

Residents of mutual help recovery homes, characteristics and outcomes: Comparison of four US ethnic subgroups

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This study compared the characteristics and outcomes of four ethnic groups living in mutual help recovery homes. The sample consisted of 524 Caucasian, 305 African American, 31 Latino/a and 17 American Indian (AI) participants. This article includes a short review of relevant literature on AIs and substance use, provides an analysis of characteristics and outcomes of four ethnic groups and includes a discussion of the implications of the findings for knowledge of patterns of use among AIs. The AIs were more likely to report being on parole or probation and being referred for aftercare by the legal system. Additionally, AIs reported greater disharmony within their recovery residences than Caucasians, but there were no significant ethnic differences in baseline length of stay in Oxford House, length of alcohol or drug sobriety or substance use outcomes 4 months after the baseline assessment.

INTRODUCTION

The Census Bureau estimates that there are over 2.8 million American Indians (AI) and Alaska Natives (ANs) living in the US (US Bureau of the Census, 2006). National surveys consistently indicate that this group reports a greater prevalence of alcohol and illicit drug use than other ethnic groups (National Institute on Drug Abuse (NIDA), 2003; Substance Abuse and Mental Health Services Administration (SAMHSA), 2005). For example, in 2005, rates for past year illicit drug use among AI individuals over 12 years old were 12.8%, while Caucasians, African Americans and Hispanics/Latinos reported drug use rates of 8.1%, 9.7% and 7.6%, respectively (SAMHSA). AI individuals were also more

likely to have an alcohol use disorder over the past year than other ethnic groups (SAMHSA, 2007). It should be noted, however, that there is tremendous variation among tribes and populations. For example, in some tribes there is a high rate of sobriety, especially among Indian women.

Substance abuse is associated with a myriad of health-related problems as well as injury, complications in pregnancy and psychiatric disturbances (Gray & Nye, 2001; Malcolm, Hesselbrock, & Segal, 2006). Additionally, between 1990 and 1993, 66.6% of rural Native Alaskan deaths were related to alcohol abuse (Lyness, 2002). As with other ethnic groups, substance abuse is also associated with school under-achievement, unemployment, lower socioeconomic status, family instability, child abuse and criminal involvement (Blumstein & Beck, 1999; Kuntz et al., 2002; Roberts & Harper, 1997).

Many hypotheses, as well as stereotypes, exist about the reasons AIs experience a higher prevalence of substance abuse, such as claims of a biological predisposition, a tradition of mind-altering substances in ceremony or a lack of Native role models (Gray & Nye, 2001; Lyness, 2002). Walle (2004a, p. 58) suggested an alternative explanation indicating that 'due to stigma, poverty and socio/economic reversals, Native Americans have experienced a great deal of stress and the resulting pressures can trigger alcohol/substance abuse'. Whatever the explanations for the high rates of substance-related problems among this ethnic group, the availability of treatment is critical within the AI/AN community, especially when noting the co-occurrence of substance abuse with physical and psychological health problems and suicide (Gray & Nye, 2001; LeMaster, Beals, Novins, Manson, & the AI-SUPERPPF Team, 2004).

In response to the need for substance abuse treatment among AIs, interventions that incorporate this group's culture have been developed (Lyness, 2002; Naquin, Trojan, O'Neil, & Manson, 2006). Many of these treatment approaches include AI traditions, such as the medicine wheel, sweat lodges and talking circles (Abbott, 1998). Other approaches utilize AI languages and include extended family members in the intervention (Jones-Saumty, 2002). Twelve-step programmes have been modified as well (Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003; Weaver, 2001). Options such as the 'Path of Handsome Lake' include traditional aspects thought to be more helpful for AI individuals seeking recovery (Beauvais, 1998; Walle, 2004b). However, many AIs still lack access to substance abuse interventions, and there is a need for more research on effective recovery options for this ethnic group (Gray & Nye, 2001; Herman-Stahl & Chong, 2002; Lyness, 2002; Oetzel et al., 2006).

Mutual-help interventions may provide a culturally appropriate alternative for AIs. Oxford House, a communal mutual-help approach to substance abuse recovery, was founded in 1975 to provide recovery support and sober housing (Jason, Davis, Ferrari, & Bishop, 2001; Jason, Ferrari, Davis, & Olson, 2006). Over 1300 Oxford Houses operate within the US and several more have opened in Canada and Australia. Each residence is financially independent and democratic, with no professional staff. Residents in these self-help communities participate in voting for officers and the enforcement of regulations (Oxford House, Inc., 2006). Oxford House residents are required to pay rent, avoid disruptive behaviour and not use alcohol or drugs. Violations of these three rules result in eviction from the house (Oxford House, Inc.). Oxford Houses have no maximum length of stay and encourage residents to seek professional treatment and attend 12-step groups (Oxford House, Inc.).

Research indicates that following residential substance abuse treatment, individuals who were randomly assigned to live in an Oxford House had better substance abuse and employment outcomes than individuals who were not provided this community housing option (Jason, Olson, Ferrari, & Lo Sasso, 2006). Oxford House residents also were less likely to engage in criminal activities and be incarcerated (Jason, Olson et al., 2006). Additionally, living in Oxford House was associated with higher abstinence self-efficacy and lower support for substance use (Jason, Davis, Ferrari, & Anderson, 2007).

Oxford House residents are quite diverse in terms of gender, socioeconomic status, ethnicity and co-occurring health and psychological problems (Alvarez, Adebajo, Davidson, Jason, & Davis, 2006; Bishop, Jason, Ferrari, & Huang, 1998; Davis & Jason, 2005; Majer, Jason, Ferrari, & North, 2002). African Americans are well-represented in Oxford Houses in various regions of the US and their outcomes appear to be similar to those of Caucasians (Bishop et al., 1998;

Flynn et al., 2006). However, other ethnic groups, such as Hispanics/Latinos, Asian Americans/Pacific Islanders and AIs are not as well-represented in this programme (Alvarez, Jason, Davis, Ferrari, & Olson, 2004; Jason et al., 2007). Additionally, research has not addressed the substance-related problems and outcomes of AIs who participate in Oxford House.

The current study explored the characteristics and outcomes of Caucasian, African American, Latino/a and AI Oxford House residents. Data were collected as part of a larger national study of Oxford House (Jason et al., 2007). Based on the existing literature, we hypothesized that AIs would report higher rates of substance abuse, as well as legal, employment and mental health problems than Oxford House residents from the other ethnic groups. As a result of having more severe presenting problems upon entering Oxford House, we expected that AI residents would have worse outcomes than individuals from other ethnic groups 4 months after the baseline measurement. Additionally, we expected that because they were not living in Oxford Houses developed specifically for AIs, these individuals would report a lower sense of community with other Oxford House residents than African Americans and Caucasians who are well-represented in Oxford House.

METHODS

Participants and procedure

Participants were recruited either by research staff who visited 170 Oxford Houses in Washington, Oregon, Pennsylvania, New Jersey, North Carolina, Illinois and Texas or at the 2001 Oxford House World Convention. After explaining the study to participants and securing informed consent, research assistants administered the study's measures in a group format. Research assistants were available to answer questions while participants completed the paper and pencil measures (Jason et al., 2007). In addition to the baseline data gathered, follow-up data collection occurred 4 months later following the same procedures as at baseline, except that participants recruited at the Oxford House Convention completed the measures individually in their homes and mailed them to the research staff.

The sample consisted of 524 Caucasian (169 women, 355 men), 305 African American (101 women, 204 men), 31 Latino/a (7 women, 24 men) and 17 AI (7 women, 10 men) participants. For the current study, 19 individuals who self-identified as 'other ethnic/racial groups' or Asian American/Pacific Islander were excluded from the analyses. Approximately 76% of the participants provided data during both the baseline and four-month follow-up. However, 121 (23%) Caucasians, 79 (26%) African Americans, 6 (19%) Hispanics/Latinos and 2 (12%) AIs could not be located and did not provide follow-up data. Participants' self-reported substance use was

verified with significant others for 25% of the sample (Jason et al., 2007).

The mean age in years for our sample were as follows: AIs = 35.4 (standard deviation, $SD=6.7$), Caucasians = 37.1 ($SD=9.8$), African Americans = 41.5 ($SD=7.4$), and Hispanics/Latinos = 33.5 ($SD=9.3$). An ANOVA revealed significant ethnic differences in age ($F(3, 851)=20.81, p<0.001$), and Dunnett T3 post hoc tests indicated that African Americans were significantly older ($M=41.47, SD=7.44$) than the other three groups (Caucasians $p<0.001$, Latinos/as $p<0.001$, and AIs $p<0.01$). Mean years of education at baseline were 12.2 ($SD=2.5$) for AIs, 12.8 ($SD=1.9$) for Caucasians, 12.4 ($SD=2.3$) for African Americans and 11.5 ($SD=2.0$) for Latinos. An ANCOVA controlling for age revealed significant ethnic differences in baseline years of education ($F(3, 851)=7.50, p<0.001$) and Dunnett T3 post hoc tests indicated that Caucasians had significantly more years of education than African Americans ($p<0.01$) and Latinos/as ($p<0.001$).

Each of the 17 AI participants lived in a different Oxford House, in Oregon, Washington or North Carolina. The small sample size precluded conducting specific analyses.

Measures

The Addiction Severity Index

Addiction Severity Index (ASI; McLellan et al., 1992) is a valid and reliable measure of lifetime and recent substance use and related medical, psychological, family, employment and legal problems. The ASI also collects demographic and treatment history data and provides seven valid and reliable composite scores (i.e. drug, alcohol, medical, psychological, family, legal and employment) based on reports of problems during the 30 days prior to scale administration. In the current study, the ASI was used to collect demographic, employment and legal involvement data. In addition, ethnic differences in the ASI's Psychological Composite Score at baseline were analysed. Cronbach's alpha for this composite score for the current sample was 0.83.

A modified version of Miller and Del Boca's (1994) *Form-90* was administered to participants at baseline and at the follow-up. This valid and reliable measure was used to assess days of alcohol and illicit drug use over a 90-day period resulting in a summary score of days abstinent at baseline and at the follow-up measurement.

The Perceived Sense of Community Scale

Perceived Sense of Community Scale (PSCS; Bishop, Chertok, & Jason, 1997) was designed to measure mission, reciprocal responsibility and harmony in Oxford House. Each of the 30 items is scored on a 5-point Likert scale (1 = Not At All True; 5 = Completely True), with harmony reverse scored. Mission and reciprocal responsibility are each

measured by 12 questions and the harmony subscale consists of six items. The PSCS has been found to be internally consistent, and to correlate with measures of perceived social support (Bishop et al., 1997). Cronbach's alpha for the current sample was 0.89.

RESULTS

In order to test the study's hypotheses, we examined differences in years of substance use, years of drug and alcohol sobriety, along with baseline income, psychological symptoms and baseline/lifetime legal problems. We also conducted analyses on sense of community and length of time in Oxford House. Finally, we analysed ethnic differences in drug and alcohol sobriety 4 months after the baseline assessment. To account for the number of statistical tests conducted, alpha was set at 0.01.

Years of substance use

Table I summarizes baseline data on years of use of various types of substances for each of the four ethnic groups based on the ASI. A MANCOVA was computed to examine ethnic differences in years of lifetime substance use controlling for age and years of education. These control variables were selected because these variables have been related to substance abuse outcomes. Significant ethnic differences were found in years of various types of substance use (opiates other than heroin/analgesics, $F(3, 728)=10.94, p<0.001$; barbiturates, $F(3, 728)=7.54, p<0.001$; sedatives/hypnotics/tranquilizers, $F(3, 728)=8.97, p<0.001$; cocaine, $F(3, 728)=11.11, p<0.001$; amphetamines, $F(3, 728)=31.65, p<0.001$; cannabis, $F(3, 728)=5.91, p<0.001$; hallucinogens, $F(3, 728)=15.04, p<0.001$). Dunnett T3 post hoc tests indicated that Caucasians reported significantly more years of use of sedatives/hypnotics/tranquilizers ($p<0.001$) and hallucinogens ($p<0.001$) than Hispanics/Latinos. Caucasians also reported more years of use of opiates/analgesics ($p<0.001$), barbiturates ($p<0.001$), sedatives/hypnotics/tranquilizers ($p<0.001$), amphetamines ($p<0.001$) and hallucinogens ($p<0.001$) than African Americans. African Americans reported more years of cocaine use than Caucasians ($p<0.001$).

Baseline and lifetime substance-related problems

Table II summarizes ethnic differences in baseline income, lifetime and baseline legal problems and psychological symptoms during the 30 days prior to the baseline assessment, as reported on the ASI. Table II also presents data on length of drug and alcohol sobriety and time in Oxford House at baseline for each of the four ethnic groups.

Three separate ANCOVAs, controlling for age and years of education, indicated no significant ethnic differences in years of drug or alcohol sobriety or time

Table I. Lifetime substance use in years.

	Sample	American Indian	Caucasian	African American	Latino	Statistical significance
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Lifetime substance use						
Alcohol	18.4 (10.3)	16.8 (10.1)	18.2 (10.3)	19.0 (10.2)	15.3 (8.8)	
Alcohol to intoxication	14.4 (10.9)	14.2 (10.4)	14.7 (10.5)	14.4 (11.8)	8.7 (8.6)	
Heroin	2.6 (6.7)	2.1 (5.7)	2.3 (5.9)	3.0 (7.6)	5.0 (9.4)	
Methadone	0.43 (2.2)	0.82 (2.6)	0.44 (2.1)	0.39 (2.3)	0.53 (1.4)	
Other opiates/analgesics	2.3 (6.0)	3.3 (6.2)	3.1 (6.7) ^a	1.0 (4.5) ^a	0.50 (1.4)	**
Barbiturates	1.9 (5.4)	4.1 (8.4)	2.5 (6.0) ^a	0.98 (4.0) ^a	1.0 (3.0)	**
Sedatives/hypnotics	2.5 (6.1)	3.6 (8.0)	3.3 (6.5) ^{ab}	1.4 (5.3) ^a	0.77 (2.3) ^b	**
Cocaine	8.3 (8.1)	7.2 (7.9)	6.9 (7.6) ^a	11.2 (8.3) ^a	6.3 (7.3)	
Amphetamines	4.1 (7.0)	10.8 (10.5)	5.5 (7.5) ^a	1.4 (4.7) ^a	2.2 (4.6)	**
Cannabis	10.4 (10.5)	12.9 (11.6)	11.2 (10.3)	9.2 (11.0)	8.0 (8.0)	**
Hallucinogens	3.1 (6.0)	3.8 (6.0)	4.2 (6.4) ^{ab}	1.5 (5.1) ^a	0.67 (1.4) ^b	**
Inhalants	1.0 (4.1)	2.2 (6.2)	1.2 (4.2)	0.64 (3.8)	0.50 (1.5)	
More than one substance	10.4 (10.0)	11.5 (10.2)	10.6 (9.6)	10.2 (10.9)	7.5 (7.6)	

Notes: ^aSignificant differences between Caucasians and African Americans.

^bSignificant differences between Caucasians and Latinos.

** $p < 0.001$.

Table II. Baseline mean frequencies and percentages of substance-related problems.

	Sample	American Indian	Caucasian	African American	Latino	Statistical significance
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Months in Oxford House	10.7 (14.9)	13.4 (21.3)	9.9 (14.8)	12.1 (14.7)	9.3 (15.5)	
Years of alcohol sobriety	1.6 (2.2)	1.9 (2.7)	1.6 (2.3)	1.7 (2.0)	1.5 (1.6)	
Years of drug sobriety	1.8 (2.8)	1.9 (2.8)	1.8 (3.2)	1.8 (2.1)	1.5 (1.6)	
Total income in past 30 days ^a	981.47 (886.49)	700.75 (676.85)	992.31 (863.92)	988.41 (890.83)	875.48 (745.34)	
ASI Psychological Composite Score ^b	0.16 (0.20)	0.17 (0.24)	0.19 (0.21) ^d	0.12 (0.17) ^d	0.12 (0.15)	**
Months incarcerated ^c	15.9 (36.8)	27.6 (52.0)	14.3 (35.7)	16.7 (35.9)	31.5 (52.8)	
Baseline legal status						
On probation/parole currently (%)	30.4	82.4	34.5	19.7	38.7	**
OH entry prompted by legal system (%)	13.8	41.2	15.5	8.6	22.6	**
<i>n</i>	877	17	524	305	31	

Notes: ^aComprises dollars from employment, unemployment compensation, down payment assistance (DPA), pension, benefits or social security, mate, family or friends and illegal activities.

^bBased on 30 days prior to baseline data collection.

^cRepresents lifetime data.

^dSignificant post hoc test.

**Statistical significance at $p < 0.001$.

in Oxford House at baseline. A separate ANCOVA controlling for age and years of education indicated no significant ethnic differences for total income, in the 30 days prior to baseline. A third ANCOVA found significant ethnic differences in the Psychological Composite Score of the ASI ($F(3, 844) = 6.16$, $p < 0.001$). Dunnett T3 post hoc tests indicated that Caucasians reported more psychological problems than African Americans ($p < 0.001$).

Incarceration

A separate ANCOVA controlling for age and years of education and examining ethnic differences in total months incarcerated as reported at baseline found no significant differences. However, significant ethnic differences were found when the numbers of Oxford House residents on parole or probation at baseline were examined ($\chi^2(3, N = 876) = 43.60$, $p < 0.001$). Chi-squared tests comparing AIs to other ethnic groups on

Table III. Baseline means of PSCS measurements.

Descriptor variable	Sample	American Indian	Caucasian	African American	Hispanic/Latino	Statistical significance
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Total harmony	19.3 (4.8)	17.29 (5.07) ^a	19.2 (4.1) ^a	19.2 (4.9)	20.7 (4.8)	**
Total mission	46.0 (7.8)	46.00 (8.31)	45.1 (7.2)	45.6 (9.3)	47.4 (6.7)	
Total reciprocal responsibility	47.0 (8.8)	47.65 (10.49)	44.9 (8.0)	46.2 (9.7)	49.6 (7.1)	
<i>n</i>	873	17	522	303	31	

Notes: ^aSignificant post hoc test.

**Statistical significance at $p < 0.001$.

Table IV. Baseline and follow-up days of drug and alcohol sobriety.

	Sample	American Indian	Caucasian	African American	Latino	Statistical significance
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Days of alcohol sobriety						
Baseline	660.00 (817.47)	770.47 (1022.50)	644.80 (894.00)	681.55 (667.03)	645.46 (602.54)	
Four-month follow-up	760.67 (829.83)	878.27 (1021.50)	739.68 (905.08)	790.53 (684.71)	762.50 (604.35)	
Days of drug sobriety						
Baseline	723.67 (1044.97)	776.67 (1065.46)	743.79 (1219.22)	689.24 (678.65)	670.75 (597.17)	
Four-month follow-up	810.23 (1036.22)	897.47 (1064.93)	827.30 (1210.84)	775.61 (665.39)	787.79 (599.49)	
<i>n</i>						
Baseline	877	17	524	305	31	
Four-month follow-up	669	15	403	226	25	

the numbers of individuals on parole or probation were significant, indicating that AIs were more likely than individuals from all other ethnic groups to be on parole or probation at baseline (Caucasians and AIs, $\chi^2(1, N = 540) = 16.268, p < 0.001$; African Americans and AIs, $\chi^2(1, N = 322) = 35.743, p < 0.001$; Latinos/as and AIs, $\chi^2(1, N = 48) = 8.423, p < 0.01$). Additionally, a significant association was found between ethnicity and being referred to Oxford House by the legal system ($\chi^2(3, N = 874) = 20.853, p < 0.001$). When AIs were compared to other ethnic groups, they were found to be more likely to be referred by the legal system than Caucasians ($\chi^2(1, N = 540) = 7.966, p < 0.01$) and African Americans ($\chi^2(1, N = 320) = 18.491, p < 0.001$), but not Latinos.

Baseline sense of community

Means and SDs for the three subscales of the Psychological Sense of Community Scale are presented in Table III. Three separate ANOVAs examined ethnic differences in the three subscales of the Psychological Sense of Community Scale at baseline. No significant ethnic differences were found on the mission or reciprocal responsibility subscales. However, significant ethnic differences were found on the harmony subscale ($F(3, 868) = 5.50, p < 0.001$) and an LSD post hoc test indicated that AIs reported more total disharmony than Caucasians ($p < 0.01$).

Cumulative days of sobriety at follow-up

Cumulative days of sobriety were examined at baseline and at another measurement 4 months later, based on the modified version of the Form-90 (Table IV). Repeated measures ANCOVAs, controlling for age and years of education, indicated no significant ethnic differences in days of alcohol or drug sobriety.

DISCUSSION

This study explored the characteristics and outcomes of AIs, African Americans, Caucasians and Hispanics/Latinos. AIs did not report more years of use than individuals from other ethnic groups. Additionally, AIs were no more likely than individuals from other ethnic groups to report mental health problems during the 30 days prior to baseline assessment, and there were no significant ethnic differences in baseline income or time spent in jail or prison during one's lifetime. AIs were more likely than Oxford House residents from other ethnic groups to report being on parole or probation at baseline and to be referred to Oxford House by the legal system. Also, AIs reported greater disharmony in their Oxford Houses than Caucasians; however, there were no significant ethnic differences in baseline length of stay in Oxford House or length of alcohol or drug sobriety. Finally, no ethnic differences

were found in substance use outcomes 4 months after the baseline assessment.

Overall, the findings of this study that included a sample collected from treatment-oriented recovery homes contradicts research from more community-based samples indicating that AIs have higher rates of substance use and co-occurring psychological problems than individuals from other ethnic groups (Gray & Nye, 2001; LeMaster et al., 2004; SAMHSA, 2005; Walle, 2004b). Similarly, ethnic differences in baseline income were not found to be significant, which contradicts the literature citing lower employment rates among AIs (Reynolds, Fisher, Estrada, & Trotter, 2000). While the prevalence literature is based on samples drawn from individuals living in the community, this sample comprised of participants seeking substance abuse aftercare. Therefore, it is likely that individuals seeking to live in an Oxford House generally experience severe substance-related problems regardless of their ethnicity. Prior studies of Oxford House also indicate that residents report high rates of co-occurring psychological problems such as mood and anxiety disorders (Majer et al., 2002).

AIs in the current sample did not report more severe histories of lifetime criminal involvement (i.e. months incarcerated) than individuals from other ethnic groups. However, at baseline, AI participants were more likely to report being on parole or probation than other Oxford House residents, and AI participants were more likely to report being referred to Oxford House by the legal system. The results support prior literature suggesting that the prison system has become an alternative setting for AI individuals in need of substance abuse and other mental health services (Earle, Bradigan, & Morgenbesser, 2001). It is possible that socioeconomic inequities and geographic treatment limitations increase the likelihood of abusing substances.

Although AIs did not differ in baseline sense of mission or experience of reciprocal responsibility in Oxford House, they reported greater disharmony than Caucasians. This finding suggests that the experience of some AIs in Oxford House may not be as positive as that of Caucasians, perhaps due to being in the minority. Because this sample had high rates of participation prompted by the legal system, it might have contributed to this outcome. Further research is needed to explore this intriguing finding. However, current findings also indicate no significant baseline ethnic differences in length of time in Oxford House or length of drug or alcohol sobriety. Additionally, there were no significant ethnic differences in substance use outcomes 4 months after baseline. It is possible that many AIs stayed in Oxford House due to pressure from the legal system. However, this explanation for the lack of significant ethnic differences in length of stay does not account for the lack of significant ethnic differences in days of drug and alcohol sobriety.

Previous research has shown that having a supportive social network predicts positive outcomes among AIs in recovery (Chong & Lopez, 2005) and Oxford House residents (Jason et al., 2007). Therefore, future research will need to examine the sense of community and long-term outcomes of AIs in Oxford House taking into account differences in ethnic/cultural affiliation (Herman-Stahl, Spencer, & Duncan, 2002). Because of historical racism and distrust of Caucasians (Jones-Saumty et al., 2003), it may benefit some AIs in recovery to have the option of a culturally specific Oxford House.

Clearly, a limitation of the current study was the small size of the AI sample, and low power might have contributed to not finding significant ethnic differences in years of substance use and other related problems. Additionally, the small size of the AI sample did not allow for comparisons of substance use, employment, and other outcomes beyond 4 months. The original study followed participants for a year (Jason et al., 2007); however, because of participant attrition, the current study did not examine outcomes beyond the first follow-up measurement. The small size of the AI sample also prevented analyses examining differences in gender, ethnic identity, rural/urban residence or other individual differences. Finally, the current study did not collect data on tribal affiliation, another source of diversity within the AI community (Trimble, 2000). Each of these issues has an impact on the external validity of the study.

A reader might question whether the study population was generalizable to AIs living in Oxford Houses nationally. It is true that the selection of potential participants was largely by convenience, and was possibly biased. Still, this is the largest sample that has ever been collected to examine Oxford House participants. Future research might attempt to collect both larger national samples and that are randomly sampled.

The results of this study suggested that Oxford House may provide a suitable recovery setting for AIs. However, there is a need for more research on experiences and outcomes in Oxford House for larger, more diverse samples of AI individuals as well as other ethnic groups such as Latinos/as. Future studies might address how differences in gender, cultural affiliation, tribal membership, rural/urban residence and other sources of within group differences moderate outcomes among AI Oxford House residents.

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