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Differences between abstinent and non-abstinent individuals in recovery from alcohol use disorders

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Abstract

Objective—Non-abstinent goals can improve quality of life (QOL) among individuals with alcohol use disorders (AUD). However, prior studies have defined "recovery" based on DSM criteria, and thus may have excluded individuals using non-abstinent techniques that do not involve reduced drinking. Furthermore, no prior study has considered length of time in recovery when comparing QOL between abstinent and non-abstinent individuals. The current aims are to identify correlates of non-abstinent recovery and examine differences in QOL between abstainers and non-abstainers accounting for length of time in recovery.

Sample—A large (N=5,380) national sample of individuals who self-describe as "in recovery" from alcohol problems recruited in the context of the What Is Recovery? (WIR) study.

Method—Multivariable stepwise regressions estimating the probability of non-abstinent recovery and average quality of life.

Results—Younger age (OR = 0.72), no prior treatment (OR = 0.63) or AA (OR = 0.32), fewer dependence symptoms (OR = 0.17) and less time in recovery all significantly ($P < 0.05$) related to non-abstinent recovery. Abstainers reported significantly ($P < 0.05$) higher QOL than non-abstainers (B = 0.39 for abstinence vs. non-abstinence), and abstinence was one of the strongest correlates of QOL, even beyond sociodemographics variables like education.

Conclusions—Non-abstainers are younger with less time in recovery and less problem severity but worse QOL than abstainers. Clinically, individuals considering non-abstinent goals should be aware that abstinence may be best for optimal QOL in the long run. Furthermore, time in recovery should be accounted for when examining correlates of recovery.

Keywords

Abstinence; non-abstinence; recovery; quality of life

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1. INTRODUCTION

1.1 Non-abstinent recovery from alcohol use disorders

Traditional alcohol use disorder (AUD) treatment programs most often prescribe abstinence as clients' ultimate goal. “Harm reduction” strategies, on the other hand, set more flexible goals in line with patient motivation; these differ greatly from person to person, and range from total abstinence to reduced consumption and reduced alcohol-related problems without changes in actual use (e.g., no longer driving drunk after having received a DUI). In the broadest sense, harm reduction seeks to reduce problems related to drinking behaviors and supports any step in the right direction without requiring abstinence (Marlatt and Witkiewitz 2010). Witkiewitz (2013) has suggested that abstinence may be less important than psychiatric, family, social, economic, and health outcomes, and that non-consumption measures like psychosocial functioning and quality of life should be goals for AUD research (Witkiewitz 2013). These goals are highly consistent with the growing conceptualization of `recovery' as a guiding vision of AUD services (The Betty Ford Institute Consensus Panel 2007). Witkiewitz also argued that the commonly held belief that abstinence is the only solution may deter some individuals from seeking help.

Epidemiologic studies have demonstrated that non-abstinent goals like asymptomatic and low-risk drinking are plausible, viable recovery goals for individuals recovering from AUD. Results from the 2001–2002 National Epidemiologic Study on Alcohol and Related Conditions (NESARC) showed that of those with prior-to-past-year alcohol dependence (N=4,422), 11.8% drank asymptomatically and 17.7% were low-risk drinkers in the year prior to being interviewed (Dawson et al. 2005). In two Canadian general population surveys of more than 13,000 respondents combined, 38–63% of those are in recovery (i.e., free of alcohol-related problems in the past 12 months and drinking within national guidelines managed to continue drinking at low-risk levels (Sobell, Cunningham, and Sobell 1996). In a large study of adults (N=995) who had participated in randomized trials of outpatient treatment for AUD, 14% were low-risk drinkers (no days of 5+) six months post-treatment (Kline-Simon et al. 2013). Unlike epidemiologic studies that use lower severity general population samples (Dawson, Goldstein, and Grant 2007), Kline-Simon and colleagues used higher severity treatment samples and still found that non-abstinent treatment outcomes are both attainable and beneficial. Furthermore, both low-risk drinking and abstinence six months after treatment were related to better 12-month psychiatric and family/social severity scores than was heavy drinking, though abstinence predicted the best scores (Kline-Simon et al. 2013).

1.2 Quality of life and recovery from AUD

The past decade has seen the AUD service field increasingly embrace the broader goal of `recovery' as its guiding vision. Though research on recovery remains in its infancy and the term itself poorly defined, a handful of definitions of recovery have put forth the centrality of quality of life (QOL) as a key recovery component (Center for Substance Abuse Treatment 2006; The Betty Ford Institute Consensus Panel 2007). Furthermore, researchers have started to explore the prospective and dynamic association between QOL and

substance use among persons in recovery from AUD and from drug dependence (Frischknecht, Sabo, and Mann 2013; Laudet 2011; Laudet, Becker, and White 2009). Donovan and colleagues (2005) reviewed 36 studies involving various aspects of QOL in relation to AUD and concluded that heavy episodic drinkers had worse QOL than other drinkers, that reduced drinking was related to improved QOL among harmful drinkers, and that abstainers had improved QOL in treated samples (Donovan et al. 2005). The authors also stated that future research should examine how various recovery goals (e.g., abstinence, controlled drinking, harm reduction with continued drinking) affect QOL (Donovan et al. 2005). Similarly, results from the 2001–02 and 2004–05 NESARC studies showed that any remission (partial or full) from dependence, whether abstinent or not, was related to improvements in QOL as measured by the SF-12 (Dawson et al. 2009). However, the NESARC QOL analyses examined transitions across AUD statuses over a three-year period, and thus inherently excluded individuals with more than three years of recovery. In addition, previous QOL analyses have not accounted for length of time in recovery. Therefore, knowledge about whether and how QOL differs between non-abstinent vs. abstinent recovery remains limited.

1.3 Rationale for current study and study aims

The dearth of data regarding individuals in long-term recovery highlights the need to examine a sample that includes individuals with several years of recovery experience. Moreover, although previous studies have examined treated, non-treated and general population samples, none has focused on individuals *who identify themselves* as "in recovery" from alcohol problems. Instead, past studies have equated "recovery" with DSM-IV diagnostic criteria and national guidelines for low-risk drinking; these criteria may exclude people who consider themselves "in recovery." For example, individuals involved in harm reduction techniques that do not involve changed drinking may consider themselves in recovery. Importantly, the only published study that asked individuals in recovery (from crack or heroin dependence in this particular study) how they defined the term revealed that less than half responded in terms of substance use; the other definitions were more general, such as a process of working on oneself (Laudet 2007). In addition, some might consider abstinence as a necessary part of the recovery process, while others might not.

In the context of "harm reduction," individuals may make positive changes in their lives that do not include reduced alcohol use and may consider themselves "in recovery" even though their AUD status remains unchanged (Denning and Little 2012). For example, among the 2005 and 2010 National Alcohol Survey respondents, 18% of current drinkers who identified as "in recovery" from alcohol problems (who do not use drugs) are DSM-IV alcohol dependent, and 26% of current drinkers who also use drugs are DSM-IV alcohol dependent. Thus relying on DSM criteria to define a sample of individuals in recovery may unintentionally exclude individuals who are engaging in non-abstinent or harm reduction techniques and making positive changes in their lives.

We do not know what factors relate to non-abstinent vs. abstinent recovery among individuals *who define themselves as in recovery*. In addition, no prior study has examined whether quality of life differs among those in abstinent vs. non-abstinent recovery in a

sample that includes individuals who have attained long periods of recovery. Here we discuss exploratory analyses of differences between abstinent and nonabstinent individuals who defined themselves as "in recovery" from AUDs. We used the What Is Recovery? study (WIR) dataset, one of the largest repositories of individuals in recovery available. A better understanding of the factors related to non-abstinent recovery will help clinicians advise patients regarding appropriate treatment goals.

Our first goal was to identify correlates of non-abstinent recovery by comparing the demographics (i.e., gender, age, race, ethnicity, education, employment) and recovery characteristics (i.e., length of recovery, help-seeking) of abstainers and non-abstainers within a large sample that includes individuals in long-term recovery (i.e., more than three years). Our second goal was to examine differences in quality of life between abstainers and non-abstainers controlling for length of time in recovery.

2. MATERIAL AND METHODS

All procedures involving human subjects were reviewed and approved by the Public Health Institute's Institutional Review Board.

2.1 What Is Recovery? study

The study capitalizes on a large national sample of individuals who *self-describe* as "in recovery" from alcohol and/or drug problems recruited in the context of the What Is Recovery? (WIR) study. The only other inclusion criterion was to be 18 years or older. "Recovery" was not defined in WIR recruitment materials because the purpose of the WIR study was to develop a psychometrically sound recovery definition instrument that reflects the heterogeneity of experiences associated with different pathways to recovery (e.g., treatment, 12 step, pharmacotherapy, natural recovery, non-abstinent goals). To this end, extensive efforts were made to recruit a diverse group of individuals who consider themselves in recovery to take the 15-minute, confidential online WIR survey which included questions about specific facets of recovery. The WIR survey also asked about demographics, treatment/mutual aid history, substance use, and lifetime dependence. Participants were recruited from July 15, 2012 to October 31, 2012. The various recruitment methods included (but were not limited to) traditional newspaper ads, CraigsList, social media, and intensive outreach within treatment organizations and recovery organizations (Subbaraman et al. in press). Thus, the aggregate WIR sample consists of individuals who define themselves as "in recovery" from alcohol and/or drugs, regardless of what "recovery" means to each particular individual. Within the overall WIR sample (N=9,341), 5,380 individuals stated that alcohol was their primary substance of choice.

The parent WIR study and this secondary analysis study were approved by the Institutional Review Board of the Alcohol Research Group/Public Health Institute, Oakland, CA.

2.2 Measures

Our primary outcome was non-abstinent recovery from AUDs. Respondents were asked about current alcohol and drug use; those who answered that they currently drink in a moderate or controlled manner and/or currently use drugs (i.e., non-prescribed or illicit; does

not include caffeine or nicotine) were classified as “non-abstainers.” Those who answered that they do not currently drink or use drugs were classified as abstainers. Among those in recovery from alcohol problems specifically, 12% of the WIR sample (N=596) are still using alcohol and/or drugs and could be considered non-abstainers.

Potential correlates of non-abstinent recovery, such as demographics and treatment history, were based on NESARC results. The WIR survey asked for demographic information (i.e., gender, age, race, ethnicity, education, employment) and past help-seeking (treatment/mutual-help group attendance); substance use disorder severity was assessed based on the Lifetime version of the Mini International Neuropsychiatric Interview (M.I.N.I.), a short structured diagnostic interview developed in the US and Europe for DSM-IV and ICD-10 psychiatric disorders (Sheehan et al. 1998). Additionally, the survey asked about current quality of life using a 4-point scale as administered by the World Health Organization (The WHOQOL Group 1998).

2.3 Statistical analyses

First, bivariate differences between abstainers and non-abstainers were examined using Chi-square and t-tests. Next, variables that differed significantly between abstainers and non-abstainers were entered into multivariable logistic regressions in a stepwise manner to predict non-abstinent recovery: in Step 1, demographic variables were entered; in Step 2, treatment history was entered; and in Step 3, DSM-IV alcohol dependence severity was entered. For the aim regarding quality of life, a linear stepwise regression was used with quality of life as the dependent variable: in Step 1, demographic variables were entered; in Step 2, treatment history was entered; in Step 3, DSM-IV alcohol dependence severity was entered, and in Step 4, an indicator for non-abstinence was entered. All analyses were conducted in SPSS (v18).

3. RESULTS

3.1 Sample demographics, help-seeking and problem severity

Table 1 describes demographics, help-seeking and DSM-IV diagnoses: the WIR sample was more than half female (54%), with most clustered above the 21–35 age range. Half of the WIR sample had a college education or higher degree and 53% were married. In terms of help-seeking and problem severity, a full two-thirds had attended formal treatment and 95% had attended Alcoholics Anonymous (AA). Correspondingly, 98% had a lifetime DSM-IV alcohol dependence diagnosis, with an average symptom count of 6.3 (out of 7). Most current non-abstainers used alcohol only (61%), though more than one quarter (27%) of non-abstainers were using drugs only and about a tenth (11%) were using both alcohol and drugs.

3.2 Bivariate comparisons

Table 1 displays results from Chi-square tests comparing demographics, help-seeking, and severity between abstainers and non-abstainers. Every variable except education significantly differed ($P < 0.05$) between abstainers and non-abstainers: compared with abstainers, non-abstainers were significantly more likely to be female, younger, Hispanic,

non-White, unemployed, without formal treatment, without AA exposure, without a lifetime DSM-IV dependence diagnosis, and/or with fewer DSM-IV lifetime dependence symptoms.

3.3 Stepwise regressions: Non-abstinence

Multivariable stepwise regressions (Table 2) show that younger individuals were significantly more likely to be non-abstinent, and movement to the next oldest age category reduced the odds of non-abstinence by an average of 27%. Importantly, the confidence intervals were narrow and extremely similar across models, implying that the effect of age was robust to model specification. In regard to help-seeking and problem severity, having attended at least one 12-step meeting and the number of DSM-IV dependence symptoms were both significantly related to non-abstinence. In the fully saturated models, any twelve-step attendance decreased odds of non-abstinence by 57–76% (Model 4), while each additional DSM symptom decreased odds of non-abstinence by 73–89% (Model 4).

Compared to being in recovery for less than one year, individuals in the 5–10 years, 10–20 years, or 20 years or more recovery groups all had significantly lower odds of non-abstinence (Table 2, Model 4). Effects for shorter lengths of recovery (i.e., 1–2 years, 3–5 years) were in the same direction yet not significant at the traditional $P<0.05$ level. Furthermore, the odds of non-abstinent recovery appear to decrease in a non-linear fashion such that the effect size for those with 20+ years of recovery is notably smaller than the effect size for those with 1–2 years (OR = .28 *vs*. OR = .76). These results imply that the longer an individual is in recovery, the more likely he/she is to abstain. Figure 1 illustrates the relationship between length of time in recovery and probability of abstinence.

3.4 Stepwise regressions: Quality of life (QOL)

Stepwise regressions within the WIR sample allowed us to examine how non-abstinence related to quality of life above and beyond demographic, help-seeking, and problem severity variables. We found that compared to total abstinence, non-abstinence was associated with 0.3 to 0.45 point-reductions (on a 4-point scale) in QOL, even when controlling for length of time in recovery (Table 3). All control variables were significantly related to quality of life except education, having attended formal treatment and problem severity. Furthermore, the effects of Hispanic ethnicity and 12-step group attendance dropped out when controlling for length of time in recovery (Model 4 vs. Model 5). Once controlling for all demographic, help-seeking, and severity variables (Table 3, Model 5), the significant correlates of quality of life were being female (B=.11), older age (B=.06), White race (B=.19), being employed (B=.23), being married (B=.26), non-abstinence (B=-.36) and length of time in recovery (B=.06). According to standardized coefficients for the full Model 5 (not shown), the strongest correlates of higher QOL were: longer length of time in recovery (Beta = 0.19), being married (Beta = 0.19) and abstinence (Beta = 0.16).

4. DISCUSSION

4.1 Key findings

Among individuals in recovery from alcohol problems in the What Is Recovery? sample, the strongest factors related to non-abstinent recovery were fewer DSM alcohol dependence

symptoms and younger age. The negative relationship between DSM severity and probability of non-abstinent (vs. abstinent) recovery supports past findings from large general population (Dawson et al. 2005) and treatment (Weisner, Matzger, and Kaskutas 2003) samples. Consistent with past studies, we also found in the WIR sample that help-seeking (e.g., treatment, AA) for AUD was negatively related to the odds of non-abstinent recovery (Cunningham et al. 2000; Dawson et al. 2005; Sobell et al. 1996). Similarly, in a large outpatient treatment sample, longer lengths of stay in treatment was associated with 5% higher odds of abstinence (vs. low-risk or heavy drinking; (Kline-Simon et al. 2013). Although the relationship between help-seeking and abstinence could reflect differences in dependence severity, results were robust to controlling for the number of DSM symptoms.

As in prior studies (Dawson et al. 2007; Sobell et al. 1996), younger age was also significantly associated with higher odds of non-abstinent recovery. Furthermore, the odds of abstinent recovery increased linearly relative to time in recovery. Here, the combination of older age and length of time in recovery being associated with total abstinence is consistent with past reports that abstinence is the most stable form of remission (Dawson et al. 2007). Notably, these findings suggest that there is a group of non-abstainers that will move towards abstinence as they continue to age. Longitudinal comparisons of non-abstainers and abstainers are crucial for better understanding what kinds of people remain in non-abstinent recovery, as well as how recovery statuses vary over the life course.

We also found that on average, abstainers reported higher QOL than non-abstainers, and that abstinence was the strongest correlate of QOL, even when including sociodemographic variables like employment. Though others have shown that QOL changes for the better during dependence remission (Dawson et al. 2009), we know of no other study that has directly compared QOL of abstainers to non-abstainers. In terms of clinical implications, this result is crucial for informing harm reduction techniques that focus on QOL-related issues rather than total abstinence: individuals considering nonabstinent goals should be aware that abstinence may be best for optimal QOL in the long run. Although we did not assess specific general health or medical outcomes, our results differ slightly from NESARC results which showed that compared with continued dependence, only non-abstinent remission (and not abstinence) was associated with improvements in general health (Dawson et al. 2009). Our results also differ from those of an outpatient treatment study which showed that low-risk drinkers had better medical outcomes than abstainers (Kline-Simon et al. 2013). However, these studies used continued dependence or heavy drinking as reference groups and did not directly compare abstinent to non-abstinent recovery as we did here. Furthermore, neither study controlled for length of time in recovery. Thus once controlling for length of time in recovery, non-abstinence appears less desirable in terms of quality of life.

4.2 Limitations

We do not know whether the WIR sample represents the population of individuals in recovery. The WIR sample is mostly white and relatively well educated. However, comparisons to other samples of individuals in recovery (e.g., National Alcohol Survey) show no differences in demographics across samples (Subbaraman et al. in press).

Furthermore, the correlates of non-abstinence we found were similar to those found in NESARC, suggesting similarities between our sample and large, nationally representative samples of individuals in recovery (Dawson et al. 2007). The WIR data do not include current dependence diagnoses, which would be useful for further understanding of those in non-abstinent recovery. In addition, the WIR quality of life measure is based on a single question; future studies could use instruments that detail various aspects of mental and physical functioning. WIR is also cross-sectional by design, though it did include questions about lifetime drug and alcohol use. Finally, the WIR survey did not ask about preferential beverage (e.g., beer, wine, spirits), usual quantities of ethanol and other drugs consumed per day, or specifics regarding AA involvement; because these factors could impact the recovery process, we will include these measures in future studies.

5. CONCLUSION AND FUTURE DIRECTIONS

Here we found that a number of factors distinguish non-abstainers from abstainers in recovery from AUD, including younger age and lower problem severity. Furthermore, quality of life appeared significantly better among abstainers than non-abstainers. A better understanding of the recovery process and tools utilized by non-abstinent vs. abstinent individuals would inform clinical practice; for example, is it more important for those in abstinent recovery to have abstinent individuals in their social networks? How do the specifics of AA and other mutual aid group involvement affect long-term recovery? Do those in non-abstinent recovery have more perceived control over alcohol? Finally, we hope to further investigate the overlap between “remission” and “recovery” from AUD, especially in the context of harm reduction.

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Highlights

1. Length of time in recovery and the probability of abstinence are positively related
2. Quality of life in abstinent recovery is better than in non-abstinent recovery
3. Time in recovery should be accounted for when examining correlates of recovery

Table 1

Sample descriptives and bivariate differences between non-abstainers and abstainers for the *What is Recovery?* sample of individuals in recovery from alcohol problems (N=5,380)

Variable	**N (%)**	**Non-abstainers (N=596)**	**Abstainers (N=4,784)**
Gender			
Female	2,873 (54%)	342 (58%)*	2,531 (47%)
Age			
18–20	22 (0.4%)	11 (2%)*	11 (0.2%)
21–35	619 (12%)	134 (22%)	485 (10%)
36–50	1,605 (30%)	204 (34%)	1,401 (29%)
51–65	2,437 (46%)	209 (35%)	2,228 (47%)
66+	678 (13%)	34 (6%)	644 (14%)
Ethnicity			
Hispanic	176 (3%)	37 (6%)*	139 (3%)
Race			
Black	177 (3%)	26 (5%)*	151 (3%)
White	4,967 (93%)	523 (90%)	4,444 (94%)
Other	172 (3%)	32 (6%)	140 (3%)
Education			
Some high school or less	82 (2%)	9 (2%)	73 (2%)
High school graduate/GED	336 (6%)	51 (9%)	285 (6%)
Some college/voc school	1,796 (34%)	197 (33%)	1,599 (34%)
College or more	3,153 (59%)	337 (57%)	2,816 (59%)
Employment[a]			
Employed	3,311 (62%)	342 (58%)*	2,969 (62%)
Marital status			
Married/in marriage-like relationship	2,866 (53%)	293 (49%)*	2,573 (54%)
Separated/divorced/widowed	1,549 (29%)	154 (26%)	1,395 (29%)
Never married	955 (18%)	148 (25%)	807 (17%)
Help-seeking			
Attended formal treatment			
Yes	3,602 (67%)	331 (56%)*	3,271 (69%)
No	1,743 (33%)	260 (44%)	1,483 (31%)
Attended 12-step meetings			
Yes	5,088 (95%)	452 (76%)*	4,512 (94%)
No	292 (5%)	144 (24%)	272 (6%)

Variable	N (%)	Non-abstainers (N=596)	Abstainers (N=4,784)
DSM-IV diagnoses			
Lifetime alcohol dependence	5,264 (98%)	551 (93%)*	4,713 (99%)
Avg. # lifetime dep symptoms[b]	6.3 (1.2)	5.8 (1.7)*	6.4 (1.1)
Length of time in recovery			
< 1 year	805 (15%)	170 (29%)*	635 (13%)
1–2 years	537 (10%)	77 (13%)	460 (10%)
2–3 years	375 (7%)	57 (10%)	318 (7%)
3–5 years	583 (11%)	77 (13%)	506 (11%)
5–10 years	816 (15%)	82 (14%)	734 (15%)
10–20 years	841 (16%)	72 (12%)	769 (16%)
>20 years	1414 (26%)	60 (10%)	1354 (28%)

[a] Unemployed includes students, homemakers, retirees

[b] Presented as Mean (SD); range = 0–7

* P < 0.05 for Chi-square tests comparing proportions within non-abstainers to proportions within abstainers, ANOVAs comparing means

Table 2

Stepwise regression results: Predictors of non-abstinence recovery[a] from alcohol problems in the *What Is Recovery?* sample

Regression parameter	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
Demographics				
Female (*vs*. Male)	1.10 (.91, 1.32)	1.00 (.83, 1.21)	1.00 (.83, 1.22)	.98 (.81, 1.18)
Age	**.59 (.53, .67)** **	**.61 (.55, .69)** **	**.62 (.55, .69)** **	**.72 (.66, .85)** **
Hispanic ethnicity (*vs*. Non-Hispanic)	.76 (.49, 1.18)	.76 (.48, 1.20)	.79 (.50, 1.26)	.82 (.52, 1.30)
White race (*vs*. African American)	.77 (.49, 1.19)	.78 (.49, 1.23)	.84 (.52, 1.34)	.80 (.50, 1.28)
Other race (*vs*. African American)	1.18 (.65, 2.12)	1.07 (.58, 1.99)	1.03 (.55, 1.94)	1.05 (.56, 1.99)
HS grad (*vs*. some HS or less)	1.34 (.63, 2.85)	1.16 (.54, 2.48)	1.14 (.53, 2.46)	1.10 (.51, 2.38)
Some college/voc school (*vs*. some HS or less)	1.06 (.53, 2.15)	.96 (.48, 1.95)	.96 (.47, 1.96)	.96 (.47, 1.96)
College or more (*vs*. some HS or less)	1.23 (.61, 2.46)	1.06 (.53, 2.14)	1.02 (.50, 2.08)	1.04 (.51, 2.13)
Employed (*vs*. Unemployed)	**.77 (.64, .92)** **	**.77 (.64, .93)** **	**.79 (.63, .92)** **	.83 (.68, 1.01)
Separated/divorced/widowed (*vs*. married)	1.07 (.86, 1.33)	1.16 (.93, 1.44)	1.13 (.90, 1.40)	1.06 (.84, 1.32)
Never married (*vs*. married)	1.04 (.81, 1.32)	1.09 (.85, 1.38)	1.08 (.84, 1.38)	1.05 (.82, 1.35)
Help-seeking				
Attended formal treatment (*vs*. Not)	---	**.67 (.55, .82)** **	**.70 (.57, .85)** **	**.63 (.51, .77)** **
Attended 12-step group (*vs*. Not)	---	**.24 (.18, .32)** **	**.25 (.19, .34)** **	**.32 (.24, .43)** **
Problem severity				
# DSM-IV ale dep symptoms	---	---	**.18 (.12, .29)** **	**.17 (.11, .27)** **
Length of time in recovery[a]				
1–2 years (*vs*. < 1 year)	---	---	---	.76 (.55, 1.05)†
2–3 years (*vs*. < 1 year)	---	---	---	.79 (.55, 1.13)
3–5 years (*vs*. < 1 year)	---	---	---	.74 (.53, 1.01)†
5–10 years (*vs*. < 1 year)	---	---	---	**.58 (.43, .80)** **
10–20 years (*vs*. < 1 year)	---	---	---	**.57 (.41, .79)** **
20 years or more (*vs*. < 1 year)	---	---	---	**.28 (.19, .40)** **

[a] 1 = Non-abstinence, 0 = Abstinence

† $P < .10$

* $P < .05$

** $P < .01$

Table 3

Stepwise regression results: Predictors of Quality of Life in the *What Is Recovery?* sample

Regression parameter	**Model 1 B (95% CI)**	**Model 2 B (95% CI)**	**Model 3 B (95% CI)**	**Model 4 B (95% CI)**	**Model 5 B (95% CI)**
Demographics					
Female (*vs*. Male)	.09 (.05, .13)**	.09 (.06, .13)**	.09 (.06, .13)**	.09 (.06, .13)**	.11 (.07, .14)**
Age	.15 (.13, .18)**	.15 (.13, .17)**	.15 (.13, .17)**	.13 (.11, .15)**	.06 (.04, .09)**
Non-Hispanic ethnicity (*vs*. Hispanic)	.13 (.02, .24)*	.13 (.02, .24)*	.13 (.02, .24)*	.12 (.01, .23)*	.10 (−.003, .21)[1]
White race (*vs*. non-White)	.19 (.11, .26)**	.18 (.11, .26)**	.18 (.11, .26)**	.17 (.10, .24)**	.19 (.12, .26)**
HS diploma or more (*vs*. < High school)	−.02 (−.17, .12)	−.02 (−.16, .13)	−.02 (−.16, .13)	−.02 (−.16, .13)	−.03 (−.17, .12)
Employed (*vs*. Not)	.28 (.24, .31)**	.27 (.24, .31)**	.27 (.24, .31)**	.26 (.23, .30)**	.23 (.19, .26)**
Married (*vs*. Not)	.28 (.25, .32)**	.29 (.25, .32)**	.29 (.25, .32)**	.28 (.25, .32)**	.26 (.23, .30)**
Help-seeking					
Attended formal treatment (*vs*. Not)	---	−.01 (−.05, .03)	−.01 (−.05, .03)	−.02 (−.06, .02)	.01 (−.03, .05)
Attended 12-step group (*vs*. Not)	---	.21 (.13, .29)**	.21 (.13, .29)**	.12 (.04, .20)**	.03 (−.05, .20)
Problem severity					
# DSM-IV ale dep symptoms	---	---	.02 (−.12, .16)	−.10 (−.23, .04)	−.07 (−.20, .06)
Non-abstinence (vs. Abstinence)	---	---	---	−.39 (−.45, −.33)**	−.36 (−.42, −.30)**
Length of time in recovery	---	---	---	---	.06 (.05, .07)**

†$P < .10$

*$P < .05$

**$P < .01$