode; schizophrenia; schizophreniform disorder; dementia; withdrawal, abuse, and dependence associated with alcohol, amphetamines, cocaine, opiates, and sedatives; abuse and dependence associated with hallucinogens, inhalants, marijuana, and phencyclidine; and dependence on other drugs.

\*  $P < .05$ ;

\*\*  $P < .01$ ;

\*\*\*  $P < .001$ .

**Table 4**  
**Correlates of Violence (Past 6 Months) Perpetrated by a Primary Partner Among Homeless and Unstably Housed Women Living in San Francisco, CA: 2008–2010**

Characteristic	Emotional Violence		Physical Violence		Sexual Violence	
	Unadjusted OR (95% CI)	AOR (95% CI)	Unadjusted OR (95% CI)	AOR (95% CI)	Unadjusted OR (95% CI)	AOR (95% CI)
Total sample (n = 291)						
Age	0.98 (0.95, 1.01)		0.98 (0.94, 1.02)		1.04 (0.98, 1.10)	
White	1.65 (0.94, 2.90)		1.59 (0.75, 3.35)		1.81 (0.74, 4.47)	
> median income	1.21 (0.71, 2.08)		1.03 (0.50, 2.13)		0.81 (0.33, 1.98)	
Unmet subsistence needs <sup>a</sup>	1.26 (0.74, 2.16)		2.34 (1.09, 5.02)	2.04 (0.93, 4.44)	2.25 (0.88, 5.76)	2.25 (0.88, 5.76)
Instrumental support <sup>b</sup>	1.53 (0.75, 3.13)	1.90 (0.90, 4.04)	0.96 (0.40, 2.33)		1.11 (0.36, 3.44)	
Social connection <sup>c</sup>	1.07 (1.01, 1.13)	1.07 (1.00, 1.14)	1.10 (1.02, 1.09)	1.09* (1.00, 1.18)	1.08 (0.98, 1.18)	
Cocaine use	1.87 (1.09, 3.22)		0.87 (0.42, 1.82)		1.36 (0.56, 3.30)	
At-risk drinking	1.73 (0.94, 3.17)		1.13 (0.48, 2.64)		0.81 (0.26, 2.49)	
HIV positive	0.99 (0.58, 1.70)		0.53 (0.25, 1.12)		0.47 (0.18, 1.20)	
No. of DSM-IV diagnoses <sup>d</sup>	1.09 (1.02, 1.15)	1.07* (1.00, 1.14)	1.08 (1.00, 1.17)		1.08 (0.98, 1.19)	
Sample restricted to women who reported having a primary partner (n = 161)						
Age	1.03 (0.99, 1.07)	1.04 (0.99, 1.08)	1.01 (0.97, 1.06)		1.09 (1.02, 1.16)	1.11** (1.03, 1.19)
White	2.23 (1.12, 4.45)	2.43* (1.16, 5.12)	1.80 (0.81, 4.00)	1.12 (1.03, 1.16)	2.01 (0.79, 5.16)	
> median income	1.13 (0.61, 2.11)		0.94 (0.44, 2.02)		0.73 (0.29, 1.84)	
Unmet subsistence needs <sup>a</sup>	1.15 (0.61, 2.14)		2.27 (1.02, 5.06)		2.12 (0.81, 5.56)	
Instrumental support <sup>b</sup>	0.89 (0.37, 2.14)		0.57 (0.21, 1.51)		0.71 (0.22, 2.32)	
Social connection <sup>c</sup>	1.14 (1.06, 1.23)	1.15*** (1.07, 1.24)	1.14 (1.05, 1.24)	1.14** (1.04, 1.24)	1.11 (1.00, 1.22)	1.13* (1.02, 1.25)
Cocaine use	1.56 (0.83, 2.91)		0.65 (0.30, 1.41)		1.07 (0.43, 2.68)	
At-risk drinking	1.27 (0.63, 2.54)		0.82 (0.34, 1.98)		0.59 (0.19, 1.86)	
HIV positive	1.07 (0.57, 1.99)		0.52 (0.24, 1.15)		0.47 (0.18, 1.24)	
No. of DSM-IV diagnoses <sup>d</sup>	1.11 (1.03, 1.20)		1.09 (1.00, 1.18)		1.08 (0.98, 1.19)	

Note. AOR = adjusted odds ratio; CI = confidence interval; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition<sup>22</sup>; OR = odds ratio.



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<sup>d</sup> Insufficient access to bathroom, place to wash, clothing, food, or shelter.

<sup>e</sup> Someone who would loan money or provide a place to stay.

<sup>f</sup> Hawthorne Friendship Scale, range = 0–24, higher scores = greater social connectedness.

<sup>g</sup> Psychiatric diagnoses assessed (39 possible) were somatization disorder; pain disorder; panic attack; specific phobia; social phobia; agoraphobia; generalized anxiety disorder; posttraumatic stress disorder; major depressive episode; dysthymia; hypomanic episode; manic episode; schizophrenia; schizophreniform disorder; dementia; withdrawal, abuse, and dependence associated with alcohol, amphetamines, cocaine, opiates, and sedatives; abuse and dependence associated with hallucinogens, inhalants, marijuana, and phencyclidine; and dependence on other drugs.

\*  $P < .05$ ;

\*\*  $P < .01$ ;

\*\*\*  $P < .001$ .