

Men and Women from the STRIDE Clinical Trial: An Assessment of Stimulant Use Severity at Residential Treatment Entry

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Introduction

Severe stimulant abstinence symptoms have been shown to predict early substance abuse treatment termination (Mulvaney et al., 1999; Kampman et al., 2001). The current study explored gender specific factors associated with addiction severity, craving, and abstinence symptoms in a residential treatment seeking sample.

Methods

Stimulant abusing or dependent participants were enrolled in the NIDA Clinical Trials Network's Stimulant Reduction Intervention using Dosed Exercise (STRIDE) trial. Recruitment and randomization occurred during residential treatment at 9 geographically diverse U.S. sites. Participants volunteered and were medically cleared for exercise. Full details about the protocol are published in Trivedi et al., 2011.

This secondary analysis included data collected at baseline, on average $M = 11.75$ ($SD = 5.6$) days from treatment admission. Women represented 40.1% (men $n=181$; women $n=121$) of participants.

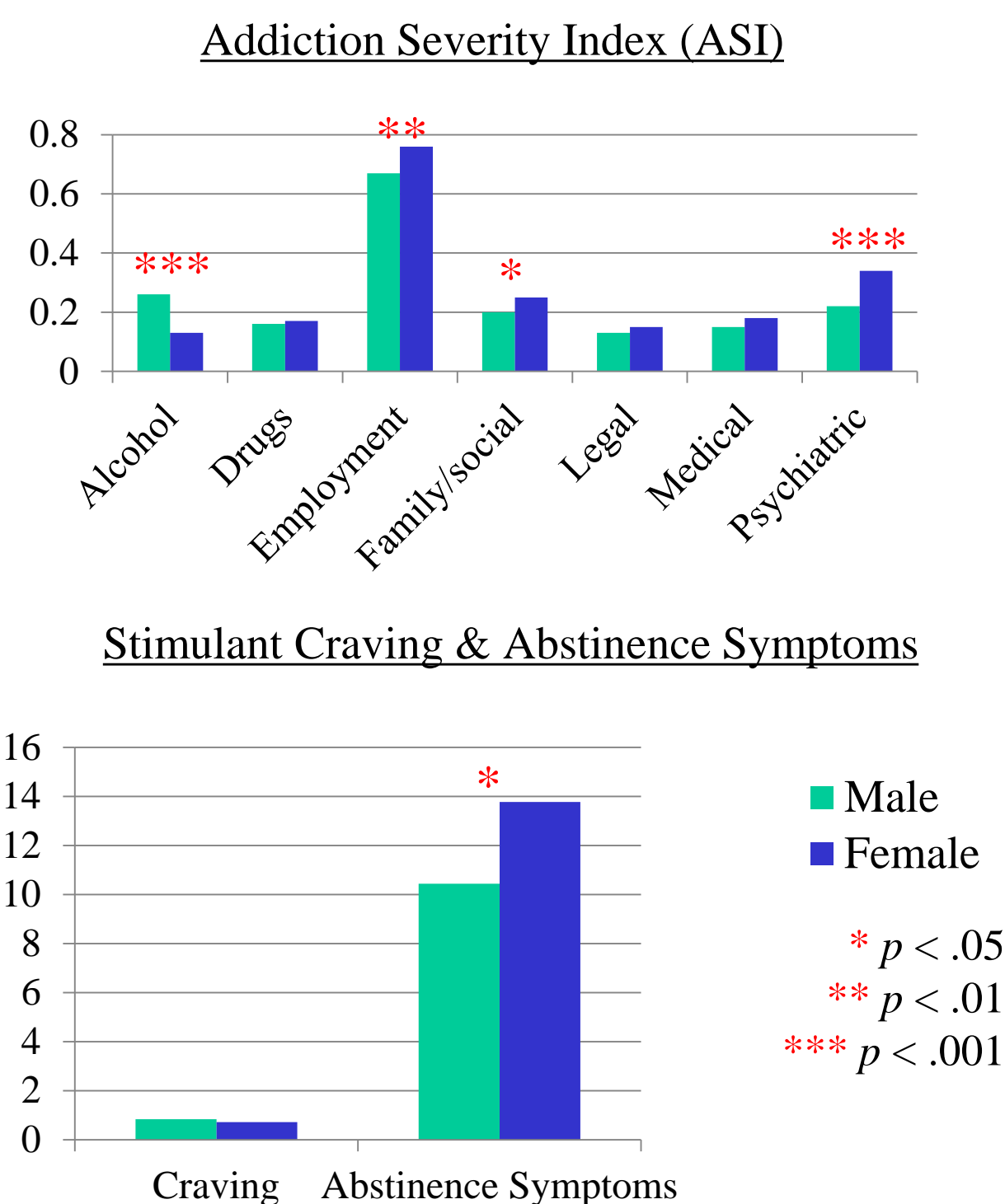
Addiction Severity was measured by the Addiction Severity Index-Lite (ASI-Lite), Stimulant Craving Questionnaire-Brief (STCQ-Brief), and Stimulant Selective Severity Assessment (SSSA; domains of abstinence symptoms included craving, mood, appetite, sleep, energy, pulse rate, and irritability). *Substance Use* was measured by the Timeline Followback (TLFB) in the 30 days prior to treatment admission. *Drug Use and Psychiatric Disorders* were based on DSM-IV criteria.

Bivariate tests by gender included chi-square and t tests. A multivariate linear regression model tested demographics, substance use, and co-morbid drug use and psychiatric disorders as predictors for stimulant abstinence symptom severity. Modelled variables were $p < .05$ in bivariate tests.

Results

- On demographic variables, women were younger than men, 35.67 ($SD = 9.9$) versus 41.17 ($SD = 10.8$) years, and more likely to be Hispanic, 17.36% versus 5.52%, p 's $< .001$.
- Men were more likely to have a high school degree or more education (86.19% versus 74.38%, $p = .023$) and to be employed (39.23% versus 19.83%) and African American (51.93% versus 29.75%), p 's $< .001$.

Figures 1 & 2. Addiction Severity Measures



- Women (Figure 1) had higher addiction severity scores in 3 ASI domains (employment; family/social; and psychiatric), while men had higher scores on the alcohol domain.
- On the SSSA, women reported greater abstinence symptom severity compared to men (Figure 2). Post hoc tests identified (data not shown) higher scores for women on 4 individual abstinence symptoms, including anxiety, tension, attention, and irritability, and lower scores on (1 symptom) cocaine craving frequency, p 's $< .05$.
- In a multivariate model:
 - Gender ($p = .588$) was no longer associated with abstinence symptom severity.
 - African American ethnicity predicted lower abstinence symptom severity ($p = .001$), i.e., a 7 point lower score than non-African Americans.
 - A current panic disorder diagnosis ($p = .032$) predicted greater abstinence symptom severity (+ 9 point score).
- Rates of panic disorder were higher in women than men. Other bivariate gender findings are presented in Table 1.

Table 1. Stimulant Use and Co-morbid Drug Use and Psychiatric Disorders

Baseline variables	Male	Female	p
	M (SD) or % $n = 181$	M (SD) or % $n = 121$	
Years of Primary Stimulant Use	13.42 (10.9)	9.14 (7.1)	0.012
Days of Cocaine Use ^a	8.00	11.00	0.002
Days of Methamphetamine Use ^a	9.50	20.00	0.006
Stimulant Use Disorders			0.001
Cocaine only	65.75	48.33	
Cocaine and other stimulant	28.18	34.17	
Other stimulant (not cocaine)	6.08	17.50	
Alcohol Dependence	57.46	39.67	0.002
Marijuana Dependence	36.46	25.00	0.037
Nicotine Dependence Intensity	3.76 (2.2)	3.02 (1.8)	0.011
No. of Current Psychiatric Disorders	1.08 (1.4)	1.55 (1.7)	0.008
Major Depressive Episode	19.34	28.10	0.076
Dysthymia	11.64	5.75	0.137
Manic Episode	2.76	8.26	0.031
PTSD ^b	8.29	11.57	0.343
Panic Disorder	3.31	10.17	0.015
Social Phobia	10.50	11.57	0.770
Obsessive Compulsive Disorder	3.31	9.92	0.018

Notes: ^aMedian days of use computed for those who used the substance in the 30 days prior to treatment admission (Cocaine: Men $n=157$ and Women $n=82$; Methamphetamine: Men $n=38$ and Women $n=43$); and ^bPost-traumatic stress disorder.

Discussion

Women reported greater addiction severity problems in employment, family/social, and psychiatric domains compared to men. This is consistent with other studies involving stimulant use disorder treatment samples (Najavits & Lester, 2008; Cohen et al., 2007). More severe abstinence symptoms in women than men appear to be associated with anxiety-related symptoms (e.g., anxiety, tension, difficulty concentrating, irritability, and panic disorder) and to be correlated with race/ethnicity. It is unknown if anxiety associated with stimulant abstinence affects treatment attrition. Given women are reported to have a similar or better response to treatment for stimulants than men (Wong et al., 2002; Dluzen & Liu, 2008), and that results may be limited to a medically fit-for-exercise treatment sample. Interventions that address gender related abstinence may improve treatment.

Acknowledgement

STRIDE (CTN-0037) was supported by the National Institute on Drug Abuse (NIDA) of the National Institutes of Health (NIH) under award number U10DA020024 (PI: Trivedi). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.