



Published in final edited form as:

*Addict Disord Their Treat.* 2012 June 1; 11(2): 53–63. doi:10.1097/ADT.0b013e3182213ef1.

## Gender Differences in Psychiatric Symptoms among Methamphetamine Dependent Residents in Sober Living Houses

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### Abstract

**Objectives**—Although psychiatric symptoms among methamphetamine (MA) dependent individuals have been studied in treatment programs, they have not been examined in services designed to support sustained recovery in the community (e.g. sober living houses). In addition, some disorders more common among women, such as somatoform and bulimia, have been understudied among MA dependent individuals. This study aimed to examine psychiatric symptom differences between MA dependent men and women who were entering sober living houses (SLHs).

**Methods**—Two hundred forty five individuals were interviewed within one week of entering SLHs. Instruments included a DSM IV based measure for MA dependence, a psychiatric screen (the Psychiatric Diagnostic Screening Questionnaire), demographics, recent substance use and recent use of services.

**Results**—Of the 245 participants, 103 men and 25 women met criteria for MA dependence. Women with MA dependence reported more psychiatric symptoms than men. They also trended toward reporting more psychiatric symptoms than non-MA dependent women. For men, psychiatric symptoms did not vary between those with and without MA dependence. Some understudied disorders (e.g., somatoform) had large proportions of women meeting the screening criteria.

**Conclusions**—Additional research is needed on understudied psychiatric disorders that are common among MA dependent women. SLH's should consider ways to address psychiatric symptoms among MA dependent individuals, especially women. Strategies could include increasing linkages with professional mental health services as well as developing peer oriented strategies for managing symptoms.

### Keywords

Methamphetamine; gender differences; psychiatric symptoms; co-morbidity; sober living houses

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Methamphetamine (MA) dependence constitutes a growing epidemic in the United States with serious public health consequences.<sup>1</sup> The annual economic impact of MA nationally, in terms of lost productivity, environmental damage, law enforcement, and health care expenses, is estimated to be over \$20 billion.<sup>2</sup> In addition to drug treatment services, MA related health care costs due to accidents and assaults,<sup>3-4</sup> extended hospital stays,<sup>5</sup> burn

injuries,<sup>6</sup> and dental decay,<sup>7</sup> account for \$500 million annually.<sup>2</sup> The National Drug Threat Assessment of 2008<sup>8</sup> indicates that methamphetamine use represents a grave threat to public health and safety throughout the entire U.S. second only to cocaine. In the western and central U.S., methamphetamine is the leading drug threat identified by state and local agencies.<sup>8</sup>

Over the past 15 years, California has seen a significant increase in both the number of people using MA and in the number of admissions to MA treatment programs.<sup>9</sup> Statewide prevalence of MA reflects larger, national trends that show 2.8% of young adults (18–26 years old) reporting use within the past year.<sup>10</sup> The spike in treatment admissions is the result of the state's Substance Abuse and Crime Prevention Act (Proposition 36) which allows non-violent offenders convicted on a drug related charge to be sentenced to probation and treatment.<sup>9</sup> Treatment options for MA dependent adults range from no-cost meetings of Crystal Meth Anonymous to public and private treatment centers paid for by the state, private insurance, or out of pocket.

Based on research to date, a more comprehensive picture of the etiology of MA addiction is emerging. Demographic, pre-treatment, and in-treatment factors which impact treatment engagement, retention, and outcomes have been identified.<sup>11–13</sup> For example, heavier use of methamphetamine before intake and route of administration (i.e. injection) have been associated with worse engagement, retention and outcome.<sup>12</sup> The presence of co-existing psychosis is a predictor of worse outcome.<sup>11</sup> However, the findings on gender are mixed, with some studies finding women respond to treatment as well or better than men<sup>13</sup> and others reporting worse treatment engagement and more methamphetamine use during treatment.<sup>12</sup>

A variety of interventions are available to practitioners for the treatment of addictive disorders, and new innovations include community based contingency management, craving intervention management and motivational interviewing.<sup>14–16</sup> However, less attention has been paid to the long term needs of persons with substance use disorders.<sup>17</sup> These include factors such as housing stability and social support for abstinence. Because of the variety and severity of problems that methamphetamine dependent clients present (e.g. psychiatric symptoms) it is particularly important to address long term needs that can lead to relapse.

## **GENDER DIFFERENCES AMONG MA DEPENDENT MEN AND WOMEN**

Research suggests there are gender differences in both the onset and manifestation of methamphetamine dependence for men and women. MA dependent women are significantly more likely than men to be introduced to the drug by an intimate partner and to continue gaining access to the drug through such partners.<sup>18</sup> They are also more likely to report a history of abuse<sup>19</sup> and typically begin using MA at a slightly earlier age than men.<sup>13</sup> While men who use MA are inclined to polysubstance use, or getting high on whatever is available, women who use MA appear to be more committed to it and to use it more frequently.<sup>20</sup> For women, the preference for methamphetamine may reflect the role MA plays in weight management and as self-medication for depression,<sup>21</sup> which in turn leads them to use greater amounts of meth at a higher frequency.<sup>20, 22</sup> When women enter treatment they are likely to present with more severe MA dependence than men<sup>12</sup> and higher levels of pre-treatment use.<sup>23</sup> Despite these obstacles, some studies have found women succeed as well or better than men in recovering from methamphetamine dependence.<sup>13</sup>

### **Psychiatric Symptoms**

Studies have shown that women with a range of substance use disorders have high rates of comorbid psychiatric disorders,<sup>24, 25</sup> particularly those related to anxiety, depression and

trauma. For both men and women assessing and treating co-morbid psychiatric disorders in substance abuse programs is now recommended as the standard of care.<sup>11, 15</sup>

MA dependent adults seeking treatment present a range of psychiatric symptoms, both substance induced as well as pre-existing.<sup>26</sup> Men are reported to be more likely to present with antisocial symptoms, such as criminal behaviors and violence; women are more likely to report symptoms of co-morbid anxiety and major depressive disorders.<sup>19, 27</sup> MA dependent women tend to report more severe symptomatology than men, and are more likely to have attempted suicide.<sup>19</sup> Prolonged MA use can lead to psychotic behavior, paranoia, visual and auditory hallucinations, repetitive motor activity, and violent behavior, as well as substance induced anxiety and mood disorders.<sup>28-32</sup>

One of the largest MA treatment studies was the Center for Substance Abuse Treatment (CSAT) Methamphetamine Treatment Project.<sup>26</sup> The study examined 1016 MA-dependent adults and found 34% of the women and 24% of the men reported experiencing some depressive symptoms in the 30 days prior to entering treatment. In addition, women scored significantly higher on the Beck Depression Inventory at baseline.<sup>26</sup> These findings add to previous research showing high frequency of co-morbid mood disorders among MA dependent women<sup>33</sup> and more severe depressive symptoms than men.<sup>34</sup> These findings are particularly important because depression has been found to be a significant predictor of poor treatment engagement<sup>12</sup> and poor treatment outcomes.<sup>35-36</sup>

Post-Traumatic Stress Disorder (PTSD) is the anxiety disorder that particularly differentiates men and women with drug dependence. Treatment seeking women report higher rates of more severe traumatic events, such as sexual related traumas and social impairment due to PTSD symptoms.<sup>27</sup> Among outpatient MA dependent women in the CSAT Methamphetamine Treatment Project 80% reported exposure to abuse or violence from a partner and 58% reported a history of sexual abuse.<sup>37</sup> These findings are echoed by Gil-Rivas' study of women in outpatient substance abuse programs which found that 61% reported a history of sexual abuse.<sup>25</sup>

## Purpose

Despite increasing attention to the correlates of MA dependence and how they differ by gender, there are notable gaps in the literature. First, the scope of research addressing psychiatric symptoms among women has been limited. For example, while studies have documented weight loss as a motivator for MA use among women, few studies have examined the prevalence of body related disorders such as somatization, bulimia, and hypochondriasis. Although anxiety disorders have been studied to a greater extent, the prevalence of specified subgroups of anxiety disorders have not been well documented, such as panic disorder, agoraphobia and social phobia.

Another limitation in the current literature is the limited settings where MA dependent individuals have been assessed. Most studies have examined them at entry into treatment programs. Fewer have examined MA dependence and its correlates in a broader spectrum of care, such as 12-step self-help groups, aftercare programs, or alcohol and drug abstinence living environments (e.g., SLHs).

The primary purpose of this study is to compare the prevalence of psychiatric symptoms among men and women who have been dependent on MA during the past 12 months. A second aim is to compare psychiatric symptoms among men and women with MA dependence with those dependent on other substances. Unlike previous studies, which have examined individuals entering treatment, we recruited our sample from a population of individuals entering SLHs. To assess a wide variety of symptoms and different levels of

severity (e.g. clinical and preclinical) we used a psychiatric screening instrument, the Psychiatric Diagnostic Screening Questionnaire (PDSQ).<sup>38</sup> Like previous studies, we expected women to have higher severity of anxiety and mood disorders. Based on our clinical experience treating MA dependent clients we also expected women to have higher rates of bulimia and somatic disorders. For both men and women, we expected higher psychiatric severity for MA dependent individuals compared to non-MA dependent individuals. Because the N for women with MA dependence was small (N=25) we had limited statistical power to conduct multivariate analyses and had to limit our analyses to bivariate comparisons.

## METHOD

### Data Collection Site

All study participants were recruited from Clean and Sober Transitional Living (CSTL) in Sacramento County California. CSLT operates 16 freestanding SLHs (136 bed capacity) and is structured into two phases. The SLHs do not offer any formal treatment services although residents may pursue services outside the auspices of the SLH program. Unlike formal treatment and half-way houses, residents are free to stay as long as like provided they abide by basic house rules such as abstinence from alcohol and drugs and paying rent on time. The first (30 to 90 days) is designed to provide more limits and structure (e.g., curfews, mandatory 12-step meeting attendance, shared rooms) to help residents successfully transition into the facility. The second phase allows for more autonomy (e.g., private rooms and fewer requirements for curfews and 12-step attendance). A “Residents Congress” consisting of current residents and alumni help enforce house rules and provide input into the management of the houses. About 90% of the residents use their own financial resources (e.g., employment earnings, savings, family resources, or Social Security Income) to meet housing costs. About 10% of the residents receive financial support from the Substance Abuse Services Coordinating Agency (SASCA), an agency created for graduates of drug treatment programs in the California Department of Corrections. For a more extensive description of CSLT see Polcin and Henderson.<sup>17</sup>

Data collected from 245 individuals entering sober living houses (SLH) in Northern California indicated that residents in SLHs make improvements in substance use, work, arrests and psychiatric symptoms.<sup>17</sup> However, those with more serious levels of psychiatric symptoms reported worse alcohol and drug outcomes. In addition, individuals with MA dependence fared worse than other residents, with 67% reporting MA use between entry into the SLH and 6-month follow up compared to 49% for alcohol and other drug dependencies. These findings underscore the need for more attention to the needs of MA dependent residents in SLHs. Of particular importance for this report is the prevalence of co-morbid disorders among MA dependent residents and how they differ by gender.

### Sample

This study consists of a secondary analysis of the 245 individuals who enrolled in the earlier study of SLHs at Clean and Sober Transitional Living Sacramento County California. Individuals were recruited during the first week of entering the SLHs. One hundred twenty eight met criteria for MA dependence during the past year. In order to maximize our ability to generalize results we employed few inclusion/exclusion criteria. Participants were all 18 or older and competent to provide informed consent.

### Measures

1. *Demographic Characteristics* include standard demographic questions such as age, gender, ethnicity, marital status, and education.

2. *Substance use and service utilization* questions inquired about MA use, receipt of substance abuse services and receipt of psychiatric services during the 6 months prior to entering the SLHs.
3. *DSM IV Checklist for Past 12 Months* was used to assess methamphetamine dependence disorders over the past 12 months. Items are based on DSM IV diagnostic criteria.<sup>39</sup>
4. *Psychiatric Diagnostic Screening Questionnaire*<sup>38</sup> assesses 13 DSM-IV Axis I disorders in general 6 areas: substance use, somatoform, eating, mood, psychosis and anxiety. Although the instrument is based on DSM-IV criteria for diagnostic categories, meeting the screening criteria for a disorder does not equate with a DSMIV diagnosis for that disorder. It merely indicates the presence of symptoms related to that diagnosis and suggests that further assessment is warranted. However, the PDSQ has the advantage of tapping into a wide range of clinical and pre-clinical psychiatric symptoms that could impact treatment outcome for MA dependent individuals. The 90-item self-administered questionnaire has a mean Cronbach's alpha coefficient of .82 for the 13 scales and a mean of .84 for test-retest reliability. For purposes of the current study we included all scales except substance abuse, which was assessed using the DSM checklist.

## RESULTS

### Demographics

The total study sample consisted of residents who were mostly male (77%), white (72.5%) and middle age (mean age=38, se=0.65). Over 75% had at least a high school education or GED. The most common referral source was self, family or friend (44%) followed by criminal justice (29%) and inpatient treatment (15%).

For this report, we were primarily interested in the characteristics of the 128 residents who were dependent on MA during the past year. See Table 1 for a complete depiction of the demographic characteristics of MA dependent residents. Overall, demographics for this group were very similar to the larger sample. Most participants were men (80.5%), white (72.7%) and possessed a high school degree (75.0%). The majority of the sample (57.8%) reported that they had never been married and almost half (49.2%) indicated that they had children under the age of 18. The mean age for MA dependent participants was 35 (sd=8.9) and household income for most (64.1%) was reported to be less than \$1,000 per month. The most common referral source to the SLHs (not shown in the table) was self, family or friend (40%) followed by the criminal justice system (34.1%) and inpatient treatment programs (14.1%). During the 30 days preceding enrollment in the study, 33.6% reported that they had spent some time in jail or prison and 32.8% had been admitted to an inpatient treatment program.

### Substance Use and Service Utilization

Of the 128 residents who met criteria for MA dependence the vast majority (over 92%) reported some use of alcohol or drugs during the 6 months before entering the SLHs. However, during the 30 days before entering the houses 73% reported no use of MA. This finding was consistent with assessment of drug problems during the past 30 days for the overall sample of 245, where we found low Addiction Severity Index scores for the drug scale (mean=0.08, se=0.01).<sup>17</sup>

The vast majority of those with MA dependence had a history or receiving formal drug abuse treatment at some point in their life (93%). Approximately 68% were admitted to a

residential treatment program during the 6 months prior to entering the SLHs. However, the amount of time spent in these programs varied widely from 4 days to 175 days. Other types of services were less common. Approximately a third had attended an outpatient drug treatment program, and even fewer attended any type of residential (7%) or outpatient (12%) psychiatric treatment program. One third indicated that they had been prescribed psychiatric medication during the 6 months prior to entering the SLH.

### Psychiatric Severity and Gender Differences

Overall, psychiatric symptoms were common among MA dependent men and women. See Table 2 for a depiction of the percent meeting screening criteria for various disorders. Over 70% of the sample met the screening criteria for at least one type of anxiety disorder (i.e. PTSD, OCD, panic, agoraphobia, and social phobia) and nearly half (48%) met the criteria for one of the two somatoform disorders (somatization and hypochondriasis). Other scales that met the screening criteria threshold in relatively large proportions included Psychosis (35.4%) and Major Depression (30.5%).

There were striking differences between men and the women in terms of the proportions meeting screening criteria for different disorders. For every disorder except major depression women had larger proportions meeting the screening criteria. As Table 2 indicates, 6 of the 11 scales had statistically significant larger proportions of women meeting the screening criteria than men and 2 other scales were statistical trends ( $<.10$ ).

We also examined an overall measure of psychiatric severity that included a composite of all scales combined that yielded an overall PDSQ standardized score. We again found significantly higher psychiatric severity for women ( $p<.001$ ) (Table 2). Three scales (major depression, agoraphobia and general anxiety) did not have significant differences by gender.

### Psychiatric Symptoms with and without MA Dependence

Several analyses were aimed at understanding whether the differences in psychiatric symptoms that we found between MA dependent men and woman were also present for men and women not dependent on MA (i.e., had problems with substances other than MA). While we found large differences in psychiatric severity among men and women who were dependent on MA, there were very few such differences between men and women not dependent on MA (see Table 3). No significant differences by gender were found for major depression, any anxiety disorders, psychosis, and any somatoform disorder. The only significant difference by gender for participants with no MA dependence was bulimia. Slightly over 13% of the women and 2% of the men met the screening criteria for bulimia ( $p<.05$ ). However, this difference was much smaller than the difference on the bulimia scale for men and women with MA dependence (24% for women versus 1.9% for men).

Table 3 also shows comparisons of psychiatric symptoms within gender for those with and without MA dependence. For women, those with MA dependence trended toward more women meeting the screening criteria for psychosis and somatoform disorders ( $p<.10$ ). Other disorders had larger proportions of MA dependent women meeting the screening criteria but not reaching statistical significance (e.g., anxiety disorders and bulimia). For men, there were no trends of those with MA dependence having larger proportions meeting screening criteria than non-MA dependent men. An unexpected finding was that men and women with no MA dependence trended toward having larger proportions meeting screening criteria for depression ( $p<.10$ ).

## DISCUSSION

Overall, the study findings reaffirm previous research showing MA dependent individuals have high rates of psychiatric symptoms, particularly women. This paper adds to the current literature in two respects. First, we document symptoms from a wider variety of disorders that have generally been understudied or underspecified. These include somatoform disorders, such as somatization and hypochondriasis, bulimia and even some subtypes of anxiety disorders (e.g. agoraphobia, social phobia and panic disorder). The importance of investigating these disorders is particularly evident in the large proportions of women who met their screening criteria. For example, the PDSQ scales that had the largest proportion of women meeting the screening criteria was social phobia (72%) followed by somatization (64%), both of which have not been well studied among MA dependent women.

A second way this paper adds to the current literature is by studying the correlates of MA dependence outside the context of formal treatment settings. Examining the long term course of drug use disorders and recovery outcomes is receiving increasing emphasis in recent years. SLHs are examples of resources that can be used to support sustained recovery in the community for individuals who have attended treatment programs as well as those looking for alternatives to formal treatment. However, these facilities need to be studied more thoroughly because residents there may have distinct differences from their counterparts in treatment.

### Psychiatric Symptom Differences by Gender

The findings from our study are consistent with previous reports documenting that women with MA dependence have more significant problems with psychiatric symptoms than men.<sup>19–22, 26</sup> On 10 of the 11 PDSQ scales that we examined women had higher proportions meeting the screening criteria than men. (See the discussion below on the unexpected findings for depression). Eight of the 11 scales were statistically significant ( $p < .05$ ) or trended ( $p < .10$ ) in the direction of more symptoms reported by women.

The differences in psychiatric severity by gender were for the most part specific to those with MA dependence. It was interesting that most gender differences in psychiatric symptoms disappeared when we compared them among non-MA dependent residents. Thus, there is something about MA dependence, not drug dependence generally, that is important in relation to psychiatric symptom differences between men and women residing in SLHs. The reasons and causal mechanisms for these differences are important areas for further research.

The study findings also indicate that psychiatric symptom differences between MA dependent and non-MA dependent individuals appear to be more prominent for women. There were few significant differences in psychiatric symptoms between men with and without MA dependence. The one exception was depression, which trended in the opposite direction of what we expected. Men with no MA dependence had larger proportions meeting the cutoff than men with MA dependence. We also found that larger proportions of men without MA dependence met the cutoff for anxiety disorders, although the difference did not reach a statistical trend.

The findings for women were different. Psychiatric symptoms were generally more prominent among those with MA dependence. For example, somatoform disorders and psychosis had trends for larger proportions meeting the cutoff among MA dependent women. Although they did not reach statistical significance, women with MA dependence had larger proportions meeting the cutoffs for anxiety and bulimia disorders than women with no MA.

It is unclear why both men and women who were not dependent on MA trended toward more symptoms of depression than those who were MA dependent. It is also unclear why there were no differences between MA dependent men and women on the proportion meeting the cutoff for depression. Both of these findings are not consistent with previous research.<sup>20–22, 26</sup> One factor could be the SLH setting, which is different from the treatment settings where most of this research has occurred. The point in the addiction to recovery cycle that individuals enter a SLH may result in a different presentation of depression relative to treatment programs. Most of our sample had been in treatment during the 6 months prior to entering the SLH. It is possible that those experiences resulted in more sustained reduction of depression symptoms than other symptoms, such as anxiety or psychosis. Another factor could be the use of the PDSQ scale to assess depression among MA dependent individuals. To the best of our knowledge the PDSQ has not been used to assess depression among MA dependent sample and might have less validity than other measures. Finally, the most common substance use disorder in the non-MA comparison group was alcohol, which has been shown to be associated with dysthymic mood. That might account for the large proportion of non-MA residents meeting the cutoff for depression.

### Service Needs

Our study found that residents with MA dependence entering SLHs had high rates of psychiatric symptoms despite the fact that nearly all had received drug treatment services at some point in their lives and 68% had been admitted to a residential treatment program over the past 6 months. One implication of the widespread psychiatric problems that we found among SLH residents is that the treatment services they received earlier did not substantially mitigate their psychiatric issues. It was noteworthy that relatively few (about 12%) had attended any type of outpatient psychiatric treatment the 6 months before entering the SLHs although somewhat more (a third) had received some type of psychiatric medication.

Residence in SLHs among this population should therefore address how residents will manage psychiatric symptoms which could threaten sustained sobriety. In part, this could be achieved by referrals to psychiatric treatment services. However, the SLHs themselves might develop ways of decreasing or managing these symptoms. This might be achieved through workshops for residents about psychiatric symptom management; additional training for house managers and operators; or greater collaboration with 12-step recovery groups that address both addiction and mental health issues (i.e. dual anonymous groups).

Because types of psychiatric symptoms varied by gender it might be wise to consider gender specific interventions. While relatively large proportions of both men and women reported symptoms related to social phobia and generalized anxiety disorder, there were large differences in other areas, such as somatization disorder and bulimia. Symptoms related to bulimia were nearly absent among men, yet nearly a quarter of the women reported some symptoms of bulimia. Somatization disorder among women was more than double the proportion among men and had the second highest proportion meeting the PDSQ screening criteria. For men somatization was fifth in terms of proportion meeting the screening criteria.

### Limitations

There are a number of limitations that are important to note. First, as a screening instrument the PDSQ does not identify DSM IV disorders. It only indicates the existence of some of the symptoms related to disorders and suggests the need for further assessment. Second, we do not know how these disorders play out over time. The assessments were conducted as a cross sectional analysis at the time of entry into the SLH. Third, the PDSQ is not designed to



tease out the extent to which psychiatric symptoms are a cause or consequence of MA use. Finally, our N was small, especially for the group of MA dependent women (M=25). Thus, larger studies of this population are needed.

## CONCLUSION

Although comparisons of psychiatric symptoms among MA dependent men and women have been conducted, some disorders have received limited attention, such as somatoform, bulimia, and some subtypes of anxiety. In addition, the vast majority of studies have been conducted at admission into formal treatment settings. This neglects how psychiatric symptoms might play out in the long run and they might impact recovery in services that support sustained recovery in the community, such as SLHs. For a variety of reasons, the psychiatric symptoms faced by residents in SLHs may differ from those of clients entering treatment programs.

This study of MA dependent women (N=25) and men (N=103) found significantly more psychiatric symptoms reported among women. This finding was consistent across most of the PDSQ scales as well as in a composite standardized measure of overall psychiatric severity. Some disorders that have been largely ignored among MA dependent women, such as somatoform disorders, were found to have large proportions of women meeting the screening criteria. While women with MA had trends toward more women meeting the screening criteria for disorders, that was not the case for men.

SLHs might address psychiatric symptoms among their residents by establishing closer links with professional mental health services. They also might increase peer oriented ways of helping residents manage symptoms as a long term aspect of their recovery. Such activities could include workshops for house managers and/or residents about psychiatric symptom management and referrals to peer-helping groups that address psychiatric problems, such as Dual Anonymous groups.

## Acknowledgments

Supported by NIAAA grant R01AA14030

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**Table 1**

Baseline characteristics (N=128)

	<b>DSM Methamphetamine Dependent (N=128)</b>	
	<b>N</b>	<b>%</b>
Sex		
Male	103	80.5
Race		
White	93	72.7
Education		
HS Grad/GED+	96	75.0
Marital status		
Never Married	74	57.8
Children under 18 years old	63	49.2
Income from all sources		
None	16	12.5
\$1–\$999 monthly	82	64.1
\$1,000+ monthly	30	23.4
Controlled Environment / past 30 days	26	20.3
None	43	33.6
Jail/prison	42	32.8
Inpatient treatment	17	13.3
Other		
<b>Continuous Measures</b>		
	<b>N</b>	<b>Mean(SD)</b>
Age	128	35.3(8.9)

**Table 2**

Percent meeting PDSQ subscale diagnostic screening criteria among methamphetamine dependent adults by gender

Disorder	Men (n=103)	Women (n=25)	Total (N=128)	
	%	%	<i>p</i> <sup>*</sup>	%
Major Depressive	31.1	28.0	<i>ns</i>	30.5
PTSD	32.0	56.0	<i>.03</i>	36.7
Obsessive Compulsive	28.2	48.0	<i>.06</i>	32.0
Panic	16.5	40.0	<i>.01</i>	21.1
Psychosis	30.1	52.0	<i>.04</i>	34.4
Agoraphobia	20.6	32.0	<i>ns</i>	22.8
Somatization	29.1	64.0	<i>.00</i>	35.9
Generalized Anxiety	47.6	56.0	<i>ns</i>	49.2
Social Phobia	49.0	72.0	<i>.04</i>	53.5
Hypochondriasis	29.1	48.0	<i>.07</i>	32.8
Bulimia	1.9	24.0	<i>.00</i>	6.3
<b>Continuous measures</b>				
	Mean (se)	Mean (se)	<i>F</i> <sup>&amp;</sup>	Mean (se)
PDSQ Standardized	48.3 (0.9)	54.6 (2.0)	<i>.00</i>	50.0 (0.8)
PDSQ Raw score	34.0 (1.9)	47.8 (4.3)	<i>.00</i>	37.8 (1.8)

\* Tests of proportion using  $\chi^2$  comparisons between men and women; two-tailed Fisher's exact test calculated when cell sizes are < 5

& Independent ANOVAs comparing men and women

**Table 3**

Percent meeting DSM-IV criteria among MA dependent And non-MA dependent men and women

	MA Dependence		No MA Dependence		<i>p</i> *
	Men (n=103)	Women (n=25)	Men (n=85)	Women (n=30)	
	%	%	%	%	
Major Depressive	31.1	28.0	47.1	50.0	<i>ns</i> + ^
Any anxiety disorder (PTSD, OCD, panic, agoraphobia, social phobia)	66.0	88.0	75.3	73.3	<i>ns</i>
Psychosis	30.1	52.0	30.6	30.0	<i>ns</i> , ^
Any somatoform disorder (somatization, hypochondriasis)	41.7	76.0	37.6	53.3	<i>ns</i> , ^
Bulimia	1.9	24.	.00	13.3	.04

\* Tests of proportion using  $\chi^2$  comparisons between men and women for meth and non-meth dependent groups separately; two-tailed Fisher's Exact test calculated when cell sizes are <5.

^  $p < .10$ ; Test of proportion using  $\chi^2$  comparisons between meth and non-meth dependent women.

+  $p < .10$ ; Test of proportion using  $\chi^2$  comparisons between meth and non-meth dependent men.