



## Predictors of 12-Step Attendance and Participation for Individuals With Stimulant Use Disorders



Mary Hatch-Maillette, Ph.D.<sup>a,b,\*</sup>, Elizabeth A. Wells, Ph.D.<sup>a,c</sup>, Suzanne R. Doyle, Ph.D.<sup>a</sup>, Gregory S. Brigham, Ph.D.<sup>d</sup>, Dennis Daley, Ph.D.<sup>e</sup>, Jessica DiCenzo, L.C.S.W.<sup>f</sup>, Dennis Donovan, Ph.D.<sup>a,b</sup>, Sharon Garrett, M.P.H.<sup>a</sup>, Viviana E. Horigian, M.D.<sup>g</sup>, Lindsay Jenkins, M.P.H., M.P.A.<sup>h</sup>, Therese Killeen, Ph.D., A.P.R.N., B.C.<sup>i</sup>, Mandy Owens, M.S.<sup>j</sup>, Harold I. Perl, Ph.D.<sup>k</sup>

<sup>a</sup> University of Washington Alcohol and Drug Abuse Institute, 1107 NE 45th St., Suite 120, Seattle, WA 98105

<sup>b</sup> University of Washington School of Medicine, Department of Psychiatry and Behavioral Sciences, 1959 NE Pacific St., Seattle, WA 98105

<sup>c</sup> University of Washington School of Social Work, 4101 15th Ave NE, Seattle, WA 98105

<sup>d</sup> Adapt & SouthRiver Community Health Center, Roseburg, OR 97470

<sup>e</sup> University of Pittsburgh School of Medicine, Department of Psychiatry, Western Psychiatric Institute and Clinic, 3811 O'Hara St, Pittsburgh, PA 15213

<sup>f</sup> San Francisco General Hospital, 1001 Potrero Ave., San Francisco, CA 98110

<sup>g</sup> University of Miami Department of Public Health Sciences, Miller School of Medicine, 1120 NW 14th St., Miami, FL 33136

<sup>h</sup> Multnomah County Health Department, 426 SW Stark St, Portland, OR 97204

<sup>i</sup> Medical University of South Carolina Department of Psychiatry and Behavioral Sciences, 67 President St., Charleston, SC 29425

<sup>j</sup> University of New Mexico Center on Alcoholism, Substance Abuse and Addictions, 2650 Yale Blvd SE, Albuquerque, NM 87106

<sup>k</sup> Independent Consultant, P.O. Box 169, Arroyo Seco, NM 87514

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### ABSTRACT

**Objective:** Few studies have examined the effectiveness of 12-step peer recovery support programs with drug use disorders, especially stimulant use, and it is difficult to know how outcomes related to 12-step attendance and participation generalize to individuals with non-alcohol substance use disorders (SUDs).

**Method:** A clinical trial of 12-step facilitation (N = 471) focusing on individuals with cocaine or methamphetamine use disorders allowed examination of four questions: Q1) To what extent do treatment-seeking stimulant users use 12-step programs and, which ones? Q2) Do factors previously found to predict 12-step participation among those with alcohol use disorders also predict participation among stimulant users? Q3) What specific baseline "12-step readiness" factors predict subsequent 12-step participation and attendance? And Q4) Does stimulant drug of choice differentially predict 12-step participation and attendance?

**Results:** The four outcomes variables, attendance, speaking, duties at 12-step meetings, and other peer recovery support activities, were not related to baseline demographic or substance problem history or severity. Drug of choice was associated with differential days of Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) attendance among those who reported attending, and cocaine users reported more days of attending AA or NA at 1-, 3- and 6-month follow-ups than did methamphetamine users. Pre-randomization measures of perceived benefit of 12-step groups predicted 12-step attendance at 3- and 6-month follow-ups. Pre-randomization 12-step attendance significantly predicted number of other self-help activities at end-of-treatment, 3- and 6-month follow-ups. Pre-randomization perceived benefit and problem severity both predicted number of self-help activities at end-of-treatment and 3-month follow-up. Pre-randomization perceived barriers to 12-step groups were negatively associated with self-help activities at end-of-treatment and 3-month follow-up. Whether or not one participated in any duties was predicted at all time points by pre-randomization involvement in self-help activities. **Conclusions:** The primary finding of this study is one of continuity: prior attendance and active involvement with 12-step programs were the main signs pointing to future involvement. Limitations and recommendations are discussed.

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## 1. Introduction

### 1.1. Stimulant use disorders and 12-step programs

Although there is strong evidence of the effectiveness of 12-step peer recovery support programs with alcohol use disorders (AUDs) (e.g., Caldwell & Cutter, 1998; Kelly, Hoepfner, Stout, & Pagano, 2012; Kelly, Stout, Magill, Tonigan, & Pagano, 2010; Moos & Moos, 2004;

\* Corresponding author at: University of Washington Alcohol & Drug Abuse Institute, 1107 NE 45th St., Ste 120, Seattle, WA 98105. Tel.: +1 206 616 7730; fax: +1 206 543 2861.

E-mail address: hatchm@uw.edu (M. Hatch-Maillette).

Tonigan, Toscova, & Miller, 1996), few studies have examined their effectiveness with drug use disorders, especially stimulant use (Carroll, Nich, Shi, Eagan, & Ball, 2012; Schottenfeld, Moore, & Pantalon, 2011). It is difficult to know how outcomes related to 12-step attendance and participation generalize to individuals with non-alcohol substance use disorders (Witbrodt & Kaskutas, 2005).

Cocaine or methamphetamine users often comprise a substantial portion of participants in studies on those with SUDs in treatment (Timko, Billow, & DeBenedetti, 2006; Timko & DeBenedetti, 2007; Tonigan & Beatty, 2011; Witbrodt & Kaskutas, 2005). Some limited work has been done on outcomes of individuals with stimulant use disorders and 12-step programs (Carroll, Nich, Ball, McCance, & Rounsaville, 1998; Carroll et al., 2000; Weiss et al., 2000a). Gossop, Stewart, and Marsden (2007) reported that attendance at Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) was associated positively with abstinence at 1-year, but not 5-year follow-up for stimulant users completing treatment. Weiss et al. (2005) found that cocaine users' active participation in 12-step groups was more important for outcomes than meeting attendance alone. Carroll et al. (1998) found that for patients dependent on both alcohol and cocaine, those receiving twelve step facilitation treatment (TSF), a brief, manual-driven, structured approach introducing 12-step concepts to those in early recovery through individual and/or group sessions and linking them to 12-step peer recovery support groups, were significantly more involved in 12-step programs during the twelve-week treatment compared to those receiving cognitive behavioral therapy (CBT) or clinical management, the inactive psychotherapy control. However, by the 1-year follow up alcohol and cocaine use did not differ between patients who had received TSF or CBT, suggesting that the two therapies were comparable (Carroll et al., 2000). More work is needed to better understand the mechanisms of 12-step groups for those with stimulant use disorders (Weiss et al., 2005).

Researchers have examined 12-step meeting attendance during and following treatment, attempting to identify particular sociodemographic and clinical characteristics that predicted attendance and participation (Emrick, 1987; Tonigan et al., 1996). Most reports focused on persons with AUDs. Only one (Weiss et al., 2000b) reported on attendance for individuals with stimulant use disorder (cocaine), and a few others contained substantial numbers of stimulant users in their mixed drug use samples (Fiorentine, 1999; Fiorentine & Hillhouse, 2000). A wide range of demographic, psychological and social variables have been examined, including age, gender, ethnicity, psychiatric and addiction severity, and social support. However, only a few variables have been found to consistently predict 12-step attendance: greater severity of substance use, (McKay et al., 1998; Weiss et al., 2000b); more legal problems (Brown, O'Grady, Farrell, Flechner, & Nurco, 2001; McKay et al., 1998); and prior SUD treatment (Brown et al., 2001; Weiss et al., 2000b).

Instead of demographic, personality, or social variables, Kingree et al. (2006); Kingree, Simpson, Thompson, McCrady, and Tonigan (2007) explored AA-specific beliefs that might predict AA engagement. They developed and tested the Survey of Readiness for Alcoholics Anonymous Participation (SYRAAP), which assesses three dimensions: 1) perceived severity of respondent's drug or alcohol problem; 2) perceived benefits of, and 3) perceived barriers to, participating in AA. In an evaluation of the SYRAAP with 268 treatment-seeking adults, baseline SYRAAP scores were found to reliably predict AA participation at 3- and 6-month follow-up (Kingree et al., 2007). Whether the SYRAAP also predicts engagement in 12-step groups other than AA (e.g., Narcotics Anonymous) remains to be determined. In addition, it is unclear whether the SYRAAP can predict attendance and participation of stimulant users.

## 1.2. Stimulant drug of choice and 12-step participation and attendance

Methamphetamine use is widespread and has tremendous psychiatric, behavioral and medical consequences, yet is often not separated from cocaine or other substances in reports on treatment effectiveness

or utilization (Donovan & Wells, 2007). Similarly, data on methamphetamine users and their involvement in 12-step groups are scarce, despite the widespread practice of encouraging or requiring 12-step group attendance as part of recovery, and despite the emergence of Cocaine Anonymous and Crystal Meth Anonymous. One notable exception is the matrix model, which incorporates 12-step involvement as one component of treatment for cocaine and methamphetamine dependence (Obert et al., 2000; Rawson et al., 2004). However, whether stimulant drug of choice (cocaine or methamphetamine) predicts degree of 12-step participation and attendance remains undetermined.

## 1.3. Study purpose

A clinical trial of 12-step facilitation which focused on individuals with cocaine or methamphetamine use disorders (Donovan et al., 2013) allowed us to evaluate these four questions: Q1) To what extent do treatment-seeking stimulant users use 12-step programs and, which ones? Q2) Do factors previously found to predict 12-step participation among those with alcohol use disorders also predict participation among stimulant users? Q3) What specific baseline "12-step readiness" factors predict subsequent 12-step participation and attendance? And Q4) does stimulant drug of choice predict 12-step participation and attendance?

## 2. Method

### 2.1. Main trial design overview

Data for these analyses were collected as part of a multi-site randomized clinical trial evaluating the effectiveness of 12-step facilitation (Stimulant Abuser Groups to Engage in 12-Step, STAGE-12) incorporated into treatment-as-usual (TAU) against TAU alone within the National Drug Abuse Treatment Clinical Trials Network (CTN). Methods are described in detail in Donovan et al. (2013). Participants were recruited upon admission into one of 10 participating community treatment programs (CTPs) for intensive outpatient treatment (IOP). Participating CTPs offered outpatient treatment at a level that would allow STAGE-12 individual and group sessions to replace three individual and five group sessions of TAU, resulting in an equivalent amount of treatment for both groups overall. Following baseline assessments, participants were randomized to receive either TAU with STAGE-12 or TAU alone over the course of 8-weeks. Assessments were repeated at week 4 (mid-treatment), week 8 (end-of-treatment), and 3- and 6-months post-randomization. Study procedures were reviewed and approved by the University of Washington's Institutional Review Board (IRB) and the IRBs associated with each of the universities and CTPs. An independent Data and Safety Monitoring Board oversaw the conduct of the trial.

### 2.2. Participants

Participants (N = 471) were at least 18 and were recruited upon admission to a participating CTP for five to eight weeks of IOP treatment. Inclusion criteria also included use of cocaine, methamphetamine, amphetamine, or other stimulant drugs within the past 60 days, a DSM-IV diagnosis for current (within 6 months) abuse or dependence of stimulants, and consent to study procedures. If a participant had been incarcerated within the past 60 days, they were eligible if they had used one of these stimulants in the 30 days prior to incarceration. Exclusion criteria were: need of detoxification for opiate withdrawal or seeking detoxification only, enrollment in methadone maintenance treatment or residential/inpatient treatment, having a medical or psychiatric condition that would make study participation hazardous, as determined by clinic staff, incarceration for more than 60 of the 90 days before the baseline interview, or pending legal action that would preclude full participation in the study.

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