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## Correlates of Smoking Status among Women Experiencing Intimate Partner Violence: Substance Use, Posttraumatic Stress, and Coping

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### Abstract

**Background and Objectives**—Smoking prevalence among women who experience intimate partner violence (IPV) is two to three times higher than the prevalence among women nationally. Yet, research on cigarette smoking among this population of women is scarce.

**Methods**—This study examined differences between daily smokers and non-smokers among a sample of 186 IPV-victimized women. Comparing these groups may identify key factors that could inform future research, and ultimately, smoking cessation interventions to improve women's health.

**Results**—Results showed that smokers and non-smokers differed in terms of alcohol and drug use problem severity, posttraumatic stress symptom severity, psychological and physical IPV victimization severity, and severity of use of psychological and physical IPV. Smokers fared worse on all domains where differences emerged. Findings of a logistic regression demonstrated that alcohol problem severity was related to daily smoking status; posthoc analysis revealed that the effect of alcohol problem severity was moderated by the level of PTSD avoidance symptom severity.

**Discussion and Conclusions**—Findings suggest a sub-population of women experiencing IPV who smoke and incur additional risk for psychiatric symptom severity and maladaptive behaviors. This study suggests the need to examine factors such as IPV and its negative sequelae to inform smoking cessation research for women.

**Scientific Significance**—This study contributes to the scarce literature examining the intersections of PTSD, alcohol and drug use, and smoking. Examining these factors in the context

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#### Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

of IPV, which is a highly prevalent problem, is critical to informing future treatment development investigations.

### Keywords

Smoking; partner violence; PTSD; substance use; comorbidity

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### Introduction

Experiencing intimate partner violence (IPV) increases women's risk for cigarette smoking across countries.<sup>1-4</sup> Smoking prevalence among IPV-victimized women is as high as 70%,<sup>5-7</sup> which is approximately three times greater than among women nationally. This prevalence is equal to or greater than populations known to be at highest risk for smoking such as individuals with psychiatric disorders.<sup>8</sup> The high prevalence of smoking among IPV-victimized women is a critical health concern because approximately one-third of U.S. women have experienced IPV during their lifetime.<sup>9</sup> Thus, IPV victimized women, who are already known to incur heightened risk for alcohol and drug use disorders,<sup>10</sup> are at elevated risk for engaging in another addictive behavior – smoking – with dramatic adverse health consequences. Given that smoking is the leading preventable cause of mortality and morbidity in the U.S.,<sup>11</sup> and that barriers to cessation are gender-specific,<sup>12</sup> the occurrence of smoking among IPV-victimized women warrants further study.<sup>13</sup> The examination of cigarette smoking among this population may identify key factors that maintain this addictive behavior, thereby informing future research and smoking cessation interventions.

Few studies have progressed beyond simply documenting smoking prevalence to examining its potential relations with types of IPV and IPV's co-occurring problems.<sup>4-6,13,14</sup> Weaver and Etzel conducted one of the first such studies, which focused on severely abused, service-utilizing victims. Findings showed that smokers and non-smokers did not differ on severity of physical, psychological, and sexual IPV or symptoms of PTSD and depression. However, bivariate analyses revealed that severity of nicotine dependence was associated with more recent experiences of IPV, more severe psychological and sexual IPV, and more severe PTSD and depression symptoms. Among women attending a court-mandated batterer intervention program, Stuart and colleagues found that smokers reported greater use of IPV and IPV victimization, anger, and impulsivity than non-smokers.<sup>15</sup> Finally, among IPV-victimized women in the community, Ashare and colleagues<sup>16</sup> found that Stimulation/State Enhancement smoking expectancies were positively associated with cigarette smoking, and PTSD hyperarousal symptoms were negatively associated with cigarette smoking. In this study, neither smoking expectancies nor PTSD symptoms were associated with nicotine dependence. Though these findings aren't conclusive, in part because investigations focused on different populations of IPV victims and studied various smoking factors, they collectively suggest that the well-established relations between IPV, IPV-related problems, and mental health among women may also be linked with smoking.

Factors that account for the association between IPV victimization and smoking have not been identified. Key factors that underlie the association between IPV victimization and other addictive behaviors, such as alcohol and drug use,<sup>17</sup> include mental health problems,

such as PTSD and depression; severity of physical, psychological, and sexual IPV victimization and use of IPV; and maladaptive coping behavior.<sup>18–20</sup> These factors are consistent with self-medication<sup>21</sup> and affection regulation models<sup>22</sup> of substance use, which also may be applied to understand smoking. As applied to IPV victims, these models posit that some women smoke cigarettes in an attempt to cope with the distress they experience due to their IPV victimization and its negative sequelae. Therefore, the current exploratory study seeks to identify factors that a) differentiate daily smokers from non-smokers and b) are associated with cigarette smoking among IPV-victimized women. A comparison of daily smoker and non-smoker IPV-victimized women can inform future research and, ultimately, the development of smoking cessation interventions in this population of women.

## Materials and methods

### Sample population

Participants were recruited from an urban community in New England between August 2004 and March 2006. The recruitment flyers, which advertised the “Women’s Relationship Study,” included tear-off sheets with the study phone number. Women who were interested called the study team to determine eligibility. Respondents were informed of the study purpose, nature of questions asked during screening, and were asked permission to continue with the screening. Eligible women were invited to participate in a two-hour semi-structured interview. Interviews were administered face-to-face by master’s or doctoral level female research associates using computer-assisted technology; all interviewers underwent over 20 hours of structured training to minimize participant risk and to ensure standardization of data collection. The main inclusion criterion was that a woman must have experienced at least one act of physical IPV victimization as measured by items from the CTS-2<sup>23</sup> (e.g. pushing, kicking, twisting arm, pulling hair) in the past six months by her current male partner. Other inclusion criteria were (a) current involvement in an intimate relationship of at least six months duration, (b) in-person contact with partner at least twice a week, (c) without more than two full weeks apart, (d) age of 18 or older, and (e) an annual household income no greater than \$50,000 – determined a priori to methodologically control for differential utilization of resources associated with greater income. IRB approval was obtained from the host institution. Informed consent was obtained from all participants. Eligible women participated in a two-hour, semi-structured interview about problems in their current relationships. Individual interviews were administered face-to-face by female master’s- or doctoral- level research staff using computer assisted interviewing.<sup>24</sup> Women were remunerated \$50 for their participation. The initial sample consisted of 240 women. Data from 28 participants were not included because though these women meet inclusion criteria at the time of the screening, they did not meet inclusion criteria at the time of the study interview; The final sample included 212 women.<sup>24</sup> As is described in greater detail in the Data Analysis section, the current sample was limited to the 186 women who reported either smoking daily (i.e., 30 days per month during the previous six months) or not smoking at all during the prior six months.

## Measures

The Addiction Severity Index (ASI)<sup>25</sup> was modified for the present study to include an assessment of cigarette smoking. Previous studies have made similar modifications.<sup>26,27</sup> Participants reported the number of days in the last six months that they smoked one or more cigarettes.

Women's psychological, physical, and sexual IPV victimization and use of IPV during the past six months in their current intimate relationships were measured by the 78-item Conflict Tactics Scale – 2 (CTS-2).<sup>28</sup> Response options that comprised a range of values were recoded<sup>28</sup> [3 – 5 *times* (recoded to 4); 6 – 10 *times* (recoded to 8); 10 – 20 *times* (recoded to 15); and *more than 20 times in the past six months* (recoded to 25)]. Total severity scores for psychological IPV victimization (Cronbach's  $\alpha=.79$ ) and use of IPV (Cronbach's  $\alpha=.79$ ), physical IPV victimization (Cronbach's  $\alpha=.88$ ) and use of IPV (Cronbach's  $\alpha=.85$ ), and sexual IPV victimization (Cronbach's  $\alpha=.81$ ) and use of IPV (Cronbach's  $\alpha=.57$ ) subscales were calculated by summing responses.

Posttraumatic stress disorder (PTSD) symptom severity was assessed with the Posttraumatic Stress Diagnostic Scale (PDS).<sup>29</sup> To the extent possible, PTSD symptom severity was assessed in relation to the participant's IPV victimization in her current relationship using a referent time period of six months. Responses range from 0–3 where 0 = *not at all, or only one time*, 1 = *once a week or less, or once in a while*, 2 = *2 to 4 times a week, or half the time*, and 3 = *5 or more times a week, or almost always*. A total PTSD symptom severity score was calculated by summing the 17 symptoms (Cronbach's  $\alpha=.92$ ). Symptom severity scores were created for four symptom clusters (i.e., re-experiencing, avoidance, numbing, hyperarousal)<sup>30</sup> and were calculated by summing their respective responses. Cronbach's  $\alpha=.87$  for the five re-experiencing symptoms,  $\alpha=.80$  for the five numbing symptoms, and  $\alpha=.80$  for the five hyperarousal symptoms. The inter-item correlation for the two avoidance symptoms was .47. Severity scores for total PTSD symptom severity and each of the four symptom cluster scores were used in these analyses. In this sample, 92 women (49.5%) reported IPV victimization as a criterion A stressor. Sixty four women (34.4% of the total sample) met DSM-IV diagnostic screening criteria for PTSD.

Drug use problems during the previous six months were assessed with the 10-item version of the Drug Abuse Screening Test (DAST).<sup>31</sup> Each affirmatively endorsed item 0 (*no*) / 1 (*yes*) was summed to produce a total drug problems score (Cronbach's  $\alpha=.86$ ). Total DAST scores were employed in the current analyses and ranged from 0–10. Thirty-three (17.7%) women reported total DAST scores  $\geq 3$ , which reflect problematic use akin to a DSM-IV diagnosis of drug abuse.

Alcohol use problems during the previous six months were assessed with the 10-item Alcohol Use Disorders Identification Test (AUDIT).<sup>32</sup> Each item is scored from 0–4 (0 = *never*, 1 = *less than monthly*, 2 = *monthly*, 3 = *weekly*, and 4 = *daily or almost daily*), then summed to obtain a total score. Total scores range from 0–40 with higher scores indicative of greater alcohol problem severity.<sup>32</sup> Total AUDIT scores were used in these analyses (Cronbach's  $\alpha=.88$ ) and ranged from 0–33. Forty-one (22.0%) women reported total AUDIT

scores  $\geq 6$ , which are indicative of clinically significant alcohol use problems for community women.<sup>33</sup>

Depression symptoms were assessed for the previous six months using the 20-item Center for Epidemiological Studies-Depression scale (CES-D).<sup>34</sup> Each item is scored from 0 (*experienced symptoms 0 days in the last week*) to 3 (*experienced symptoms 5–7 days in the last week*), then summed to create the total symptom severity score. Total CES-D scores were used in the analyses (Cronbach's  $\alpha = .84$ ) and ranged from 2–58. One hundred forty (75.3%) women reported total scores  $\geq 16$ , which is indicative of clinically significant depression severity.

Coping strategies for dealing with conflict in the current intimate relationship were assessed using the 33-item Coping Strategy Indicator (CSI).<sup>35</sup> The CSI consists of three factors including problem solving coping, support seeking coping, and avoidance coping. Participants were asked to rate the extent to which they used each of the 33 coping strategies to deal with a self-identified conflict with their current partner in the previous six months on a scale from 1 (*not at all*) to 3 (*a lot*). Responses were summed to obtain a total score for each factor. Due to overlap between the avoidance coping subscale and PTSD avoidance in our sample, we did not examine avoidance coping in this study. Cronbach's  $\alpha = .84$  for the problem solving coping factor and Cronbach's  $\alpha = .94$  for the social support coping factor.

Demographic information collected included: income, education, and number of children, which were examined continuously; and employment status, cohabitation status, and race, which were examined categorically.

## Data Analysis

Daily smokers reported smoking 30 days per month during the previous six months ( $n = 123$ ) and non-smokers reported smoking zero days per month during the previous six months ( $n = 63$ ). Women who smoked between 1 and 29 days per month over the previous six months were not included in the analyses ( $n = 26$ ; mean smoking days in the past 6 months = 67.15; SD = 47.09). Independent samples *t*-tests or chi-square tests of independence were used to analyze differences between smokers and non-smokers. The following variables had skewed distributions and were transformed with square root or log<sub>10</sub> transformations so that they could be analyzed continuously: annual household income, physical IPV victimization, use of physical IPV, total PTSD symptom severity, re-experiencing, avoidance, and numbing symptom severity, alcohol use problems, and drug use problems. Sexual IPV victimization and sexual IPV aggression were analyzed categorically because transformations failed to produce normal distributions.

In addition, *t*-tests were conducted whereby daily smokers and “chippers” (those who smoked between 1 and 29 days) were collapsed into one group. Findings differed from those reported in the results section, which suggests that chippers may be a distinct group. Given that we did not have sufficient power to examine differences among three groups (i.e., non-smokers, chippers, daily smokers), we chose to examine only the differences between non-smokers and daily smokers. Unless otherwise noted, the following analyses and results are focused on the subsample of daily smokers and non-smokers ( $n = 186$ ).

Finally, a logistic regression was performed to assess the relation between smoking status and independent variables significant ( $p < .05$ ) in the above models. Post-hoc moderation analyses also were conducted. Logistic regression analyses controlled for income and education.

## Results

### Demographic Differences

Differences in demographic characteristics between daily smokers and non-smokers are summarized in Table 1. Annual household income and years of education were the only demographic characteristics that differentiated the two groups, with smokers having a lower mean household income and fewer years of education.

### Differences in IPV Victimization and Aggression

Differences in reported IPV victimization and aggression between daily smokers and non-smokers are summarized in Table 2. Compared to non-smokers, daily smokers experienced greater psychological and physical IPV victimization and used greater psychological and physical IPV aggression in their current relationships.

### Mental Health, Substance Use, and Coping Differences

Differences in mental health characteristics between daily smokers and non-smokers are summarized in Table 3. First, daily smokers reported greater total PTSD symptom severity and greater re-experiencing and avoidance symptom severity than non-smokers. Second, daily smokers reported significantly greater alcohol and drug use problems than non-smokers. Smokers and non-smokers did not differ in terms of their depression symptom severity, although reported levels were high in both groups and suggestive of clinical depression.

### Unique Associations with Smoking Status and Post-Hoc Moderation

Logistic regression findings are presented in Table 4. Results indicate that only alcohol problem severity was related to daily smoking (O.R. = 1.12;  $p < .01$ ). Given that a previous study<sup>6</sup> showed differential relations between alcohol problem severity and smoking status by PTSD symptom cluster, we conducted post-hoc analyses to examine whether the association between alcohol problem severity and daily smoking status was moderated by the PTSD variables that were significant in bivariate analyses (i.e., total PTSD symptom severity, re-experiencing severity and avoidance severity). PTSD avoidance significantly moderated this association; tests of simple slopes revealed that the effect of alcohol problem severity was significant for individuals with high (one standard deviation above the mean; O.R. = 1.53,  $p < .01$ ) and average levels of PTSD avoidance (O.R.= 1.29;  $p < .01$ ) but not for individuals with low (one standard deviation below the mean) levels of PTSD avoidance.

## Discussion

This study extends existing literature by exploring differences in substance use and mental health symptom severity, coping strategies, severity of different types of IPV victimization



and use of IPV, and demographic factors, among daily smokers and non-smokers currently experiencing IPV. Daily smokers reported lower income and fewer years of education, more severe psychological and physical IPV victimization, more severe psychological and physical IPV aggression, and more severe mental health and substance use problems. Alcohol problem severity was uniquely associated with daily smoking status; this relationship was moderated by PTSD avoidance symptom severity. Findings suggest that some women may be smoking cigarettes to manage distress associated with experiencing IPV. While this study was exploratory and not a direct examination of self-medication or affect regulation models, our findings provide modest support for future research to test these models in detail to identify factors that motivate and maintain smoking among IPV-victimized women.

Regarding substance use and mental health symptom severity among women in this sample, results of bivariate analyses showed that alcohol and drug problem severity and PTSD symptom severity (but not depression symptom severity) were associated with being a daily smoker. Findings of bivariate analyses regarding alcohol and drug problems are consistent with the wealth of data that show substantial overlap of cigarette smoking, alcohol use, and drug use.<sup>36</sup> Past research has identified re-experiencing, hyperarousal, and, more recently, numbing symptoms as strong correlates of smoking behaviors across populations. Notably, Weaver and Etzel<sup>6</sup> identified PTSD re-experiencing and hyperarousal symptoms as significant correlates of smoking behaviors in their sample. Findings of the current study differ in that re-experiencing and avoidance symptom severity, but not hyperarousal symptom severity, were associated with daily smoking. The difference in findings between the two studies may be related to the dissimilar samples; the current sample represented a broader spectrum of women from the community currently experiencing IPV who were not necessarily utilizing services. Further, results of multivariate analyses showed that PTSD avoidance symptom severity strengthened the association between alcohol use problems and daily smoking status. While causal associations cannot be determined, perhaps daily smokers in our study smoked as a method of managing or avoiding the negative affect that victims often experience<sup>36,37</sup> consistent with the self-medication and affect regulation models of substance use. Future studies would benefit from extending Ashare and colleagues' study of smoking expectancies<sup>16</sup> to examine motivations for smoking in this population.

Our findings emphasize the need to investigate integrated treatments addressing substance use disorders including smoking and PTSD concurrently as these may provide an efficient way to minimize the negative health effects of smoking and among women. Given other research indicating that smoking cessation yields positive effects on mental health problems, future research should also examine the effects of smoking cessation<sup>38</sup> on mental health and substance use among this specific population of women to better inform smoking intervention and prevention efforts.

Findings from the bivariate analyses of this exploratory study are noteworthy given that they may inform future research. Our findings that psychological and physical IPV victimization severity were associated with daily smoking status is consistent with existing research showing that these types of victimization are salient predictors of substance use and related

disorders, particularly among women.<sup>20,39,40</sup> Further, our findings are consistent with Stuart et al.'s<sup>19</sup> findings that smokers use more IPV, experience more anger, and exhibit higher levels of impulsivity than non-smokers. Women experience the urge to smoke and smoke when angry, and smoking decreases anger.<sup>41</sup> Consequently, it is likely that IPV-victimized women who also use IPV experience elevated anger<sup>42</sup> and, in turn, possibly smoke to cope with this emotion (i.e., attempt to regulate affect). Investigating negative emotions as they relate to IPV-victimized women's use of IPV and smoking behaviors is an important area of further study. Indeed, given that different types of IPV experiences sometimes result in different emotional and psychological responses among women,<sup>39</sup> future research can improve on our study by examining situation-specific responses to IPV and affect regulation strategies with regard to smoking behaviors.

### Limitations

Findings should be interpreted in consideration of the following limitations: Our data are cross-sectional and therefore, temporal and causal relationships among variables cannot be determined. The absence of a measure of nicotine dependence and number of cigarettes smoked per day is a limitation. Further, smoking status as measured may be influenced by recall bias and our findings may not generalize to other populations of individuals experiencing IPV. While some associations derived by our analyses were relatively small statistically, these preliminary findings indicate that more in-depth studies are warranted. Prospective data are needed to determine the temporal relationships among variables over time as well as within events (e.g., to what extent IPV is related to the onset and maintenance of smoking behavior and to what extent IPV events are related to ad libitum smoking). Women who smoked between 1 and 29 days a month ("chippers") were not included in the analyses. Future studies with larger samples may have sufficient power to detect differences by examining separately non-smokers, chippers, and daily smokers. Finally, adjustments were not made for multiple comparisons in the analyses. However, given the limited data that exist on IPV and smoking and, hence, the exploratory nature of this study, we believe the results of the bivariate analyses presented here are a valuable starting point to inform future research.

### Conclusions

This exploratory study found that among IPV-victimized women, daily smokers were more likely than non-smokers to (a) have a greater alcohol and drug problem severity; (b) experience greater severity of posttraumatic stress symptoms; (c) experience greater severity of psychological and physical IPV victimization and use greater psychological and physical IPV; and (d) have a lower household income and fewer years of education. We also found that those with greater alcohol problem severity and those with greater PTSD avoidance severity were more likely to be daily smokers than those with lower PTSD avoidance severity. Our findings provide modest support for the self-medication and affect regulation models that some women may smoke to manage or avoid the negative sequelae associated with victimization including certain PTSD symptoms.<sup>43</sup>

Because women are less successful than men in their attempts to quit smoking, but more likely than men to engage in behavioral interventions,<sup>12</sup> it is imperative that smoking



cessation programs take into consideration specific factors (such as IPV) that may influence women's successful smoking cessation. Future research should examine the relationship of substance use disorders, PTSD, and coping to other smoking-related behavior, such as nicotine dependence and quit attempts, to elucidate phenomena that could further inform smoking cessation in this population. Ultimately, further study specific to community-residing women who experience a range of exposure to IPV (vs. those with no exposure) may lead to more conclusive findings that could inform interventions for this vulnerable population. Examining women's motivations to smoke and the context surrounding women's smoking behaviors may illuminate effective pathways to smoking interventions for this high-risk population.

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Means, Standard Deviations, and Group Differences in Demographic Characteristics of Daily Smokers and Non-smokers

Table 1

	Daily Smokers n=123		Non-smokers n=63		df	t/ $\chi^2$
	M (SD)	% (n)	M (SD)	% (n)		
Annual household income <sup>a,b</sup>	12,525 (9,570)	—	16,334 (12,204)	—	110	2.31*
Years of education <sup>d</sup>	11.91 (1.48)	—	12.44 (1.85)	—	184	2.13*
Number of children <sup>a</sup>	2.15 (1.84)	—	2.71 (2.34)	—	183	1.81
Age <sup>a</sup>	37.74 (10.07)	—	35.22 (10.75)	—	184	-1.37
Employment status <sup>c</sup>					1	1.99
Not working	—	70 (85)	—	59 (37)		
Working part- or full-time	—	31 (38)	—	41 (26)		
Cohabitation status <sup>b</sup>					1	2.07
Cohabiting	—	62 (76)	—	51 (32)		
Not cohabiting	—	38 (47)	—	49 (31)		
Race <sup>c</sup>					2	2.15
African American	—	63 (77)	—	72 (45)		
White	—	25 (31)	—	16 (10)		
Other	—	12 (15)	—	13 (8)		

Note. Means and standard deviations are reported for untransformed scores.

\*  $p < .05$ ,

\*\*  $p < .01$ .

<sup>a</sup>Data analyzed in independent samples t-tests.

<sup>b</sup>Levene's Test of homogeneity of variance was significant; results reported for equal variances not assumed.

<sup>c</sup>Data analyzed in chi-square tests of independence.

**Table 2**  
Means, Standard Deviations, and Group Differences in IPV between Daily Smokers and Non-Smokers

	Range	Daily Smokers n=123		Non-smokers n=63		df	t/ $\chi^2$
		M (SD)	% (n)	M (SD)	% (n)		
Psychological IPV victimization	2–183	72.09 (43.68)	—	51.56 (45.07)	—	184	-3.04**
Use of Psychological IPV <sup>a</sup>	0–200	67.70 (42.26)	—	52.89 (50.10)	—	183	-2.12*
Physical IPV victimization <sup>a</sup>	1–209	41.14 (48.96)	—	28.11 (45.17)	—	183	-2.57**
Use of Physical IPV <sup>a</sup>	0–233	39.99 (48.81)	—	27.49 (44.69)	—	184	-3.33**
Sexual IPV victimization <sup>b</sup>	0–173	—	—	—	—	1	0.00
Yes		—	57 (69)	—	57 (35)		
No		—	43 (53)	—	44 (27)		
Use of Sexual IPV <sup>b</sup>	0–53	—	—	—	—	1	0.19
Yes		—	37 (45)	—	33 (21)		
No		—	63 (78)	—	67 (42)		

Note. Means and standard deviations are reported for untransformed scores.

\* p .05,

\*\* p .01.

<sup>a</sup>Data analyzed in independent samples t-tests.

<sup>b</sup>Data analyzed in chi-square tests of independence. Response ranges for sexual IPV represent total scores from CTS-2.

Descriptive Statistics and Results of Independent Samples T-tests Describing Differences in Substance Use, Mental Health, and Coping of Daily Smokers and Non-smokers

**Table 3**

	Range	Daily Smokers n=123		Non-smokers N=63		df	t / $\chi^2$
		M (SD)	% (n)	M (SD)	% (n)		
Alcohol use problem severity	0-33	6.05 (7.03)	—	2.35 (5.17)	—	138	-4.32**
Drug use problem severity	0-10	1.85 (2.49)	—	0.95 (1.96)	—	157	2.82**
PTSD symptom severity	0-48	20.92 (11.45)	—	17.06 (12.54)	—	103	-2.43*
Re-experiencing symptom severity	0-15	5.52 (3.88)	—	4.25 (3.93)	—	184	-2.40*
Avoidance symptom severity	0-6	2.67 (1.95)	—	1.90 (20.1)	—	184	-2.52**
Numbing symptom severity	0-15	5.75 (3.88)	—	4.78 (4.11)	—	183	-1.58
Hyperarousal symptom severity	0-15	6.94 (3.96)	—	6.12 (4.26)	—	184	-1.30
Depression symptom severity	2-58	25.98 (11.79)	—	23.57 (12.80)	—	184	-1.28
Problem solving coping	14-33	26.76 (4.58)	—	27.11 (4.24)	—	184	0.50
Social support coping	11-33	21.81 (6.27)	—	22.17 (7.02)	—	184	0.36

Note. Means and standard deviations are reported for untransformed scores.

\* p .05,

\*\* p .01.



**Table 4**  
Results of Logistic Regression of Smoking Status on Substance Use, Mental Health, and Coping

Variable	$\beta$ (S.E.)	O.R.	95% CI	<i>p</i>
Psychological IPV victimization	.00 (.01)	1.01	.99–1.03	ns
Use of Psychological IPV	.01 (.01)	1.00	.98–1.02	ns
Physical IPV victimization	-.00 (.01)	1.00	.98–1.02	ns
Use of Physical IPV	.00 (.01)	1.00	.99–1.02	ns
Alcohol use problem severity	.16 (.07)	1.17	1.03–1.34	<.05
Drug use problem severity	-.02 (.11)	.98	.79–1.22	ns
PTSD Re-experiencing symptom severity	-.03 (.07)	.97	.85–1.11	ns
PTSD Avoidance symptom severity	.12 (.15)	1.13	.85–1.54	ns
Annual income	.00 (.00)	1.00	1.00–1.01	ns
Education	-.10 (.13)	.91	.71–1.16	ns

Note. ns= not statistically significant. N=186.